# Wise Traditions

IN FOOD, FARMING AND THE HEALING ARTS A PUBLICATION OF

Volume 11 Number 1

THE WESTON A. PRICE FOUNDATION®

Spring 2010

# CONTENTS

<b>FEATURES</b> <b>Plants Bite Back!</b> Kaayla Daniel on why plant-based diets may not be such a good idea	Page 18	<b>All Thumbs Book Reviews</b> GAPS Guide Protein Power Life Plan Food Rules	Page 57
<b>Fighting Phytic Acid</b> Ramiel Nagel on the ubiquitous mineral b in grains, nuts, legumes and tubers	Page 28 locker	The Compassionate Carnivore The Milk Diet as a Remedy for Chronic S.P.E.E.D.	Disease
<b>Oxalates</b> William Shaw tells us how to avoid getting	Page 40 stoned	<b>Tim's DVD Reviews</b> Processed People, Dirt, the Movie and more	Page 65 re
<b>Nightshades Brought to Light</b> Garrett Smith on the surprising dangers of some of our favorite foods	, Page 48	<b>Growing Wise Kibs</b> Jen Allbritton tells how to modernize your life with traditional foods	Page 68
		<b>Soy Alert</b> Kaayla Daniel with funny, sad soyful tales	Page 78
DEPARTMENTS			
<b>President's Message</b> Living Well with Plant Foods	Page 2	Legislative Vpoate Judith McGeary updates us on food safety legislation	Page 80
Letters	Page 4		
Caustic Commentary	Page 15	A Campaign for Real Milk Tom McNaughton makes it seem like all those laws against raw milk have	Page 84
Homeopathy Journal	Page 55	nothing to do with lood safety	
Joeue Calabrese on Dellauonna IOF IIIness		Healthy Baby Gallery Local Chapters Shop Heard 'Round the World Membership Vpcoming Events	Page 91 Page 93 Page 104 Page 128 Page 129

### THE WESTON A. PRICE FOUNDATION®

Education • Research • Activism

#### **BOARD OF DIRECTORS**

Sally Fallon Morell, MA, President and Treasurer Mary Enig, PhD, FACN, CNS, Vice President Geoffrey Morell, ND, JP, Secretary Tom Cowan, MD Cherie Calvert Kaayla T. Daniel, PhD, CCN Valerie Cury Joyner

GENERAL COUNSEL James Turner, Esq.

#### HONORARY BOARD

Jen Allbritton, BS, CN Christian B. Allen, PhD Naomi Baumslag, MD, MPH Marie A. Bishop, CDC Jerry Brunetti Natasha Campbell-McBride, MD Lee Clifford, MS, CCN Christapher Cogswell, MA Monica Corrado Janice Curtin Eric Davis, BDSc, DAc, DCN William Campbell Douglass, MD Sara Bachman Ducey, MS, CNS James A. Duke, PhD Carol Esche, DNP, MA, RN, CNA Mike Fitzpatrick, PhD Ruth Ann Foster, MA Donna Gates, BS, MEd Zac Goldsmith, Editor, The Ecologist Nicholas Gonzalez, MD Trauger Groh Joann S. Grohman Barry Anthony Groves Beatrice Trum Hunter, MA Richard James, MBA, LLD Mark A. Kastel Larry Klein Kilmer McCully, AB, MD, MA (hon) Frank Melograna, MD Carlos Monteiro Kenneth Fielding Morehead, DOM David Morris, BS, DO Kathryn Pirtle, BS, MA Bruce Rind, MD Julia Ross, MA Beverly Rubik, BS, PhD Jordan S. Rubin, NMD, CNC Ethan Russo, MD Adrienne Samuels, PhD Iack Samuels, MSHA Ron Schmid, ND Andreas Schuld Frederick I. Scott, Ir, BE, MS C. Edgar Sheaffer, VMD Ted Spence, DDS, ND Rebecca L. Stearns, LAc, DAc Alana Sugar, CN Krispin Sullivan, CN Joe Tarantolo, MD Beverly B. Teter, PhD, FACN, CNS John Umlauf Susun S. Weed David Wetzel, BS Bruce West, DC Louisa L. Williams, MS, DC, ND George Yu, MD

### President's Message

In this issue we explore the many anti-nutrients in plant foods—and not just in grains, legumes and nuts, but also in many popular vegetables, fruits and even spices. Our purpose is not to frighten our readers away from consuming the many wonderful foods of plant origin, but rather to make you aware of the pitfalls of the so-called "plant-based diet."

Overreliance on plant foods—and particularly overreliance on just a few favored plant foods like peanuts, wheat or soy—poses the risk of numerous health problems, including digestive disorders, nutrient deficiencies and painful conditions like arthritis and kidney stones. Some people are so sensitive to certain foods that they must avoid them altogether.

It is not our philosophy at the Weston A. Price Foundation to tell people *not* to eat certain natural foods, but rather to let people know how they *can* eat them, how to include as many wonderful natural foods in the diet as possible. For starters, this means always consuming plant foods in the context of a diet that contains sufficient animal foods, particularly animal fats. Fats like butter, lard, egg yolks, tallow and poultry fat provide the nutrients needed to build a healthy intestinal tract, one that blocks the uptake of problematic ingredients in grains, nuts, legumes, fruits and vegetables.

Second, we need to honor our partnership with intestinal microflora in the challenging work of breaking down our food into its basic components. Good gut bacteria produce many of the enzymes that break down plant-based anti-nutrients like oxalic acid and phytic acid. Lacto-fermented foods are a must in a diet high in plant foods, as these traditional condiments supply the types of good bacteria that keep the gut sufficiently populated with these helpful little friends. If you have had one or more courses of antibiotics, it may be necessary to refrain from consuming a lot of plant foods until the intestinal microflora are reestablished. Third, we need to prepare plant foods properly! For grains, nuts and legumes, that means pre-digestion by soaking, fermenting and sourdough processing; for vegetables, this usually entails cooking. And remember the main purpose of eating a variety of delicious fruits and vegetables: to serve as the perfect vehicle for healthy animal fats like butter, egg yolks, lard and cream! Fourth, we need to introduce these foods very slowly to babies. Babies' first foods should be mostly animal foods; grains, nuts, legumes and even vegetables should be introduced slowly and not before baby's intestinal tract has had a chance to mature. Finally, we need to vary our intake of plant-foods, rather than constantly eat just a few. Eating peanut butter or tomatoes or wheat every day is a fast track to increased sensitivity to these foods. When it comes to plant foods, variety is the spice of life, as well as a sensible, healthy policy! Off

Wise Traditions

#### GREETINGS FROM NORWAY

Greetings to all WAPF members from Norway. Life in its fullness is not only about obeying; life is a marvelous, unbelievable gift, as is raw milk. And we are definitely living in the day when many who are first will be last, and the last, first.

Thanks to a local farmer, my family can obtain over two gallons of fresh raw milk weekly, from happy cows on a local organic farm. The milk has helped me to recover after a trip to hell. During the last two years I have been hospitalized twice, and I have nothing good to say about the field of psychiatry, except that it has been a real study in human weakness. I believe that the people living in the most fear are the psychiatrists.

This week I got a new job, after many rejections, and I have started teaching at Eidsvoll upper secondary school. The Weston A. Price teachings will naturally be integrated into the course. Eidsvoll is the place where Norway signed the constitution in 1814 and Eidsvoll is also the end point for the first railway in Norway.

By the way, our whole family had "pigfluenza," and we all recovered and got natural immunity without any medication, except raw milk and time.

On the surface we are a small chapter and we don't make much noise. The main activity is the distribution of *Wise Traditions* and general information to health care people, politicians and others who show interest.

I think about WAPF every day, and I want to make the message known to everybody, but all my "wants and musts" led to another hospitalization for two weeks this spring. Now I can sleep again, and I have recovered the thirtythree pounds I lost in that short period of time. My family is again a unit, and I try to live in a more sustainable way. As a part of my new life, I am now studying pedagogy and my plan is to be a full time teacher again.

In a nutshell, I try to live more wisely, and not overdose people with information. To convince stiff adults is only a waste of time and energy. The future belongs to the children and we want to develop educational units that give young people the opportunities to choose a sustainable way of living, and the knowledge of WAPF is naturally an integrated part of it.

> Bjørn Solberg, Chapter Leader Ames, Norway

Bjørn's experience is a lesson to us all. Trying to save the whole world can make you go crazy. Instead we can all be effective teachers, not by promoting our message to those who don't want to hear it, but by having the information on healthy diets available to people who show an interest.

#### AMAZING RAW MILK

I'm entirely new to the Weston A. Price Foundation. I've been hearing about it at a local homeopathic study group that I've been attending since May. At first it sounded bizarre but the more I listened, the more it started making sense (just like homeopathy). Then I tried, for the first time, some raw milk and it just blew me away. In fact, I've never liked milk much and I've been lactose intolerant for the past twenty years. I just couldn't believe what I was hearing about raw milk so I drank one-third of my half gallon the night I brought it home.

Amazingly, I had no problems at all. In fact, I woke up the next morning with a strong craving for it. The next night I pushed the experiment further and ate a huge piece of cake with buttery frosting (this would normally put me in agony) and drank a big cup of the raw milk. I had not a single bit of discomfort. Truly astounding.

Now I can barely tolerate the soy milk and hemp drink I had been using in place of milk. Even my two-year-old, having tasted the raw milk just once, is still asking for it two weeks later.

> Chris Downey Annandale, Virginia

#### VITAMIN D PROBLEMS?

I have been following the WAPF diet since 2000 with excellent results. In the winter months I have been supplementing my fermented cod liver oil with one each of Carlson's 1,000 IU  $D_3$  and 1,000 IU  $D_3$  and 25,000 IU A. After taking them for a week or so I get significant pain (inflammation) in a joint (elbow, wrist or knee) that I can only describe as if I cracked the joint into a painful position that is worse at either extreme in the range of motion. When I discontinue the Carlson's supplementation I return to normal in a few days.

Today I came across the Marshall Protocol website (http://mpkb.org/ doku.php/home), which says for many inflammatory, autoimmune diseases all vitamin D should be stopped along with other protocols for several years. I

would love to hear your comments on this. It may well warrant an article in *Wise Traditions*.

> Glenn Mingo, Churchville, Virginia

The position of the Weston A. Price Foundation is that we should obtain our vitamins A and D from foods like cod liver oil rather than from isolated supplements. Your experience with the supplements proves our point. It is more likely that the problems you experienced were caused by taking the large doses of A and D as isolated supplements, leading to an imbalance or deficiency of another vitamin—such as vitamin  $K_2$ —rather than an intolerance for vitamin D because of autoimmune disease, especially as vitamin D is known to support immune function.

#### WAPF BOOT CAMP

A friend of mine took her Labrador retrievers to the beach on Thanksgiving morning, and as it happened, they rushed out of the water and into her. She was talking to a friend and didn't move out of the way. Her leg was broken in three places, and she had to be taken to the hospital, where they implanted a titanium plate.

My friend is fifty-seven. As she lives in a third floor walk up, she has come to stay with us, which means, coincidentally, Weston A. Price boot camp. Not that it's intentional exactly; it's just the way we eat. But in the space of about a week of eating exclusively nutrient-dense foods she has resolved acid reflux, gas and bloating, serious morning nasal congestion along with itchy and bloodshot eyes, improved the appearance of her skin, lost enough weight (even though bed-ridden) so that her pants are all loose, and increased her energy and focus. Of course, this is an artificial situation and one can't normally make changes to one's habits overnight, but when you can, it's powerful!

> Jill Ebbot, Chapter Leader Brookline, Massachusetts

Thank you for that testimonial. Had your friend been eating a consistent WAPFfriendly diet she may have avoided the broken leg in the first place!

#### SLUDGE REDUX

Thank you for publishing my article on sewage sludge in *Wise Traditions* (Fall 2009). This issue is not going to die; it has taken on a life of its own. Our problem to overcome is EPA's perception management program of creating its own truth out of lies. Most reporters repeat the lies because they are on deadlines and don't have the time or inclination to check the facts.

I have just gone through some seven thousand documents in EPA's web archives. Early studies revealed that treatment does not inactivate or kill all bacteria but instead injures them, and actually creates antibiotic-resistant bacteria. Furthermore, the documents showed that the injured bacteria are viable but nonculturable by standard methods; in other words, they can still cause disease after treatment. These studies show that injured bacteria can be reactivated one year later and that *E. coli* and Salmonella can survive on grazing land for over seventy weeks. Fecal indicator bacteria are thermotolerant *E. coli* and Klebsiella; the high heat of the fecal coliform test injures most other gram negative bacteria known as coliform.

EPA documents claim that the Clean Water Act mandated the disposal of sewage effluent and sludge on agricultural land; therefore EPA, FDA and USDA created a federal policy to accomplish that goal, along with a perception management program.

In the past few years private sector scientists not involved in the perception management program have documented what EPA has known for three decades. But the perception management program has the public blaming doctors and farmers for the problems EPA created.

Jim Bynum Smithville, Missouri

#### DRY-AGED BEEF

I am looking for any studies suggesting that dry-aged beef is more nutritious and/or digestible. I have spoken with many folks in the know who say that dry-aged beef (versus wet-aged beef) is not only more palatable but more digestible and beneficial to gut flora. I am sure most traditional cultures would have aged meats since refrigeration was not available.

Dry aging is a process whereby either an entire carcass or specific cuts of beef are held at temperatures above freezing for a given amount of time in order to let naturally occurring bacteria and enzymes break down and flavor the beef. Hunters do this by hanging carcasses in a root cellar or in a game

bag in a cool spot in the woods.

We age our beef for twenty-one days. Our USDA butcher does it in a large refrigerator at temperatures between 33-35 degrees. External fat cover prevents spoilage. The butcher told us he doesn't have another grassfed beef producer who can get nearly enough fat cover on their beef to make them eligible for aging twenty-one days. Seven to fourteen days is much more common with small grassfed producers and wet aging is the process used for industrially produced meats. Last year we were able to even go twenty-eight days dry aged on some pieces.

We are able to get this fat cover because of the way we manage our beef herd. We only harvest our steers in the spring after the peak of the grass season, when the animals are between fourteen to eighteen months of age. We raise small-framed Angus-influenced cattle. We have worked very hard to find top quality genetics that finish on grass, not from the giant breeds designed to eat a feedlot diet. Animals grow their bone structure first, muscle next, and put on fat last. We time their births so that they are of the right age to finish-that is, to put on fat-when the grasses are the most abundant and are the most nutritious. We don't try to finish animals ten months of the year on crummy irrigated pasture like many other ranchers do in these parts. Here in the West with the high heat and dry summers, most irrigated pasture does not produce good meat, in our opinion.

> Chris Kerston Chaffin Family Orchards Oroville, California

#### SOY LAWSUIT

Thank you so much for filing a lawsuit on behalf of Illinois inmates regarding the soy foods they are forced to eat. My husband is incarcerated and both he and I adamantly avoid soy whenever possible. I send him a great deal of money so that he can buy food at the commissary and cook in his cell instead of eating the dangerous soy chow. I feel very bad for the many inmates whose loved ones cannot afford to do this.

I'm sure you're aware that the prison staff is also offered this food, which probably explains why most bring their own meals.

I'd like to add that the prison visiting room vending machines are also full of soy. Of course it's impossible to know what's in a sandwich until you've bought it, because of the deceptive labeling. I hate the fact that the USDA allows food manufacturers to label a sandwich "beef patty" when it contains TVP and soy. The "charbroil" contains no meat at all—what a joke! I sent a complaint to the USDA about the "beef patty" sandwich, sent links to the vendor's nutritional info, but have had no response yet.

What a shameful state our food supply is in. No wonder we've got an epidemic of cardiovascular disease, obesity, and other preventable conditions. Thank you so much. I will be donating to your organization!

> Sandra Van Maren Chicago, Illinois

Thank you for this expression of support. Our soy lawsuit is going forward and we expect the trial to take place in 2011. The trial has enormous implications for all institutions, not just prisons but also schools, nursing homes, and hospitals throughout the U.S. We have excellent legal help, but legal work is expensive. Donations to this cause are much needed and most welcome. (They are also tax deductible. Checks should be made out to the Weston A. Price Foundation/Soy Alert! Campaign.)

#### SOY AND ASBESTOS

I like your comparison of soy to asbestos. I see the day coming when soy will be just as discredited as tobacco, and just as much of a litigation issue as asbestos. The soy prison case is getting more and more publicity, and the letter writing campaign you started will get attention. This has really helped my efforts to get the people I know to stop using soy.

Thank you so much for bringing this issue into the light of day.

Stanley Fishman Danville, California

#### NONDISCLOSURE

It took the National Institutes of Health (NIH) from 1946 to 1971 to warn about severely damaging health effects caused by the synthetic estrogen DES, even though a Freedom of Information request disclosed knowledge of tragic DES estrogen health results decades prior to the disclosure. It took the NIH from 1942 to 1972 to report that Estrogen Replacement Therapy (ERT) causes uterine cancer within six months to one year after implementation. It took the NIH six decades, from 1942 to 2002, to allow release of information showing the

many fatal risks of Hormone Replacement Therapy (HRT), although Freedom of Information Act documents prove again they had massive study information decades prior, proving the host of fatal HRT effects. During these years NIH allowed the same massive false advertising and physician persuasion of this highly popular drug fad targeting several million healthy women.

I began finding published study information comparing soy phytoestrogens with DES estrogen, and also to estradiol, (as in ERT, HRT, birth control pills and the patch). Soy phytoestrogens are a most potent and dangerous exogenous estrogen, especially when unnaturally manipulated. It is just unbelievable that we allow soy to be fed to vulnerable infants and do not warn against its use in pregnancy. The FDA

lists soy on its Poisonous Plant Database and confirms that they have no evidence that any child can normally survive soy's estrogenic endocrine disruptor toxicity.

In the process of researching infant formula approval protocols, the FDA confessed to me that the agency has not approved soy protein isolate, the main ingredient for infant formula. Instead, FDA simply relies on the industry for evidence of a protein source, and then the FDA only requires that essential minerals be added—and this qualifies as marketable infant formula!

If you are a profitable industry you can likely convince the FDA that horse dung (recall that ERT/HRT is made from

6

cheap horse urine) is a healthy protein for infants, and the FDA will tell you which essential ingredients must be added. This allows the industry to market this cheaply produced, well established estrogenic hormone disruptor as infant formula. FDA prohibits estrogenic chemicals for fetal and infant consumption, but not estrogenic soy formula.

My neighbor's daughter is autistic;



a grown young lady I know is infertile, as is another grown young man; a young lady I know died at nineteen from leukemia; a young man has unusual allergies; a young child is diagnosed with diabetes; another young child is diagnosed with immune deficiency disorder. The only children I know with severe or fatal health outcomes all have one thing in common—they have all been fed soy infant formula.

Medwatch has a long list of severe and fatal adverse effects reported by parents feeding their children soy formula. Medwatch reports are concealed from the public unless researched through FOIA. The thought of loving parents who feed their infants toxic soy formula without any chance of knowing they are encouraging irreversible painful adverse health effects for their children is nearly unbearable. I helplessly watched my mother die because of HRT. I hope to lessen further suffering caused by FDA and NIH negligence by working to expose the great danger of soy infant

formula. Gail Elbek

Santa Barbara, California

#### DAIRY EDUCATION

I thought you might like to publish this wonderful photo, which I've had hanging in my kitchen for years. It gives a glimpse into how dairy foods were honored in 1942, during the time of Weston Price. This photo was taken at a Polish grammar school in Chicago; the teacher

was a nun who put a lot of effort into this curriculum.

Notice the detail, the wide range of dairy mammals, and the mssages about milk and dairy products. The children are very healthy looking—some of them are dressed up as milkmen.

My mother went to the same school years before and mentioned that the nuns would make cheese from the leftover bottles of milk. They would leave it on the window ledge to cure!

> Gina Orlando Oak Park, Illinois

RAW MILK SURPRISES I knew that my husband could drink

raw milk even though he is lactose intolerant. That made sense. I knew it took care of my irritable bowel syndrome (IBS), which makes sense also. But there are two other outcomes from raw milk that have really surprised me.

First off, my daughter always complained about her tummy hurting. She never wanted to eat because it made her tummy hurt. Then I started to think that maybe her tummy hurt because of hunger pains. So I started making her eat. But she would just complain after the meal that her tummy hurt. Her pediatrician was totally confused as to why and wanted to do testing, which she knew I would be against. I had discussed the possibility of raw milk with her, and although she hated the idea, she did admit that her brother drinks raw milk and his whole family says it has benefited them. In the end, she consented to trying raw milk for my daughter-as if I needed her permission. However, about a month after we started drinking raw milk my husband and I realized that our daughter

has not once complained of a tummy ache.

Another friend had terrible back pains for over a year. There were some days when she had to stay in bed all day. She went to the chiropractor and one visit even made her back worse. However, after drinking raw milk, her back is fine! I did some research and found out that an unhealthy gut can affect all areas of your body, especially your back. Who knew such a simple change could do so much!

> Missy Schuler Santa Barbara, California

#### RAW MILK IN PAKISTAN

I wanted to share very happily the progress of raw milk in Pakistan. In December I gave a seminar at a university in which I introduced all details about raw milk to the students. Then in January, I participated in a health show, showed the WAPF brochure, and again talked about raw milk. This program was telecast January 1. A case has been filed in high court against packaged milk, and an advertisement appeared in our local newspaper describing the importance of raw milk. Every day I convince four or five of my patients to start raw milk and my husband, myself and my family are now on raw milk since last June.

I recently participated in a telecast on raw milk; the response was overwhelming and there is a strong stirring about the use of raw milk in Pakistan and many Arab countries.

Dr. Shagufta Feroz, Chapter Leader Lahore, Pakistan

#### EPILEPSY AND GUT HEALTH

Our child has what is called idiopathic epilepsy, that is epilepsy of no known cause, and suffered uncontrolled seizures and escalating depression until we finally discovered why and what to do to effect a cure. On a high-fat, whole, natural foods diet our child lost fifty pounds. Our child's blood pressure dropped to normal and the pre-diabetes

### 

#### NOTICE ABOUT RAW MILK IN PAKISTAN

#### TRANSLATION:

Boiling milk reduced the natural vitamin B complexes by about 36 percent. For ages we have boiled milk before use since we feel that boiling makes milk safe for consumption. Recent research of PCSIR (Pakistan Council of Scientific and Industrual Research) has proven that boiling milk for any length of time reduces the naturally present vitamin B complexes by 36 percent, and [pathogenic] bacteria are also not totally destroyed. Boiling also reduces the food value of milk.

- $B_1 27$  percent reduction
- $B_2 27$  percent reduction
- $B_3 26$  percent reduction
- $B_6 24$  percent reduction
- $B_{q}$  (folic acid) 36 percent reduction

SPRING 2010

disappeared. The black cloud of depression lessened.

However, our child's seizures did not lessen in frequency or severity. Then we stumbled upon www.doctorj. com, written by John B. Symes, DVM, a veterinarian who provided the final piece of the puzzle. As we read his site so many things fell into place. Simply put, our child had a severely damaged intestinal system due to food allergies and food intolerance.

Our final hope rested on Doctor J's, new elimination diet. We eliminated all of the "glue" foods: all corn, all wheat and all soy (we had already eliminated all the byproducts and derivatives of those now manipulated, bioengineered, toxic "foods," pasteurized cow's milk, and all sugars, including sugar substitutes). We learned about the horrendous effects of non-fermented soy and realized that our child's seizures and depression had progressively gotten worse after the introduction of even more soy into our child's diet. It was then that the seizures stopped and the healing began. There is a lot of information out there about the signs of food allergies and food intolerance but our child did not fit any of those profiles.

We are now seeing a whole array of symptoms in our children, such as autism, severe behavioral problems, skin problems, asthma, gastrointestinal distress, ADHD, diabetes, depression and all other forms of mental illnesses. To this should be added idiopathic epilepsy. All these symptoms have already reached epidemic levels. The autism rate has increased from one in 150 to one in 100 in only two years. One in four autistic children will develop epilepsy in early childhood or as teenagers.

According to Hippocrites, all diseases begin in the gut. There is ample proof that a damaged gut is directly related to all those conditions seen in our children and later to obesity, alcoholism, arthritis, multiple sclerosis, osteoporosis, Alzheimer's, amyotrophic lateral sclerosis, cancer, heart disease, lupus, chronic fatigue, diabetes, schizophrenia, major depression and other mental illnesses, irritable bowel syndrome, migraines, and more, much more.

Children with damaged guts will crave the very things they are allergic to. They will emotionally disconnect. More will fall into other addictions to ease their pain.

The millions of villi in our intestinal system absorb nutrients. Our digestive system prevents toxins from reaching the brain. Once the villi are damaged, they can no longer absorb minerals and vitamins, fats and amino acids, nor can they protect the brain from the thousands of toxins in our world today.

Over 60 percent of the so-called food and drink on our grocery shelves are not only lacking in nutritional value, they are poisonous! We find it amazing that it is illegal for children to purchase cigarettes, alcohol, or drugs yet any child can purchase these poisons that our government not only allows but also actually sanctions and subsidizes with our tax dollars.

> Martha Hogan Sioux City, Iowa

#### AGAVE CONFUSION I am confused about your article

on the dangers of agave (Spring 2009) because it seems that agave does have a relatively low glycemic index. Blue Agave Nectar posts this information on its website, and they display a sticker on their product that would invite a crackdown from the FDA for mislabeling food if it were wrong.

Sandy Schneider Long Beach, California

We are not arguing with the statement that agave and high fructose corn syrup have a low glycemic index; but these highly processed products are detrimental for other reasons; and just because a food has a low glycemic index does not mean that it is healthy.

#### CORRECTION

In a recent book review on *The Devil in The Milk* (Winter, 2009), a statement was made that has been repeated often and is erroneous. The reviewer states that "old fashioned cows (such as Jerseys, Asian and African cows)" are called A2 cows and have the original beta-casein amino acid configuration. He also states that "more modern breeds like Holstein" are called A1 cows. Many WAPF farmers and raw milk consumers have used this statement as guidance in selecting cattle or milk supply sources.

Keith Woodford, *Devil in the Milk* author, correctly states that all European cattle breeds are relatively recent and the dairy breeds originally all belonged to beta-casein group A2. The point mutations that resulted in subgroups A1, B, and C (not just A1) all include an alteration of proline to histidine at the sixty-seventh amino acid. They are

referred to in shorthand as A1 in the text. These subgroups, but not A2 or A3, would be classified as "bad" according to the theoretical ability to be cleaved and form beta-casomorphin-7 (BCM7). Both A2 and A3 gene polymorphisms would then be considered "good" and are called A2.

Lumping these subgroups together, it is unclear that the Jersey, ranging from 50 to 57 percent "good," is superior to the Holstein, ranging from 35 to 57 percent good across nine studies on three continents. This is because Jerseys range from 33 to 36 percent B beta-casein and this number must be added to the A1 group to determine what percent have the mutation of concern.

Ranking of European dairy breeds from "bad" to "good" based on a large California study directly comparing American cattle breeds, would be first Holstein, then Milking Shorthorn tied with Jersey, then Brown Swiss and finally Guernsey. There is a mixture of types within each breed that is consistent across herds and studies. Because of this, Woodford in his book recommends testing of individual animals. If one were to bet on a breed with the "best" beta-casein type regarding production of BCM7, it would be the Guernsey with 96 percent "good" genotype.

> Dr. Meg Cattell, DVM, MS Windsor, Colorado

Dr. Cattell is a Northern Colorado WAPF chapter leader and a multi-breed raw milk dairy farmer

#### BOOK REVIEW

I thoroughly enjoyed Sally Fallon

Morell's review of the book, *Cells, Gels, and the Engines of Life* by Gerald H. Pollack, PhD (Winter 2009). In the third paragraph of her review, Fallon Morell makes the following statement: "Water lines up against the cell's inner structures hydrogen-end-to-oxygen-end, not several molecules thick but dozens of molecules thick, creating a zone that excludes larger ions like sodium but not smaller ones like potassium."

This statement is repeated later in the same paragraph. However, I am seeking clarity on what Fallon Morell is implying, because potassium ions are larger than sodium ions, not the other way around.

By the way, I've been a member for five years, and WAPF has literally changed my life for the better, tenfold. Thank you for all you do.

> Andrew Rhodes San Diego, California

We asked Gerald Pollack whether we had made a mistake. His answer is that what counts is the hydrated ion and the hydrated sodium ion is larger than the hydrated potassium ion. Pollack's concept is not original; it's the centerpiece of much of the work coming from Gilbert Ling, who formulated the theory almost half a century ago.

#### MAKING THE TRANSITION

I am writing in response to a letter to the editor (Winter 2009) regarding A2 milk. I agree that A1 milk is often the best we have currently in the U.S. for milk drinkers. However, a few farmers are breeding their cows for A2. I have sought out grassfed A2 bulls from New Zealand, and we are breeding all our Jerseys here at Sabo Ranch for A2 genetics. While we only have a small herd, within five years we will have more, and will breed specifically for family milk cows, and bulls that can spread A2 genetics to other family farms around the Northwest.

Devon cattle in the U.S. might also be a reservoir of A2 genetics. We are also developing a herd of beef Devon cattle here, and one of our herd sires is also homozygous for A2 milk. Milk drinkers in New England might search out the Milking Devon herds to find A2 milk, and in so doing they will also promote the continuance of a heritage breed in America. Milking Devons are listed in the Ark of Taste from the Slow Food movement.

Keep asking! The more we request these genetics, which are well known in Australia and New Zealand, the more farmers will respond.

> Jenny Sabo, Sabo Ranch Harrison, Montana

It is good that farmers are making the transition to A2 genetics but we do not want our farmers with established A1 herds to feel under any pressure to do so. A1 milk is fine for most people as long as the milk is raw and full fat, and the cows are grass fed.

#### FOOD, INC. REVISTED

I'm troubled by the DVD review of "Food, Inc." in the Winter 2009 issue, not just as a review but as somewhat symptomatic of more basic issues which I believe compromise and limit WAPF in its potential effectiveness.

The cited deficiencies yielding "Thumbs Down" appear to be the scenes on Kevin's Law and Wal-Mart. The reviewer seems to think the movie is arguing on behalf of Kevin's law, just because it reports on the mother's attempts to fix things. That's not Kenner's argument, that's the mother's argument. In fact, the juxtaposition of her later fears of being sued is even more dramatic, and stronger, when they are seen in the light of her advocacy for Kevin's law.

For my money, the message of this movie is exactly epitomized by her plight, namely, there is rampant censorship of discussions about processed food, enshrined in statute, the courts, and in the economic power wielded in backwater communities which must suffer as the food factories of America. The censorship is the story and is incredible, and the mother in her conflicted situation illustrates the seriousness of the problem. Her fear of being sued would have lost most of its punch if her efforts to pass remedial legislation had been left on the editing room floor.

There seems to be a disconnect in Tim's review between the fact that an ethical documentary reports something, and the content of what is reported. I think it's a more powerful documentary (actually, better overall than "Fresh!") because Kenner reports everything that he's seeing. "A little more editing" would have destroyed its credibility as a documentary, because Kenner then would be seen (correctly) as an ideologue, not a reporter.

Likewise, we may not like it, but Wal-Mart's actions occurred, they were impactful, and they should be reported, like it or not. The objectivity of "Food, Inc." is its strength, and correspondingly, the comparative lack of objectivity is the weakness of "Fresh!"

I fear that when WAPF hews so predictably to conclusions, like this review, which are essentially ideological and which seem to ignore what's really happening, that the credibility of WAPF likewise suffers.

> Steve Bemis Ann Arbor, Michigan

The reviewer gave an accurate description of the movie and his reasons for the negative review, namely the conflicting messages about the solution to industrial agriculture. Most of our readers would vote for the solution offered in Fresh!, which is to patronize small farms and artisan processors rather than purchase organic food from Wal-Mart and lobby for laws that could be turned against the small producer.

#### ORGANIC AGRICULTURE

The article "A Holistic Approach to Cancer" (Winter 2009) contains false statements about organic agriculture. As an historian of organic farming, I would like to take this opportunity to correct some of the misinformation embodied in an otherwise interesting article.

Organic farming certainly did not cause the Dust Bowl. A major factor contributing to the Dust Bowl was plowing of the native prairie. Grain crops in the Great Plains around the time of the Dust Bowl were not being grown organically. Prior to 1940, organic farming did not yet exist in name and had not yet fully materialized into a system of farming. Organic farming is an agroecological farming system that cannot be simply defined by that which it is not—that is, not chemical agriculture, not GMO seed, etc.

Organic farming did not cause the Tigris and Euphrates Delta to become a desert. Among the factors contributing to the desertification in that region was salinization of the soil from salts delivered to the land via irrigation water. When soil scientists study farmland converted to organic management, they generally find that soil quality and organic matter content are improved over conventional management.

With that said, I now want to illustrate that not only is organic farming not responsible for the disasters listed, but that it employs cultural practices that support principles of the WAPF. This material would add information to my article on "A History of Organic Farming" (Winter 2006).

In 1940, Walter Northborne published his influential book, Look to the Land in which he coined the word "organic" to refer to a holistic farming system that he envisioned as an alternative to the "conventional" agriculture that was associated with soil erosion and destruction of natural resources occurring on a massive scale, not only within the United States, but around the world. Around the same time, other organic pioneers, including Albert Howard, Eve Balfour, Jerome Rodale, and Edward Faulkner, published books that expressed great concern about the destruction of the soil resource. In their publications, they articulated a

philosophy of farming that was based on ecological principles modeled after nature.

A well-developed organic farm was envisioned to function as a kind of living organism. Key cultural practices include recycling all types of natural waste materials, composting, building soil organic matter content and soil quality, an integration of plant and animal agriculture on the same farm, livestock grazing on pasture, complex rotations of perennial and annual crops, and growing cover crops for soil conservation and nitrogen fertility. Everything centered on designing a farming system that prevented disease, pest injury and soil erosion, and building and maintaining the soil resource upon which plant, animal, and human health depend. Few to none of these organic regenerative cultural practices were employed in the initial farming of the Great Plains. Beyond the farm gate, organic principles also originally extended to protection of living food quality. Organic pioneers Walter Northborne, Jerome Rodale, and Eve Balfour were vigorous supporters of raw milk decades before the current Campaign for Real Milk. Both Jerome Rodale and Eve Balfour wrote book chapters acknowledging the valuable contributions of nutrition pioneer Weston A. Price.

In 1990, when the USDA National Organic Program (USDA-NOP) was established, it codified some but not all of the traditional organic farming principles in the USDA-NOP Standards. For example, in 1958, Rodale loudly proclaimed that "It is not organic to produce milk organically, and then to pasteurize

it." The USDA-NOP Standards have no provisions against organic milk pasteurization or even ultra-pasteurization (nor do they mandate pasteurization). The USDA-NOP is often legitimately criticized for failing to adequately enforce organic livestock pasture standards. The USDA and its marketing programs have never represented the center of gravity of the organic community. Nevertheless, the USDA-NOP, despite its imperfections provides a useful service of minimum standards for how to achieve organic certification, prevent fraud, and assist informed consumer choice. Perhaps in an ideal world, where the food producer and the food eater know one another and agree on farming philosophy, there is no need for third party certification. Any wonder why about half of the farms advertising in Wise Traditions are USDA Certified Organic?

The pre-USDA or traditional organic farming principles were generally based on sound ecological principles given the scientific and institutional limitations of the period in which they were developed. Organic is not a static set of rules (USDA has just updated organic access to pasture) but rather the continuing evolution of a farming system to achieve the best that nature can provide. The best organic farmers already go beyond the minimum standards set by USDA organic certification and they might appropriately be called "Beyond USDA-NOP Standards."

The article by Dr. Cowan ends with a statement of support for "sustainable agriculture." This popular term has become the more palatable offshoot of organic agriculture. The problem with the term "sustainable agriculture" is that it lacks definition and is easily co-opted by greenwashing vested interests.

> Dr. Joseph Heckman Monroe, New Jersey

The point of Dr. Cowan's statement was that the farming methods that led to the decline in the Middle East and to the Dust Bowl conformed more or less to the USDA standards; perhaps a better description of the factors that led to desertification would be monocropping not alternating with animal production. As with modern organic standards, no pesticides were used; even so, it was obviously not sustainable.

#### MAPLE SYRUP UPDATE

Did you know that maple syrup is one of the safest, most digestible natural sugars known to man? As a maple producer, I am proud to be part of the production of such a beautiful crop. However, thanks to some unhealthy practices from twenty years ago, the industry is still dealing with some negative repercussions.

Formaldehyde tablets were used for a short period of time by some maple producers throughout North America in the tap holes of the trees. Why? To prevent the maple tree from clotting the holes, a natural process that heals the holes after the sap is collected for the six weeks of maple season. Not all producers used these tablets for obvious reason—their potential harm to the trees and to the consumer.

Eventually, the FDA banned the use of the tablets when formaldehyde

was found in maple syrup, about twenty years ago, and then the practice was banned in Canada about ten years ago. The FDA and state agriculture departments enforce this in the U.S. by routine, random testing of maple syrup. Therefore, if you are purchasing maple syrup made in the U.S., know that it is free of formaldehyde.

It's also important to purchase syrup from the U.S. to support our producers. If you take a look at most maple syrup in your local grocery store, the syrup generally comes from Canada, definitely not local. And, even though that syrup may be labeled natural or pure, you have no guarantee. The best way to purchase

syrup is to find a producer, call them up, or visit their web site and get to know them and how they make maple syrup. Make sure they are a family farm and then you really know you are getting the real thing!

Maple syrup is only produced in northeastern U.S. and Canada, and all farms in that region boiled the sweet sap at one time or another. It was used in trade and was a precious commodity. Most

of the producers still around today are farmers who can trace their maple syrup heritage back for five generations or so, like us.

Maple syrup isn't just for pancakes. Granulated maple sugar and maple syrup can be used instead of refined sugar in all recipes. It bakes well, is a great sugar to start yeast with and is good for you as it contains trace minerals. Best of all, it has a low glycemic index; the pancreas does not flood the system with insulin after the consumption of maple syrup. It is metabolized more slowly and evenly which also means this sugar is okay for diabetics in small amounts.

Take part in history, take care of your body and support farming by consuming maple syrup instead of refined sugar.

> Caroline Foote Cobleskill, New York

Caroline is the Schoharie County Chapter Leader and co-owner of Maple Hill Farm, Cobleskill, New York.



#### FAKE CSAs

Recent studies of phytonutrients emphasize the need for a diversity of plant foods in our diets. Phytonutrients mediate inflammation and reduce cancer and heart disease risk. They bolster our immune systems and reduce the effects of aging. Our bodies assimilate these nutrients much more readily from fresh produce than from commercial supplements.

It appears that exposure to "insect pressure" increases the amount of these important nutrients in produce by up to 30 percent. With the routine spraying on commercial farms, be they chemical or commercial organic, these pest pressures do not occur. On ecological farms, most pest control is through the plant's own immune system. Spraying is minimal. Living soil organisms, maximized in ecological farming but lost or ignored in other types of farming, create the best soil and provide plants access to soil nutrients. Eco-Ag produce may excede

> USDA nutritional standards by 30 percent, making every bite more nutrient dense!

> The best source of produce of this quality has been small, local, ecologically managed farms, that is farms using no toxic chemical inputs plus ensuring soil nutrients balanced via Albrecht or similar systems. The easiest way to be assured of a good supply of the freshest local high-mineral, highphytonutrient produce has

been by joining a Community Supported Agriculture (CSA) farm.

Unfortunately, looking through listings at localharvest.com, I noticed an increasing number of fake CSAs. A fake CSA exploits a consumer's assumption about the value of a CSA and, among other things, distributes nonorganic produce they acquire from off their farm. The actual source of food is

Wise Traditions

unknown or obscured. Transparency is lost. And so are the deep benefits of getting your family's food from a CSA. As the local food marketplace has grown, entrepreneurs who do not operate from the ethical grounds the movement arose from have moved in. The price of a vital, clean, safe, nutritious local food system is eternal vigilance. We can't take the easy path. We have to always ask the hard questions. *Caveat emptor*.

Convenience is another enemy of true food quality. Plant nutrients, especially the important phytonutrients, rely on true freshness. Most CSA produce is harvested the day it is delivered. However, many food clubs distribute USDA organic produce from organic produce cooperatives which, although technically organic, may not be fresh and are not truly local because they are either located far away or source many of their actual products from outside the region. (Pennsylvania's Tuscarora Cooperative is an example of this in the DC-area.) When choosing produce for maximum health, one must always remember that USDA organic is a procedural approach to reducing toxins and has zero nutritional goals. In addition, commercial farms and farmers simply cannot and do not take care of the land as well as the small ecological farmer does.

We must never forget that the origins of CSAs derive from the search for food quality. What we want, for maximum nutritional benefit from vegetables and fruits, is harvest on distribution day. Eating produce like this, one becomes aware of how the farm, the farmer's energies and moral intentions of quality first come out in the food, so that the relationship is definitely transparent validated by your own taste buds.

> Allan Balliett Shephardstown, West Virginia

Allan runs a biodynamic CSA that serves the Washington metropolitan region. For further information, contact him at allan.balliett@gmail.com.

#### THE GRAIN CONUNDRUM

I have celiac disease and have been on a gluten-free and traditional diet for more than five years. Most of the terrible symptoms went away on the gluten-free diet but I still often suffered from bloating and gas. Last year I heard about the GAPS diet, which eliminates complex carbs like potatoes as well as grains, and went on it for almost a year. During that time, I began to feel more and more exhausted and my whole body began to be in pain. My muscles just hurt all the time.

I wrote Dr. Campbell-McBride about it and she said to go back to the intro diet again—I had already done the intro diet twice. She said I was just still toxic, which made me feel weak and exhausted. So I followed that advice, but I only seemed to get weaker. I had been a dance teacher and now I was having trouble just walking up the stairs.

I went the doctor and got all kinds of tests. After many visits to different physicians and lots of money spent, they all said I was as healthy as I could be. Nothing was wrong, they said. I have always been relatively healthy, except for the gastrointestinal problems.

I then decided to call Dr. Thomas Cowan and do a phone consult. I knew

Wise Traditions

he knew about the GAPS diet and could hopefully help me. After the first ten minutes on the phone with him, he told me I should start eating grains again and that my muscle pain and weakness were due to being on the GAPS diet. I was shocked. He said that many people have come to him with the same problem due to the diet and that he himself had felt this way after going on the diet for a short time. He agreed that it is, in theory, a perfect diet, but that for some reason many people cannot do it.

I have gone back on gluten-free grains such as millet, rice and quinoa, and am slowly starting to feel better. I have had such a hard year due to this and it has taken a toll on my whole family.

I already feel much better having put grains back into my diet. I have lost considerable muscle mass but am hoping that I will be able to make a full recovery. By the way, I am still taking the recommended probiotics—I do not feel that this problem was caused by the probiotics.

I think the GAPS diet does heal the gut, but as Dr. Cowan told me, many people cannot live without some type of grain or starchy tuber like potatoes or sweet potatoes. Another WAPFsavvy physician has told me the same thing, and I have heard from two other WAPF members who have had similar symptoms until they put grains back into their diets. Living without these food can deprive us of any drive or happiness,

which is not a good trade off, if you ask me.

Priscilla Smith, Chapter Leader Annapolis, Maryland

A very interesting response from Dr. Cowan is published in the box below. As we embark on this issue dedicated to the toxins in plant foods, it is important to always keep the goal in mind: that is, to be able to enjoy and derive nourishment from as many of the fruits of the earth as possible, whether oats originating from Scotland, tomatoes from Latin America or coconut from the tropics. We are no longer members of a local tribe but world citizens. The path to the healthy omnivorous diet, one that nourishes body, soul and mind, is one of balance and conscious choice: balance between meat, dairy, fats, grains, fruits and vegetables; and conscious—rather than intuitive—insight into our food choices and preparation techniques.

#### THE OMNIVORE'S DILEMMA: WHY MODERN MAN NEEDS PLANT FOODS IN HIS DIET By Thomas Cowan, MD

I have been investigating the subject of human food choices for over thirty years, and try as I may, I find it difficult to get an accurate read on the habits and outlook of prehistoric people. Many competing versions abound, everything from the views of conventional anthropologists, to the belief in alien intervention, to the complex visions of Rudolf Steiner. With an eye towards the inevitable uncertainty in this subject, I have nevertheless concluded that before the dawn of agriculture, humans were physically healthier than we are today; they were subject to far less illness than we experience today and to virtually none of the chronic illnesses that so plague modern life; and they had larger brains. Most importantly—and this is the part that is not appreciated by most who comment on this subject—prehistoric people were "configured" somewhat differently than we are today. This different configuration is partially related to the structure and function of the body, but mostly it is related to the structure of consciousness. Without going into any depth on this subject, prehistoric man experienced the world out of time and much more connected to their group than we do today. To have any sense of this, imagine how differently you would see life if you spent even one year in a deep wilderness without clocks or mirrors, foraging for your food with a group of ten to twenty people. You would most certainly conceive of yourself as part of a group and not as in individual. The process of individualization has been going on for a long time, but accelerated with the Renaissance, when, by the way, the use of clocks and mirrors—and grains—became commonplace.

My best guess is that the diet of these prehistoric peoples was about 70 percent animal products and about 30 percent plant products, usually plant products prepared in specific ways to neutralize toxins. The animal part of their diet consisted of animal proteins and fats to build the structures of their bodies while the plant part supplied many vitamins, minerals, phytochemicals and many other substances that nourished not only the physical body but also their imaginative and intuitive life. As the consciousness of humanity evolved, in particular as our sense of individuality developed, we needed more sugar. The reasons behind this are complex, but my understanding is that when we eat a more animal-based ketogenic diet, where our brains and hearts use fats as fuel, we get efficient metabolism of these organs and a sense of individuality dawned, we traded some of the fats and proteins for grains, increased our carbohydrate intake to nourish our sense of individuality, and set out to find out who we are and "conquer" the earth. Obviously, both good and bad outcomes emerged from this project. In some ways, we sacrificed some of our robust health and earthy vitality, but we also learned about who we are on a level unimaginable to prehistoric people.

To me this is the trade-off. We can't and shouldn't go back to a pre-history diet, but it is a valuable therapeutic technique to be used carefully and judiciously. As a physician, I recommend certain prehistoric diets (such as the GAPS diet) when needed to restore physical health and then return my patients to a mixed diet when the sense of lassitude sets in. The art of medicine involves being acutely aware of the needs of my patients on all levels, suggesting a diet that can be therapeutic at the time, and then not lingering too long at a stage that is inappropriate for the spiritual evolution of the patient.

# Caustic Commentary

Sally Fallon Morell and Mary Enig take on the Diet Dictocrats

#### ANTI-BUTTER FORCES FOILED AGAIN

A recently published meta-analysis looked at almost three hundred fifty thousand subjects in twenty-one studies to assess the correlation between saturated fat consumption and cardiovascular disease. The conclusion: intake of saturated fat was not associated with an increased risk of heart disease or stroke (American Journal of Clinical Nutrition, January 13, 2010). The authors noted that studies showing a significant association of saturated fat with heart disease "tended to be received more favorably for publication" than those studies showing a negative correlation or no correlation. Did you read about this study in a newspaper; was it featured in the health section; was it reported on TV? Not at all; mainstream media response has been one of complete silence. Meanwhile, the voices demonizing saturated fat have become ever more shrill. A study published in the September 2009 Journal of Clinical Investigation accuses saturated fat of interfering with brain chemistry and making people eat more. The title of the accompanying press release: "Ice Cream May Target the Brain Before Your Hips" (Science Daily, September 19, 2009). Dr. Gabe Mirkin claims that a study on mice shows that a highsaturated fat diet prevents the building of muscle mass (www. drmirkin.com/public/ezine012410.html). Among many details about this study Mirkin neglects to mention is the fact that the "high-fat" diet was only about 25 percent saturated fat, with almost half the fat as omega-6 fatty acids. For a blatantly industry-oriented anti-saturated fat website-sponsored by Unilever-visit www.satfatnav.com. Unilever's public relations company helped UK physician Shyam Kolvekar declare that butter should be banned, with headlines in the *Daily Mail* (www.dailymail.co.uk/health/article-1244048/Ban-buttersave-thousands-lives-says-heart-surgeon.html). Fortunately, public cynicism about the anti-butter forces surfaced with a vengeance, with hundreds of sarcastic comments posted after the article. Journalist Clarissa Dickson Wright countered with an article in the same publication, noting that she enjoys toasted crumpets "absolutely dripping with unsalted butter..."

#### ADVERSE EFFECTS

Andrew Wakefield was one of many co-authors who published a paper linking autism with gut dysbiosis in The Lancet, 1998. Now the British publication has withdrawn the report, which tangentially linked the measles-mumps-rubella vaccine to autism, no doubt due to heavy industry pressure (WSJ.com, February 3, 2010). This action was followed by the withdrawal of another study, in which Wakefield participated, from the journal NeuroToxicology. Wakefield and colleagues found that newborn monkeys given the hepatitis B vaccine containing the mercury-containing preservative thimerosal experienced developmental delays compared to monkeys that received a saline placebo or no injection. The infant monkeys were raised identically and tested daily by a blinded observer for the acquisition of nine survival, motor and sensorimotor reflexes. The vaccinated animals manifested significant delays in the acquisition of three survival reflexes, root, snout and suck, compared with controls. Those with lower birth weight and



#### **OUR LONDON CHAPTER LEADER AT WORK!**

After UK physician Shyam Kolvekar declared that butter should be banned, with headlines in the *Daily Mail* (see above), Phil Ridley, our London chapter leader, got right to work. Here he is, standing in front of Dr. Kolvekar's hospital, University College London Hospital, handing out our "Butter is Better" brochures. In all, he distributed over two thousand flyers over two days. "Most people were receptive," says Phil, "and many, including some on his team, said how much they like butter!" Finally, the hospital handed Phil a retraction, stating that Dr. Kolvekar's views did not "necessarily reflect the views of the hospital." Good work Phil!



SPRING 2010

Wise Traditions

# Caustic Commentary

lower age suffered the most detrimental effects. In another recent paper, researchers found that boy babies receiving the hepatitis B vaccination had a three-fold greater risk for developing autism spectrum disorder (ASD) (*Annals of Epi-demiology* 2009 Sept 19(9):659). While the pharmaceutical industry works non-stop to sweep the growing evidence of vaccination damage under the rug, more and more parents are just opting out. According to the CDC, nationwide rates for fully vaccinated children are about 75 percent, and as low as 60 percent in some states, such as Montana (www.usnews. com, August 27, 2008). In some areas, such as Ashland, Oregon, in some schools, up to three quarters of the children are unvaccinated (www.oregonlive.com, August 27, 2008).

#### THE ANTIOXIDANT MYTH

Antioxidants like vitamin C are the latest darling of the supplement industry. In the Winter 2009 Caustic Commentary section, we reported on the adverse effects of large doses of

vitamin C on endurance capacity. Vitamin C is the most popular antioxidant supplement, often taken in amounts exceeding 1000 milligrams. An alert reader has pointed out a new study that evaluated the effects of 1000 mg per day of vitamin C (as ascorbic acid) and 400 IU per day vitamin E on previously untrained and pretrained men before and after a four-week intervention of physical exercise. The purpose of the study was to determine the effect of antioxidants

on harmful reactive oxygen species (ROS), which increase in the mitochondria during exercise. The surprising results: exercise increased parameters of insulin sensitivity and ROS defense capacity only in the absence of antioxidants. Further, mediators of endogenous ROS defense (superoxide dismutase and glutathione peroxidase) were also induced by exercise and this effect was also blocked by antioxidant supplementation. It appears that the exercise-induced improvement in insulin sensitivity and defense against ROS is the result of the increase in ROS (which is tightly controlled), and that antioxidants, by destroying the ROS actually prevent the health-promoting effects of exercise (www.pnas.org/content/106/21/8665.long). In a related study, scientists from Kansas State University report data from animal studies suggesting that some antioxidants may deplete the body of compounds like hydrogen peroxide, which plays a role in the relaxation of blood vessels. According to Professor David Poole, "We're now learning that if antioxidant therapy takes away hydrogen peroxide—or other naturally occurring vasodilators, which are compounds that help open blood vessels—you impair the body's ability to deliver oxygen to the muscle so that it doesn't work properly" (www.nutraingredients.com, January 27, 2010).

#### NONCOMPLIANCE

Estimates of how many Americans take cholesterol-lowering statin drugs range from eleven to thirty-six million. Even the higher number seems low—about 12 percent of the population—considering the pharmaceutical industry's huge push to get everyone on statins. Furthermore, a study out of Great Britain indicates that only a small number of people actually

> stick to the drugs once they are prescribed. In one study, only 21 percent of people were still taking their medicine after three years; another found that only about half were still filling their prescriptions after five years (*Journal of Epidemiology and Community Health* 2010;64:109-113). In the newspaper report, researchers noted that it is easier to keep people on their meds than convince new patients to

take them. They suggested several ways of nagging people to continue with the statins, including telephone reminders, personal alarms and "better information about the medicine." If a patient has side effects or is "confused" about "scare stories" on the internet, "it's a good idea to talk to your doctor rather than simply give up on your medicine. There may be an alternative that you can switch to, or a lower dose may cut the chance of side effects" (www.guardian.co.uk, January 15, 2010).

BACON AND EGGS BACK IN BUSINESS After years of propaganda against high-cholesterol foods



# Caustic Commentary

like bacon and eggs, scientists have discovered that they might not be such a bad thing after all. Bacon and especially eggs are a rich source of choline. A team of researchers at the University of North Carolina have added to a large body of research showing that choline plays a crucial role in brain development. Plentiful choline in a pregnant woman's diet helps the fetal brain develop regions associated with memory. In fact, a lack of choline in the diet of pregnant mice led to changes in gene expression so that new brain cells could not be formed (Science Daily, January 4, 2010). "We may never be able to call bacon a health food with a straight face, but the emerging field of epigenetics is already making us rethink those things that we consider healthful and unhealthful," said Gerald Weissmann, MD, editor-in-chief of the FASEB Journal, which published the report. "This is yet another example showing that good prenatal nutrition is vitally important throughout a child's entire lifetime." More to the point, this is yet another tragic example of the law of unintended consequences, as the cholesterol theory of heart disease has led to an epidemic of learning disorders in the young and mental decline in the elderly.

#### CAROTENE CONVERSION

A recurring theme in these pages is a debunking of the myth that fruits and vegetables containing carotenes can supply adequate vitamin A in human diets. The enzyme responsible for the conversion of beta-carotene to vitamin A is called beta-carotene 15,15'-monoxgenase (BCOM1). Scientists from Newcastle University have found that almost 50 percent of females have a genetic variation that reduces their ability to convert beta-carotene. "Vitamin A is incredibly important. . .," notes Dr. Georg Lietz, who participated in the study. "It boosts our immune system and reduces the risk of inflammation such as that associated with chest infections. What our research shows is that many women are simply not getting enough of this vital nutrient because their bodies are not able to convert the beta-carotene." Here we have one more incident of the law of unintended consequences. "Worryingly, younger women are at particular risk," said Leitz. "The older generations tend to eat more eggs, milk and liver, which are naturally rich in vitamin A, whereas the health-conscious youngsters on low-fat diets are relying heavily on the beta-carotene form of the nutrient" (Science Daily, November 18, 2009).

#### SETBACK FOR MONSANTO

After planning for income of several billion dollars from so-called "second generation" genetically modified seeds, Monsanto withdrew its application for approval of two GM corn varieties in April 2009. Under conditions of secrecy, Monsanto subsidiary Renessen informed the European Food Safety Authority (EFSA) that it no longer wishes to pursue application for two varieties of corn designed to accelerate the growth rate of animals. Renessen cited "decreased commercial value worldwide" as the reason for withdrawal, but scientists who have followed the application process believe the real reason is safety. Although the two varieties were approved in the U.S., Canada, Australia and New Zealand, the concerns of several European countries forced EFSA to take a close look at the applicant's supporting studies. The dossiers included rigged research and false assumptions in the reported experiments; failure to offer any test results based on cooked or processed corn; failure to test the whole GM plant in feeding trials; confusing and contradictory characterizations of the GM varieties and proteins; fraudulent mixing of GM strains during trials; pooling of crop data so as to mask undesirable effects in experiments; feeding trials too short to reveal true physiological changes in animal tissues; and the choice of an irrevelant, unrelated corn variety as the control group for comparison with the GM lines, with the clear intention of hiding potentially serious differences in composition or side effects on animals. Fortunately, these toxic strains of GM corn do not appear to have been grown or commercialized anywhere in the world (www.cornucopia.org, February 10, 2010).

#### FOR SCIENTISTS AND LAY READERS

Please note that the mission of the Weston A. Price Foundation is to provide important information about diet and health to both scientists and the lay public. For this reason, some of the articles in *Wise Traditions* are necessarily technical. It is very important for us to describe the science that supports the legitimacy of our dietary principles. In articles aimed at scientists and practitioners, we provide a summary of the main points and also put the most technical information in sidebars. These articles are balanced by others that provide practical advice to our lay readers.

### **Plants Bite Back!** The Surprising, All-Natural Anti-Nutrients and Toxins in Plant Foods

By Kaayla T. Daniel, PhD, CCN

Representation of the second s

Mother Nature puts anti-nutritional factors and toxins in grains, nuts, seeds and beans for a variety of reasons. Phytates, for example, block seeds from sprouting prematurely. Protease inhibitors, saponins, lectins and phytoestrogens harm insectsm animals and other predators that would otherwise eat too many of them. If evolutionary theories are correct, wounded plants produce extra inhibitors and other anti-nutrients to save the plant species. The idea is to cause predators—including plant-eating humans—to experience slowed growth and diminished reproductive ability.<sup>1-4</sup> Although it might sound like a "rotten idea," squirrels are smart to bury nuts in the ground, then dig them up and eat them weeks and months later. Similarly, people in traditional cultures all over the world process their grains, nuts, seeds and beans by a process akin to pre-digestion before cooking and eating them.

#### TRYPING UP THE DIET THE PERILS OF PROTEASE INHIBITORS

Protease inhibitors inhibit some of the key enzymes that help us digest protein. The best known of these protease enzymes is trypsin. Most of the USDA studies performed over the years have looked at trypsin inhibitors in soybeans, but these anti-nutrients are also found in other beans, grains, nuts, seeds, vegetables of the nightshade family (potatoes, tomatoes and eggplant) and various fruits and vegetables.

Traditionally, few of these foods caused

health problems because they were rarely eaten every day and because cooking deactivates most of the protease inhibitors. But given the growing tendency to fill up on plant foods, and the fashionability of al dente cooking and "live food" (raw) vegan diets, more and more people are eating foods with their protease inhibitor

content intact. Proponents of plant-based diets generally believe their diets provide plenty of protein, but this premise fails to take into account the fact that protein swallowed is not the same as protein digested when protease inhibitors are in the picture. Without high-quality, usable protein, growth, repair, immunity, hormone formation and all metabolic processes will suffer.

The protease inhibitors in soybeans are not only more numerous than those found in other beans and foods, but more resistant to neutralization by cooking and processing.<sup>5</sup> Only the old-fashioned fermentation techniques used to make miso, tempeh and natto come close to deactivating all of them. With all other cooking processes, some trypsin inhibitors remain. The levels of active protease inhibitors remaining in modern soy products vary widely from batch to batch, and investigators have found startlingly high levels in some soy formulas and soy protein concentrates.<sup>6-12</sup>

Given the fact that heat deactivates the pro-

tease inhibitors in soy, and enough heat could dispatch all of them, the obvious solution would seem to be to cook the soybeans to death. Unfortunately, extra heating damages the structure of the essential amino acids methionine and lysine and in extreme cases damages the total protein so much that it is hard to digest, assimilate and utilize by the body. When modern food manufacturers use alkaline solutions to speed things up, the essential amino acid lysine can be turned into the toxic lysinoalanine.<sup>13-15</sup> Even if food manufacturers made it a priority to cook soybeans just



The carnivorous piranha plant shows that plants *can* bite back!

right, some protease inhibitors would be undercooked and others overcooked. Despite scores of USDA studies, no practical method of solving this problem has ever been devised. To this day, the only way to solve the protease inhibitor problem is oldfashioned fermentation.

Many people

dismiss the protease inhibitor conundrum, saying that a few of them here and there don't pose a problem. That is undoubtedly true for people eating a richly varied omnivorous diet. But for soy formula-fed infants, vegetarians and others who eat soy every day, the numbers add up. Even the small quantities used as extenders in meat products, canned tuna, bakery goods and other ordinary supermarket and health food store products and fast foods can adversely affect people whose digestive capacities are already compromised by low hydrochloric acid levels, pancreatic insufficiency, bowel diseases, gluten intolerance and other health challenges. Worse, the average American may be eating soy protein along with soy or corn oils, a deadly combination that has led to pancreatic cell proliferation and cancer in laboratory rats.<sup>16</sup> Both these oils have been shown to initiate or fuel cancers, and because of a synergistic effect, the danger appears to be greatest when the combined intake is high. Soy protein, soy oil and corn oil are all familiar

Proponents of plant-based diets generally believe their diets provide plenty of protein, but this premise fails to take into account the fact that protein swallowed is not the same as protein digested when protease inhibitors are in the picture.

ingredients in processed supermarket foods as well as vegetarian "health foods."

The organ in greatest danger is the pancreas. When protease inhibitors keep the pancreas from producing enough trypsin and proteases, the body compensates by increasing the number of pancreatic cells (hyperplasia) and their size (hypertrophy). If this happens here and there, the pancreas rises to the challenge and then recovers. However, when the pancreas is stressed day after day, pancreatitis and even cancer become distinct possibilities.<sup>17-19</sup> In the 1970s and 1980s, researchers studying protease-inhibitor damage to the pancreas noted that pancreatic cancer had moved up to fifth place as a cause of cancer death among humans, and wondered whether there might be a soybean-protease inhibitors connection.<sup>20-22</sup> Recently pancreatic cancer moved up to fourth place as a cause of cancer deaths in men and women in the United States,23 a fact underscored to the American public by the deaths of actor Patrick Swayze of Dirty Dancing fame and Randy Pausch of Carnegie-Mellon University, who became a hero in the eyes of millions because of his moving Last Lecture. The fact that this ongoing rise in pancreatic cancer has occurred along with a rise in human consumption of soybeans does not prove cause and effect. Indeed, numerous dietary and environmental factors undoubtedly play their parts. However, the concurrent increase in pancreatic cancer cases alongside pertinent animal studies is suggestive-and sobering.

**Phytates** are a leading cause of poor growth, anemia, immune system incompetence and other health woes in Third World countries where plant-based diets are the norm.

#### PHYTATE FOLLIES: TIES THAT BIND

Phytates found in beans, grains and other seeds are anti-nutrients that block proper absorption of iron, zinc, calcium and other minerals. They are a leading cause of poor growth, anemia, immune system incompetence and other health woes in Third World countries where plant-based diets are the norm, and are increasingly a problem in First World countries where plant-based and vegan diets are widely considered chic and healthy.

In the plant kingdom, phytates serve two primary functions: they prevent premature germination and they store the phosphorous that plants need to grow.<sup>24-25</sup> Phytates are valuable to humans because they allow us to store seeds safely over the winter, but a potential problem when we want to eat those seeds, grains and beans. The way phytates deactivate the life force is by binding tightly with minerals. In order for seeds to leave their dormant phase and begin to sprout and grow, they are planted in warm, moist, slightly acidic soil each spring.<sup>26,27</sup> To eat grains, nuts, beans and other seeds, we are wise to do much the same by preparing them in a warm, moist and slightly acidic medium.

Advocates for plant-based diets often point out the high mineral content of their foods, but rarely take into account how phytate content might affect their assimilation of these minerals. Zinc is particularly affected.<sup>28</sup> A component of more than three hundred enzymes, zinc affects every function in the body. Growth, immunity, wound healing, mental health, intelligence, digestion, blood sugar regulation, thyroid function, weight, sex hormones and skin are all adversely affected by zinc deficiency.

Iron loss through phytate blockage can lead to "iron-poor blood" and iron deficiency anemia, resulting in fatigue, lethargy, weakened immunity and learning disabilities. Iron deficiencies also affect the thyroid gland by reducing the output of thyroid hormone, which in turn leads to lower body temperature, lethargy and weight gain.<sup>29</sup>

Calcium absorption, also adversely affected by phytates, is worsened when these foods are processed using alkaline chemicals. Claims that plant-based diets contain plenty of the calcium we need for bone building and other functions are seriously undercut when one considers the phytate content and modern processing methods.<sup>30</sup> In products naturally low in calcium such as soy milk, manufacturers like to boast about added calcium while remaining mum about phytates. Finally, phytate-induced mineral deficiencies facilitate displacement of needed minerals by toxic metals, for examples, iron by lead and zinc by cadmium.<sup>31,32</sup>

So what about the phosphorous that is essential for growth and bones? There's plenty of it in beans, grains and other seeds, but 50 to 75 percent of it's tied up in the phytates and not readily bioavailable.<sup>33</sup> Inefficient phosphorus utilization in humans and animals results in stunted growth as well as other nutritional consequences. That's why farmers raising animals on corn and soybean-based diets give them phosphate supplements to ensure proper growth. That solves part of the growth problem but not the environmental consequences. Undigested phytates excreted in manure can create serious waste disposal problems and result in contaminated surface water, lakes and streams.<sup>34,35</sup>

#### LECTINS: GLUTINS FOR PUNISHMENT

Lectins are proteins with a "sweet tooth." Mother Nature created them to help bacteria fix atmospheric nitrogen into the roots of plants. That helps plants grow, and when the plants die makes them useful as fertilizers. Soybeans, for example, are high in lectins and have traditionally served as "green manure."<sup>39</sup>

Found most heavily in beans, grains and other foods, lectins "bite" into carbohydrates, particularly sugars, and can cause "leaky gut," immune system reactions and blood clotting. Because they agglutinate blood—glue it up lectins are also known as hemagglutins, hemagglutinins and phytohemagglutins.

Lectins really shouldn't be a problem in human nutrition. The enzymes present in fermented foods can take care of most lectins. So can heat processing and cooking. But those lectins that do not succumb are unlikely to be perturbed by normal digestive processes. Unlike ordinary food proteins, lectins are not easily broken down by enzymes in the gut. At least 60 percent remain biologically active and immunologically intact, a combination that can represent a time bomb in the digestive tract.<sup>40,41</sup> Lectins bind to the villi and crypt cells of the small intestine, where they can contribute to cell death, shortened villi, a diminished capacity for digestion and absorption, cell proliferation in the crypt cells, interference with hormone and growth factor signaling and unfavorable population shifts among the microbial flora.

Lectin damage is not confined to the gut. As the body attempts to maintain the integrity of the small intestinal lining at all costs, proteins that would ordinarily be used for normal growth and repair elsewhere may be appropriated instead for emergency repairs in the intestinal tract.<sup>45,46</sup> Furthermore, lectins consumed with the diet may travel through the damaged "leaky gut" into general circulation, provoking allergic reactions and immune system disruption. Research to date suggests that lectins of both plant and microbial origin provoke allergic rections in the gut, usually of the delayed hypersensitivity type IgG.<sup>47,49</sup>

Lectins can also affect the gut by causing shifts in the gut flora, including overgrowth by *E. coli*, streptoccocus and lactobacillus bacteria.<sup>50,51</sup> Although most of the studies were done with a toxic lectin from kidney beans known as PHA, other lectins act similarly, though less strongly.<sup>52</sup>

Lectins gain strength in the company of other anti-nutrients such as protease inhibitors and saponins. Researchers at USDA and elsewhere who've tested lectins have found that the damage tends to be mild. Tested together, the damage is not simply additive but synergistic.<sup>53</sup>

The biggest problem with lectins comes when people eat an insufficiently varied diet. In one study, rats put on rotation diets showed significantly less damage from lectins than rats fed soy proteins continuously.<sup>54</sup> Because the rats did nearly as well with the rotation diet as they did on a steady diet of high quality, low-lectin feed, the take away message is for us to eat a richly varied diet and to reduce repeated exposure to all lectinrich legumes, especially soybeans and kidney beans.

#### PHYTING DISEASE

Interestingly enough, phytates do have benefits. Many alternative MDs and other health care practitioners recommend them for detoxification because of their ability to bind not only with needed minerals such as zinc and calcium, but also unwanted toxic metals such as cadmium and lead. To date, most of the research has centered on phytates as a chelators of excess iron. Unusable iron causes oxidizing, a form of "rusting" in the body. When phytates grab this iron and usher it out of the body, they serve as "antioxidants" against cancer, heart disease, diabetes and neurogenerative diseases such as Alzheimer's, ALS and Parkinson's.<sup>36-38</sup> Keep in mind that toxic iron loads do not come from eating meat, which is rich in the absorbable, useful form known as heme iron, but from the non-heme iron in "enriched" flour, cereals, fortified soy foods, and most vitamin and mineral supplements. Synthetic, inorganic non-heme iron is poorly utilized and accumulates in the body, contributing to numerous diseases. Men begin accumulating non-heme forms of iron shortly after puberty. Women rarely start accumulating it until they stop menstruating.

The best attitude to take regarding phytates is to recognize both their dangers and benefits, as is the tradition in some cultures. For example, Jewish people eat leavened bread (in which the phytates traditionally have been deactivated by soaking and fermentation methods) for most of the year, but eat unleavened bread (with phytate content intact) prior to Passover. This is a very healthy approach because detoxification can occur during the fasting period.

Our editor remembers the dish served to her when she got sick during her stay as an exchange student in Iran. Most of the time her family ate white rice, but when she was sick, they prepared her a bowl of rough brown rice gruel. Presumably the phytic acid in the rice—and brown rice is very high in phytic acid—would attach to whatever nasty enterotoxins were lurking in the intestinal tract and take them out of the body. (She quickly recovered.)

Infants fed soy formula and vegans who eat a lot of soy-based meat and dairy replacements do not experience sufficient variety in their diets and are especially vulnerable. In the average adult with "leaky gut" and other GI tract problems, lectin-rich foods are likely to be one factor among many, with cumulative damage coming from food allergies and intolerances, antibiotics, aspirin, ibuprofen and other NSAID drugs, heavy metal contamination, alcoholism and other factors.<sup>55</sup>

Lectins are three to four times more likely to move into the bloodstream through the "leaky gut" than other food proteins,<sup>56</sup> a fact that shows why maintaining the integrity of the gut lining is crucial to keeping undigested and partially digested food proteins, lectins and environmental toxins out of the bloodstream.

#### SOYATOXIN: NEW THREAT FROM SOY

In soybeans, a toxic protein called "soyatoxin" causes clotting, just like lectins do. In mice, large doses have proved lethal, having caused breathing difficulties, convulsions and partial paralysis prior to death. Ilka Vasconcelos, PhD, lead scientist of the team that discovered soyatoxin, concluded her report by stating that it seemed "important to gather more information concerning its nutritional value, and to develop ways to counteract any detrimental effects."57,58 As yet no one has funded these important studies, although it is not too far fetched to assume that a toxic agent that acts so much like botulism might be formulated into a profitable "all natural" soy-based injectable to compete with the wrinkle-removing paralytic Botox!

SAPONINS: SOAP IN YOUR MOUTH

Saponins are bitter, biologically active components that foam up like soap suds in water. They are named after the soapwort plant (Saponaria), the root of which was used traditionally as a soap. Foods containing saponins include soybeans, chick peas and other beans, forage crops such as alfalfa, as well as other plants. Saponins contribute largely to the foam that rises to the top of the pot when you cook beans; this foam, which can taste quite bitter, should be carefully skimmed off.

Ingestion of saponins has been linked to poor growth and bloating in foraging animals, although it takes massive doses to create such problems.<sup>59</sup>

The greater risk in humans would be to the mucosa of the intestines. This occurs because saponins bind with cholesterol, causing injuries that result in "leaky gut."<sup>60-62</sup> This effect is probably weak, but allergens, lectins, gluten gliadin and other components wreak similar havoc, suggesting a cumulative risk. Not surprisingly, the cholesterol-binding effect may lead to the eventual marketing of saponins as all-natural cholesterol lowerers. Scientists have even considered their use in feed for the production of cholesterol-free dairy products,<sup>63</sup> though feeding alfalfa saponins to chickens has not resulted in low-cholesterol eggs!<sup>64</sup>

Saponins may also soon be promoted as "bile binders" for cancer prevention and reversal. The idea is that saponins bind with bile, and that bile acids poison the cells and so promote tumors. Reducing the absorption of bile through the cell membrane could make precancerous epithelial

#### LECTINS AND GMO FOODS

Allergic reactions may dramatically increase in the future because of the insertion of lectins into genetically engineered foods. For example, a lectin that causes many people to experience allergic reactions to latex was engineered into genetically modified tomatoes in order to improve the anti-fungal properties.

In 1998, Arpad Pusztai, PhD, set off a furor regarding the safety of GM foods when he disclosed that rats fed GM potatoes containing a lectin from a snowdrop plant suffered depressed immune systems and damage to the kidney, stomach, spleen and brain. The snowdrop lectin had been inserted into the potato because it is a naturally occurring insecticide. Dr. Pusztai's testimony made a mockery of claims to safety put forth by Monsanto and other biotechnology giants that profit mightily from GM crops, and within four days, the distinguished researcher was forced to retire from a job he had held for thirty-six years at the Rowett Research Institute in Aberdeen, Scotland. Although twenty scientists, including toxicologists, genetic engineers and medical experts from thirteen countries examined Dr Pusztai's work and found that his conclusions were warranted, the widely respected researcher is now considered "controversial."<sup>93,94</sup>

Saponins bind with cholesterol, causing injuries that result in "leaky gut." cell proliferation in the colon less likely. The theory is that cancer cell membranes contain more cholesterol than normal cell membranes and saponins could bind more easily to them, thus triggering their destruction.<sup>65</sup> The problem is destruction occurs in normal cells as well, albeit at lower levels. If that sounds like a reasonable trade off, consider the fact that "leaky gut" with its attendant malabsorption, dysbiosis and other problems increases cancer risk.

Saponins also break down red blood cells in a process known as hemolysis. This action is also weak, but the human body's ability to resist this type of damage decreases with age along with an age-related decline in the quality of red cell membranes.<sup>66</sup> Another potential problem is the fact that saponins inhibit important enzymes such as succinate dehydrogenase,<sup>67</sup> a key player in the citric acid cycle of the body, which must function properly if we are to properly absorb nutrients, heal and grow. Digestive enzymes disturbed by saponins include trypsin and chymotrypsin, which are also adversely affected by protease inhibitors.<sup>68</sup> Finally, saponins may be goitrogenic and spur enlargement of the thyroid.<sup>69</sup> Saponins shouldn't take all the rap for thyroid disease, but given the fact that they tend to be found in plant foods that also contain isoflavones, coumestans, lignans, gossypol glycosides and other known goitrogens, we can't rule them out as a contributor to thyroid disease.

On a more positive note, saponins in spinach and oats may increase and accelerate the body's ability to absorb calcium and silicon.<sup>70</sup>

Boiling, steaming, sautéing and otherwise cooking foods won't have much effect on saponins, as it takes alcohol extraction to remove them. When the soybean is separated into oil and protein, the saponins stick with the protein, making them an unavoidable component in every soy product except soy oil and lecithin. Soy protein isolates contain the highest levels of saponins of any soy product.<sup>71,72</sup>

The good news is old-fashioned fermented soy products have a much reduced saponin content as well as lower levels of protease inhibitors, phytates and other anti-nutrients. *Aspergillus oryzae* used in the fermentation of miso and soy sauce produces an enzyme known as soybean saponin hydrolase, which is capable of hydrolyzing soybean saponins. While it is true that saponins are metabolized by bacterial enzymes, this does not oc-

#### LECTINS AND BLOOD TYPES

The 1948 discovery that plant lectins are specific to blood types has created a thriving multidisciplinary research industry, and led to the 1996 bestselling book *Eat Right 4 Your Type* by Peter J. D'Adamo, ND.

According to Dr. D'Adamo, lectins in foods only prove troublesome when they are incompatible with the person's blood type. When these lectins bite into intestinal cells or leak into the bloodstream, they may be attacked as foreign antigens and become part of a network of antibodies bound to antigens that are known as "immune complexes." These can clot and block blood flow or lodge in organs of the body where they interfere with the key processes related to digestion, absorption, insulin utilization and a host of other vital functions. As incompatible lectins cause the immune system to react and overreact, the stage is set for autoimmune diseases. "Leaky gut" correlates with numerous disorders, including food and environmental allergies; bowel problems such as IBS, Crohn's disease and celiac disease; inflammatory joint diseases such as rheumatoid arthritis; dermatological disease such as psoriasis, and many forms of cancer.

If Dr. D'Adamo's theory is correct, it would make good sense to "eat right for your type." However a healthy body with full digestive and assimilative capabilities is capable of handling a variety of food lectins provided the gut is healthy. Sadly, regular assaults by large servings of lectin-rich soybeans, kidney beans, wheat or other foods will breach the integrity of the intestinal lining, allowing lectins and incompletely digested food proteins and other toxins to move into the blood stream. These people often do better when they eat according to their type, although a better method might be to dump plant-based diets rich in lectins and other gut harming anti-nutrients and take steps to heal the gut.

The most likely reason Dr. D'Adamo's diet plans have been helpful to many people is that he urges people with Type O blood—45 to 46 percent of the population—to reject vegetarian diets containing large amounts of lectin-rich plant foods and soy foods and advises them to eat low-lectin meats instead. He also advises all Types O, A and B—93 to 96 percent of the population—to "just say no" to wheat and flour products such as breads, bagels, muffins, cakes, cookies, pastas and cereals.

Just going off wheat has tremendous benefit for most Americans. In addition to the wheat germ lectin, wheat contains gluten, which can bite into the human intestinal mucous lining much like lectins. Indeed, ever increasing amounts of wheat and gluten in the modern diet have been associated with rising rates of a gut disorder known as celiac disease.

Whether it's high levels of lectins found "on occasion" or low levels found in foods eaten in large quantities on a regular basis, lectins hold the potential to cause health problems. In his textbook *Plant Lectins*, Dr. Pusztai warns that lectins "can have serious consequences for growth and health."

That said, those who eat rich and varied omnivorous diets will probably not have problems from lectins, provided they go easy on the soybeans, kidney beans and other legumes, avoid wheat and heal the gut with broth, cultured foods and other foods recommended on a nourishing traditional diet.<sup>95</sup>

cur in the human body until they have scrubbed their way around the many twisting loops of the small intestine to arrive in the large intestine.<sup>73</sup>

How else might saponins be useful? In addition to marketing them as cholesterol reducers, bile binders and cancer preventers, Big Pharm has singled out saponins for their ability to increase the body's levels of immune response and proposes adding saponins to vaccines!<sup>74</sup> Finally, there may be big profits in using saponins as a component of spermicides. Seems hemolysis damages the mucosa of the vagina,<sup>75</sup> providing an inhospitable environment for sperm, not to mention women feeling pain and unlikely to be hospitable to sex anyway.

#### **OXALATES: CASTING STONES**

Oxalates are indigestible compounds in foods that prevent the proper absorption of calcium. Contrary to popular belief, oxalates are not significantly neutralized by cooking. The foods highest in oxalates are soyprotein, spinach and rhubarb.<sup>77</sup> Years ago, these rarely posed a problem because soy protein isolate had yet to be invented, and few people other than Popeye ate much spinach. Fewer still ever ate rhubarb. But as William Shaw, PhD points out (see page 40) many health conscious people now eat a gigantic spinach salad every day, thinking it's the ticket to good health. Instead, it can be a ticket to kidney stones, vulvodynia and other oxalate-related health problems.

Other oxalate-containing foods likely to be eaten to excess are peanuts and chocolate. Given that these popular and addictive foods can represent whole food groups to vegans, caution is warranted. Although studies on rice, wheat, rye and soy indicate that phytates cause more calcium binding than oxalates, such foods are high in both anti-nutrients. Increased calcium excretion and increased oxalic acid excretion ride tandem and have been linked to osteoporosis. Finally, health practitioners treating autism have found that oxalate-containing foods must be eliminated from the diet, as well as products containing gluten, casein and soy, before any real progress can be made in treating this tragic condition.<sup>79</sup>

#### SALICYLATES

"When in doubt, eat fruits and veggies." Might seem like good advice except for the fact that fruits and vegetables are not only high in carbs but also contain all-natural phytochemicals known as salicylates. As with other plant foods that bite back, salicylates evolved to fight predators. And organic fruits and vegetables seem to have more of them.<sup>80</sup> These are not-too-distant chemical cousins of the salicylates found in hundreds of over-the-counter (OTC) medications and prescription drugs used to relieve minor aches and pains, reduce fever and inflammation, thin the blood, dry up diarrhea and treat skin conditions such as acne, warts and psoriasis. The most famous OTC members of the salicylate family are aspirin (acetylsalicylic acid), Ben Gay (methyl salicylate), Pepto Bismol (bismuth subsalicylate) and Doan's (magnesium salicylate).81,82 Salicylates are also increasingly found in alternative medicines and Chinese herbs, particularly topical oils.83

Many people today are so salicylate intolerant that they experience adverse reactions not only to drugs but also to salicylate-rich foods like

#### AGAVE ANGUISH

In the human diet, people tend to think of beans as the likeliest source of saponins. But one plant food that is surprisingly high in saponins is agave. This industrial sweetener is currently the darling of health conscious crowd but is best avoided for a multitude of reasons as discussed in "Worse than We Thought: The Lowdown on High Fructose Corn Syrup and Agave 'Nectar'" (*Wise Traditions*, Spring 2009).

One problem is that it contains a particularly nasty form of saponin in the cell sap of its roots and leaves. This was identified in the *Journal of Biological Chemistry* back in 1922.<sup>76</sup> Experiments on fish showed that agave saponin caused the fish to become greatly excited, swim about rapidly, calm down, come to the surface of the water gasping for air, lose their equilibrium, then turn over on their backs, often to die within just three to five minutes. Bleeding from the gills and fins was also observed, a result of saponin's hemolysis effect. In contrast, the researchers reported other types of saponins took a full fifteen minutes to two hours to exert these adverse effects. Interestingly the addition of cholesterol delayed and inhibited the fatal action of the saponin.

Fruits and vegetables are not only high in carbs but also contain all-natural phytochemicals known as salicylates.

fruits and vegetables. Reactions are caused when arachidonic acid is tripped into the inflammatory chemicals called leukotrienes, causing dilated blood vessels, constricted bronchial passages and mucus production.84 In addition to experiencing allergy-like symptoms, people sensitive to salicylates may suffer from asthma, hives, nasal polyps, chronic swelling and a wide variety of gastrointestinal symptoms, including irritable bowel. Salicylates are also linked to a long list of physical and mental symptoms, includingjust for starters-acne, bedwetting, restless leg syndrome, tinnitus, tics, styes, hyperactivity, headaches, anxiety, hallucinations, weepiness, blurred vision, fidgiting, bad breath, body odor, and even constant hunger!<sup>85</sup> Obviously, there are many other risk factors for these complaints, but 2-4 percent of outpatients attending allergy clinics, 2 percent of those with Crohn's disease, 7 percent of those with ulcerative colitis, and 15-20 percent of those who attend ear, nose and throat clinics are salicylate intolerant.86,87

Although individuals prone to inflammatory responses are typically advised to cut out meat and other foods rich in arachidonic acid, the surprising culprit for some health conscious individuals might be fruits and vegetables. Researchers in Scotland who tested vegetarians versus non-vegetarians found much higher levels of salicylates in the vegetarians' urine, though considerably less than subjects taking aspirin.88,89 Most people can handle average amounts of salicylate in food, products and medications without adverse health effects. People with salicylate intolerance, however, are unable to handle more than a certain amount of salicylates at a time. The amount varies from person to person. Salicylates also have a cumulative effect in the body and build up over time. Thus some people may feel great when they first start a raw vegan diet with lots of juicing, only to later develop salicylate intolerance.

The levels of salicylates found in food can vary greatly, with raw foods and dried foods containing higher levels than the same cooked foods. But cooked foods concentrate salicylates in products such as sauces, purées and syrups. People who are salicylate sensitive may find it helpful to peel fruits thickly (so as to cut off areas just under the skin) and to throw away the outer leaves of vegetables. It is also crucial to eat only fruits and vegetables that have been allowed to ripen.

Fruits high in salicylates include all dried fruits and most berries, including the blueberries we're all told to eat because they are a "superfood." Cherries, oranges, pineapples, plums, grapes, peaches, nectarines, watermelon, cantaloupe, grapefruit and most varieties of apples pose problems for salicylate sufferers. Indeed the only fruits low in salicylates are banana, lime, pear, golden delicious apples and papayas. Vegetables high in salicylates include cooked tomatoes, chili peppers, water chestnut, alfalfa sprouts, broccoli, cucumber, eggplant, spinach, sweet potato and zucchini. Moderate levels are found in asparagus, beets, carrots, potatoes and mushrooms. Sadly very high levels of salicylates are found in coconut oil, a fact that might explain why some people seem to be allergic to this otherwise healthy oil. Olive, sesame and walnut oils are also high in salicylates. The good news is that there are negligible amounts in butter. For an extensive Food Guide, visit www.salicylatesensitivity.com.

An elimination diet accompanied by a food diary is the best way to determine whether salicylates are causing any health problems. To do this, avoid any medications containing salicylates and limit the diet to foods that either do not contain salicylate or are very low in salicylates for a month to six weeks. Once the body has cleared any stored salicylate, symptoms will abate if, in fact, you are salicylate intolerant. Although strict avoidance is generally recommended, researchers have shown that fish oil can reduce salicylate sensitivity;<sup>90</sup> cod liver oil with its needed vitamins A and D should work even better.

#### PHYTOCHEMICAL WARFARE

In conclusion, the plant world has marshalled a formidable army of anti-nutrients and toxins, programmed to kill predators—including human plant eaters—through phytochemical warfare. These can contribute to malnutrition, digestive distress, thyroid disorders, immune system breakdown, infertility, autism, ADD, ADHD, allergies and even heart disease and cancer.

Proponents of plant-based diets claim that the evidence against protease inhibitors, phyAlthough individuals prone to inflammatory responses are typically advised to cut out meat and other foods rich in arachidonic acid, the real culprit for health conscious individuals might be fruits and vegetables.

tates, saponins and other plant toxins is exaggerated, inconclusive and irrelevant to humans because so much of it has been done in animals. While the evidence against any single anti-nutrient might not be conclusive, it is important to remember that anti-nutrients and toxins rarely appear singly but in combination. Foods that contain protease inhibitors, for example, tend to contain lectins and saponins. Foods rich in salicylates might also be nightshades. Sorry to say, but phytochemical damage is not just additive but synergistic. And the evidence is substantial and relevant to all mammals, including the human mammal.

Adding to the potential damage, five additional categories of antinutrients and non-nutrients pose risks. Gluten has wreaked so much havoc on guts and brains that "gluten free" is a buzz word in the health world and a booming new industry. Goitrogens block the synthesis and utilization of thyroid hormones, leading to an epidemic of thyroid dysfunction. Oligosaccharides are the pesky gas-producing sugars that give beans their reputation as "musical fruits." Fiber, an indigestible and non-nutritive element, which although "everyone knows" is somehow good for us, can wreak havoc on digestive capability, gut health, immunity and brain function. Phytoestrogens (plant estrogens) include isoflavones, coumestans and lignans; they are found in quantity in such popular "health foods" as soybeans, alfalfa and clover sprouts, and flaxseeds. Although not the same as true mammalian hormones, they are close enough to fool the body and cause significant endocrine disruption.

#### NUTRACEUTICALS

As might be expected, all the anti-nutrients and toxins discussed in this article are being dusted off by the food industry, turned into supplements, added to foods as "nutraceuticals" and promoted as curers of all that ails us. Phytoestrogens are promoted as all-natural HRT (hormone replacement therapy). The potent Bowman-Birk protease inhibitor from soybeans supposedly cures cancer. Phytates chelate heavy metals and excess iron. Saponins are all-natural cholesterol lowerers. The lectins of the future may prevent or cure disease by being sent into the body to grab onto and eat specific sugars that coat body cells, microbes and proteins.<sup>91</sup> Call them Hannibal Lectins! The fact that such pharmaceutical uses—carefully dosed and monitored—could usher in a brave new world, in no way makes them desirable or safe taken willy nilly in our daily food.

Finally, when it comes to plant-based diet items, don't trust the process! At least not when it's fake meats and other ersatz products crafted from soy, peas, hemp, wheat gluten and other plant proteins. These triple threat products contain the full complement of all-natural anti-nutrients; carcinogens and toxins that are byproducts of industrial food processing; and dubious and often dangerous additives designed to improve taste, smell, look and "mouth feel."<sup>92</sup> A future article will tackle the "Dirty Little Secrets of the Food Processing Industry." For now, it's enough to know that there's trouble in Eden and plants bite back!

Since they do, it's a good idea to treat them with respect. Fruits and vegetables add interest, color and taste to our diet, but don't overconsume. Instead, vary your choice, prepare them properly and consume them in the context of a diet rich in the protective factors that come from meat, eggs, seafood, raw dairy products and the fats from grass-fed animals. When it comes to plant foods our motto should be: Don't deny, diversify!

Kaayla T. Daniel, PhD, CCN, is The Naughty Nutritionist<sup>TM</sup> because of her ability to humorously debunk nutritional myths. In May she will speak at the National Association of Nutrition Professionals (NANP) conference in San Francisco on the topic "Empowering Fertility." Dr. Daniel is available by phone and in person for nutritional consultations and can be reached at Kaayla@DrKaaylaDaniel.com or 505-266-3252.

#### SWISS TRIP 2010

The deadline is drawing near for enrollment in the fifth annual tour of Switzerland with Swiss Native Judith Mudrak. Join up to twenty healthy WAPF members to walk in Dr. Price's footsteps, July 15-29, 2010.

Participants will meet mountain farmers, visit museums, enjoy spectacular mountain views, enjoy raw milk, cheese and authentic sourdough rye bread, learn ancient cheesemaking, breadmaking and sausage making techniques, meet herbalists



naking, breadmaking and sausage making techniques, meet herbalists and learn salve making, visit an old salt mountain mine and enjoy the Thousand Sheep Festival on Gemmi Mountain. Participants must obtain own flight and Swiss rail pass.

#### FOR FURTHER INFORMATION

Email: reversemydisease@g-mail.com Subject: WAPFCH10 or Slow mail: Please send self addressed, stamped envelope. Judith Mudrak, 58 Cranberry Run, Southampton, NJ 08088 USA Phone: 609 859-3828 EST

#### REFERENCES

- Fraenkel, Gottfried S. The raison d'etre of secondary plant substances. *Science*, 1959; 129:1466–70.
- Rackis JJ. Biologically active components. In Alan K. Smith and Sidney J. Circle, eds. *Soybeans: Chemistry* and *Technology*, Vol 1, Proteins (Westport, CT, Avi Publishing, 1972) 163-177.
- Liener IE, Kakade ML. Protease inhibitors. In Irvin E. Liener, ed. *Toxic Constituents of Plant Foodstuffs* (NY Academic Press, 2nd ed, 1980) 49, 55.
- Sathe SK, Reddy NR. Introduction. In NR Reddy, SK Sathe, eds. *Food Phytates* (Boca Raton, FL, CBC Press, 2002) 3.
- Daniel, Kaayla T. The Whole Soy Story (New Trends, 2005) 195-212.
- Anderson RL, Wolfe WJ. Compositional changes in trypsin inhibitors, phytic acid, saponins and isoflavones related to soybean processing. *J Nutr*, 1995, 125, 581S-588S.
- Miyagi Y, Shiujo S. Trypsin inhibitor activity in commercial soybean products in Japan. *J Nutr Sci Vitaminolo* (Tokyo), 1997, 43, 5, 575-580.
- DiPietro CM. Liener IE. Soybean protease inhibitors. J Food Sci, 1989, 54, 606-609.
- Peace RW, Sarwar G et al. Trypsin inhibitor levels in soy-based infant formulas and commercial soy protein isolates and concentrates. *Food Res Int*, 1992, 25, 137-141.
- Billings PC, Longnecker MP et al. Protease inhibitor content of human dietary samples. *Nutr Cancer*, 1990, 14, 2, 85-93.
- Roebuck BD. Trypsin inhibitors: potential concern for humans, J. Nutr, 1987, 117, 398-400.
- Doell BH, Ebden CJ, Smith CA. Trypsin inhibitor activity of conventional foods which are part of the British diet and some soya products. *Qual Plant Foods Human Nutr*, 1981, 31, 139-150.
- Sarvar G, L'Abbe MR et al. Influence of feeding alkaline/ heat processed proteins on growth and protein and mineral status of rats. Ad Exp Med Biol, 1999, 459, 161-177.
- SCOGS 101. Evaluation of the health aspects of soy protein isolates as food ingredients. Life Sciences Research Office Food and Drug Administration, Washington DC, FDA/BF-80/3.
- Witte NH. Soybean meal processing and utilization. In David R. Erickson, ed. Practical Handbook of Soybean Processing and Utilization (Champaign, IL, AOCS Press, 1995), 114-115.
- Roebuck BD, Kaplita PV, MacMillan DL. Interaction of dietary fat and soybean isolate (SBI) on azaserineinduced pancreatic carcinogenesis. *Qual Plant foods Hum Nutr*, 1985, 35, 323-329.
- 17. Daniel, 202-209.
- Liener IE. Possible adverse effects of soybean anticarcinogens. J Nutr, 1995, 125, 744S-750S.
- Rackis JJ, Gumbmann MR. Protease inhibitors physiological properties and nutritional significance. In Robert L. Ory, ed. Antinutrients and Natural Toxicants in Foods (Westport, CT, Food and Nutrition Press, 1981), 203-238.
- 20. Roebuck BD.
- Myers BA, Hathcock J et al. Effects of dietary soya bean trypsin inhibitor concentrate on initiation and growth of putative preneoplastic lesions in the pancreas of the rat. *Ed Chem Toxic*, 1991, 29, 7, 437-443.
- Morgan RGH,Wormsley KG. Cancer of the pancreas, Gut, 1977, 18, 580-596.
- American Cancer Society Cancer Reference Information, 2003, How Many People Get Pancreatic Cancer? www.cancer.org.
- Thompson LU. Potential health benefits and problems associated with antinutrients in foods. *Food Res Internat*, 1993, 26, 131-149.
- Weaver CM, Kannan S. Phytate and mineral bioavailability. In NR Reddy, SK Sathe, eds. *Food Phytates* (Boca Raton, FL, CBC Press, 2002) 211-223.
- Tanaka K, Kasai Z. Phytic acid in rice grains. In Robert L. Ory, ed. Antinutrients and Natural Toxicants in Foods (Westport, CT,Food and Nutrition Press, 1981) 239-260.
- 27. Sathe, Reddy. 3.
- 28. Daniel. 217-219.
- 29. Daniel. 215-217, 222-223.

- 30. Daniel. 219-220.
- Daniel KT, Knight GD. Mad as a hatter: how to avoid toxic metals and clear them from the body, *Wise Traditions*, Summer 2008, 33-45.
- 32. Eck, Paul C and Larry Wilson. *Toxic Metals in Human Health and Disease*, (Phoenix, Eck Institute, 1989) xiv.
- Jenab M, Thompson LU. Role of phytic acid in cancer and other diseases. In NR Reddy, SK Sathe, eds. Food Phytates (Boca Raton, FL, CBC Press, 2002) 225-248.
- Lott J. Ockenden I et al. A global estimate of phytic acid and phosphorous in crop grains, seeds. In NR Reddy, SK Sathe, eds. *Food Phytates* (Boca Raton, FL, CBC Press, 2002) ,15.
- Grabau E. Phytase expression in transgenic plants. In NR Reddy, SK Sathe, eds. *Food Phytates* (Boca Raton, FL, CBC Press, 2002).
- Shamsuddin AM, Ullah A, Chakravarthy AK. Inositol and inositol hexaphosphate suppress cell proliferation and tumor formation in CD-1 mice. *Carcinogenesis*, 1989, 10, 1461-1463.
- Menniti FS, Oliver KG et al. Inositol phosphates and cell signaling; new views of InsP5 and insP6. *Trends Biochem Sci*, 1993, 18, 53-56.
- Graf E, Eaton JW. Antioxidant functions of phytic acid. Free Radic Biol Med, 1990, 8, 61-69.
- Pusztai, Arpad. Plant Lectins (Cambridge University Press, 1991) 64-68, 159-164.
- Pusztai A, Ewen SWB et al. Relationship between survival and binding of plant lectins during small intestinal
  passage and their effectiveness as growth factors. *Digestion*, 1990, 46, 308-315,
- 41. Pusztai, Plant Lectins, 109-110.
- Jindal S, Soni GL, Singh R. Biochemical and histopathological studies in albino rats fed on soyabean lectin, *Nutr Rep Inter*, 1984, 29, 95-106.
- 43. Toress-Pinedo R. Lectins and the intestine. J Pediatr Gastroenterol Nutr, 1983, 2, 588-594.
- Pusztai, 159-160.
   Ament ME, Rubin CE. Soy protein—another cause of the flat intestinal lesion. *Gastroenterol*, 1972, 62, 2, 227-234.
- Poley JR, Klein AW. Scanning electron microscopy of soy protein-induced damage of small bowel mucosa in infants. J Pediatr Gastroenterol Nutr, 1983, 2, 2, 271-287.
- Perkko M, Savilahti E, Kuitunen P. Morphometric and immunohistochemical study of jejunal biopsies from children with intestinal soy allergy. *Eur J Pediatr*, 1981, 137, 1, 63-69.
- de Aizpurua HJ, Russel-Jones GJ. Oral vaccination: Identification of classes of proteins that provoke an immune response on oral feeding. *J Exper Med*, 1988, 167, 440-451.
- 49. Pusztai, 144-145. 50. Pusztai, 151-158.
- Pusztai A, Grant G et al. Kidney bean lectin-induced Escherichia coli overgrowth in the small intestine is blocked by GNA, a mannose specific lectin. J Appl Bacteriol, 1993, 75, 4, 360-368.
- 52. Pusztai, 111.
- Maentz DD, Irish GG, Classen HL. Carbohydratebinding and agglutinating lectins in raw and processed soybean meals. *Animal Food Sci Tech*, 1999, 76, 335-343.
- Pusztai A, Grant G et al. Novel dietary strategy for overcoming the antinutritional effects of soyabean whey of high agglutinin content. *Br J Nutr*, 1997, 77, 6, 933-945.
- Great Smokies Diagnostic Laboratory. Assessing Physiological Function. Interpretive Guidelines, Intestinal Permeability, 1996.6.
- 56. Pusztai, 144-158.
- Vasconcelos IM, Trentim A et al. Purification and physiochemical characterization of soyatoxin, a novel toxic portein isolated from soybeans (Glycine max), *Arch Biochem Biophys*, 1994, 312, 2, 357-366.
   Pusztai, 160-161.
- Birk Y, Puri I. Saponins. In Irvin E. Liener, ed. *Toxic* Constituents of Platn Foodstuffs (NY, Academic Press, 2nd ed, 1980, 170.
- Rao AV, Sung M-K. Saponins as anticarcinogens. J Nutr, 1995, 125 717S-724S
- Pathirana C, Gibney MJ, Taylor TG. Effects of soy protein and saponins on serum and liver cholesterol in rats. *Atherosclerosis*, 1980, 36,595.
- 62. Sidhu GS, Oakenfull DG A mechanism for the hypocho-

lesterolemic activity of saponins. Br J Nutr, 1986, 7, 55, 643.

- Cheeke PR. Biological effects of feed and forage saponins and their impacts on animal production. In George R. Waller and Kazuo Yamasaki, eds. Saponins Used in Food and Agriculture, 382-383.
- Cornell University Department of Animal Science. www.ansci.cornell.edu/plants/toxicagents/saponin.html
   Rao, Sung.
- 66. Hronek M, Benes P. Horsky J. The effect of saponinium album Merck on changes in the hemolytic resistance of erythrocytes in relation to age in healthy persons. *Cas Lek Cesk*, 1989. 128, 22, 685-687. Medline abstract. Article in Czech.
- 67. Birk, Puri.176-177.
- Liener IE. Implications of antinutritional components on soybean foods. *Crit Rev Food Sci Nutr*, 1994, 34, 1, 48.
   Kimura S, Suwa J et al. Development of malignant
- goiter by defatted soybean with iodine-free diet in rats. Japanese J Cancer Res, 1976, 67, 763-765,
- Cornell. www.ansci.cornell.edu/plants/toxicagents/ saponin.html
- Anderson RL, Wolfe WJ. Composition changes in trypsin inhibitors, phytic acid, saponins and isoflavones related to soybean processing. J Nutr, 1995, 125, 5818-5885,
- Fenwick DE, Oakenfull D. Saponin content of food plants and some prepared foods. J Sci Food Agric, 1983, 34, 186-191.
- Liu, KeShun, Soybeans: Chemistry, Technology, Utilization (Gaithersburg, MD, Aspen, 1999) 231.
- Estrada A et al. Isolation and evaluation of immunological adjuvant activities of saponins from Polygaia senega L. Comp Immunolo Microbiol Infect Dis, 2000, 23, 27-43.
- Ellary AA, Nour SA, Correlation between the spermicidal activity and the haemolytic index of certain plant saponins. *Pharmazie*, 1979, 34, 9, 560-561.
- Johns CO, Chernoff LH, Viehoever A. A saponin from agave lechuguilla torrey. J Biol Chem, 1922. www.jbc. org/content/52/1/335.full.pdf.
- Massey LK, Palmer RG, Horner HT. Oxalate content of soybean seeds (Glycine max: Leguminosae), soyfoods and other edible legumes. *J Agric Food Chem*, 2001, 49, 9, 4262-4266.
- Jahnen A, Heynck H et al. Dietary fibre: the effectiveness of a high bran intake in reducing renal calcium excretion. Urol Res, 1992, 20, 1, 3-6.
- Author's discussions with health practitioners and parents at AutismOne, Chicago, IL, May 2006.
- Hayat S, Ahmad A, Salicylic acid A Plant Hormone (Springer Netherlands, 2009).
- Waseem, Muhammad NM SalicylateToxicity. http:// emedicine.medscape.com/article/1009987-overview. Updated: Feb 12, 2008.
- 82. http://salicylatesensitivity.com/info.
- Baxter AJ, Mrvos R, Krenzelok EP, Salicylism and herbal medicine, Am J Emergency Med, 2003, 21, 5, 448-449.
- Baekler HW. Salicylate intolerance: pathophysiology, clinical spectrum, diagnosis and treatment. *Dtsch Arztebl Int*, 2008, 105, 8, 137-142.
- 85. http://salicylatesensitivity.com/info.
- Masterjohn C. Eat to Live by Joel Fuhrman. Thumbs Down Book Review. Wise Traditions, Spring 2007. www. westonaprice.org/Eat-to-Live-by-Joel-Fuhrman.html.
- Raithel M, Baenkler HW et al. Significance of salicylate intolerance in diseases of the lower gastrointestinal tract. *J Physiol Pharmacol*, 2005, 56, Suppl 5, 89-102.
- Lawrence JR, Peter R et al. Urinary excretion of salicyluric and salicylic acids by non-vegetarians, vegetarians, and patients taking low dose aspirin. J Clin Pathol 2003, 56, 651-653.
- Hare LG, Woodsie JV, Young IS. Dietary salicylates. J Clin Pathol 2003,56,649-650.
- Healy E, Newell et al. Control of salicylate intolerance with fish oils. *Br J Dermatol*, 2006, 159, 6, 1368-9.
- 91. Daniel. 209-211, 220-224, 235-236, 241-243.
- 92. Daniel. 121-132
- 93. Daniel. 234-235
- 94. Firth, Peta. Leaving a bad taste: the furor in Britain raises health safety concerns about genetically modified foods. *Scientific American*, May 1999.
- 95. Daniel. 232-233

### Living with Phytic Acid Preparing Grains, Nuts, Seeds and Beans for Maximum Nutrition

by Ramiel Nagel

Ramiel Nagel is author of Cure Tooth Decay, which teaches people how to remineralize and repair tooth cavities with real food (www. curetoothdecay. com) and Healing Our Children in which you can learn how to have vibrantly healthy children with good food and conscious parenting (www. healingourchildren. net).

Phytic acid in grains, nuts, seeds and beans represents a serious problem in our diets. This problem exists because we have lost touch with our ancestral heritage of food preparation. Instead we listen to food gurus and ivory tower theorists who promote the consumption of raw and unprocessed "whole foods;" or, we eat a lot of high-phytate foods like commercial whole wheat bread and all-bran breakfast cereals. But raw is definitely not Nature's way for grains, nuts, seeds and beans. . . and even some tubers, like yams; nor are quick cooking or rapid heat processes like extrusion.

Phytic acid is the principal storage form of phosphorus in many plant tissues, especially the bran portion of grains and other seeds. It contains the mineral phosphorus tightly bound in a snowflake-like molecule. In humans and animals with one stomach, the phosphorus is not readily bioavailable. In addition to blocking phosphorus availability, the "arms" of the phytic acid molecule readily bind with other minerals, such as calcium, magnesium, iron and zinc, making them unavailable as well. In this form, the compound is referred to as phytate. Phytic acid not only grabs on to or chelates important minerals, but also inhibits enzymes that we need to digest our food, including pepsin,<sup>1</sup> needed for the breakdown of proteins in the stomach, and amylase,<sup>2</sup> needed for the breakdown of starch into sugar. Trypsin, needed for protein digestion

in the small intestine, is also inhibited by phytates.3

Through observation I have witnessed the powerful anti-nutritional effects of a diet high in phytate-rich grains on my family members, with many health problems as a result, including tooth decay, nutrient deficiencies, lack of appetite and digestive problems.

The presence of phytic acid in so many enjoyable foods we regularly consume makes it imperative that we know how to prepare these foods to neutralize phytic acid content as much as possible, and also to consume them in the context of a diet containing factors that mitigate the harmful effects of phytic acid.



Six-sided phytic acid molecule with a phosphorus atom in each arm.

80 percent of the phosphorus—a vital mineral for bones and health-present in grains is locked into an unusable form as phytate.<sup>4</sup> When a diet including more than small amounts of phytate

> is consumed, the body will bind calcium to phytic acid and form insoluble phytate complexes. The net result is you lose calcium, and don't absorb phosphorus. Further, research suggests that we will absorb approximately 20 percent more zinc and 60 percent magnesium from our food when phytate is absent.5

> The amount of phytate in grains, nuts, legumes and seeds is highly variable; the levels that researchers find when they analyze a specific food probably depends

on growing conditions, harvesting techniques, processing methods, test-

ing methods and even the age of the food being tested. Phytic acid will be much higher in foods grown using modern high-phosphate fertilizers than those grown in natural compost.<sup>6</sup>

1719

1250<sup>9</sup>

1174

982

952

821 779

610

637

622

448

367

258

123

12

270 - 357

11.5 - 66

1684-1796

1138 - 1400

648 - 1000

634 - 752.5

Seeds and bran are the highest sources

#### PHYTATES IN FOOD

Phytic acid is present in beans, seeds, nuts, grains-especially in the bran or outer hull; phytates are also found in tubers, and trace amounts occur in certain fruits and vegetables like berries and green beans. Up to

FIGURE 1: FOOD SOURCES OF PHYTIC ACID <sup>7</sup>
As a percentage of dry weight

FIGURE 2: PHYTIC ACID LEVELS8 In milligrams per 100 grams of dry weight

FOOD	MINIMUM	MAXIMUM	Brazil nuts
Sesame seed flour	5.36	5.36	Cocoa powder
Brazil nuts	1.97	6.34	Brown rice
Almonds	1.35	3.22	Oat flakes
Tofu	1.46	2.90	Almond
Linseed	2.15	2.78	Walnut
Oat meal	0.89	2.40	Peanut roasted
Beans, pinto	2.38	2.38	Peanut ungerminated
Soy protein concentra	te 1.24	2.17	Lentils
Soybeans	1.00	2.22	Peanut germinated
Corn	0.75	2.22	Hazel nuts
Peanuts	1.05	1.76	Wild rice flour
Wheat flour	0.25	1.37	Yam meal
Wheat	0.39	1.35	Refried beans
Soy beverage	1.24	1.24	Corn tortillas
Oats	0.42	1.16	Corn
Wheat germ	0.08	1.14	Coconut meat
Whole wheat bread	0.43	1.05	White flour
Brown rice	0.84	0.99	White flour tortillas
Polished rice	0.14	0.60	Polished rice
Chickpeas	0.56	0.56	Strawberries
Lentils	0.44	0.50	

of phytates, containing as much as two to five times more phytate than even some varieties of soybeans, which we know are highly indigestible unless fermented for long periods. Remember the oat bran fad? The advice to eat bran, or high fiber foods containing different types of bran, is a recipe for severe bone loss and intestinal problems due to the high phytic acid content.

Raw unfermented cocoa beans and normal cocoa powder are extremely high in phytates. Processed chocolates may also contain phytates. White chocolate or cocoa butter probably does not contain phytates. More evidence is needed as to phytate content of prepared chocolates and white chocolate. Coffee beans also contain phytic acid. The chart in Figure 1 shows the variability of phytate levels in various common foods as a percentage of dry weight. Phytate levels in terms of milligrams per hundred grams are shown in Figure 2.

#### DETRIMENTAL EFFECTS

High-phytate diets result in mineral deficiencies. In populations where cereal grains provide a major source of calories, rickets and osteoporosis are common.<sup>10</sup>

Interestingly, the body has some ability to adapt to the effects of phytates in the diet. Several studies show that subjects given high levels of whole wheat at first excrete more calcium than they take in, but after several weeks on this diet, they reach a balance and do not excrete excess calcium.<sup>11</sup> However, no studies of this phenomenon have been carried out over a long period; nor have researchers looked at whether human beings can adjust to the phytate-reducing effects of other important minerals, such as iron, magnesium and zinc.

The zinc- and iron-blocking effects of phytic acid can be just as serious as the calcium-blocking effects. For example, one study showed that a wheat roll containing 2 mg phytic acid inhibited zinc absorption by 18 percent; 25 mg phytic acid in the roll inhibited zinc absorption by 64 percent; and 250 mg inhibited zinc absorption by 82 percent.<sup>12</sup> Nuts have a marked inhibitory action on the absorption of iron due to their phytic acid content.<sup>13</sup>

Over the long term, when the diet lacks minerals or contains high levels of phytates or both, the metabolism goes down, and the body goes into mineral-starvation mode. The body then sets itself up to use as little of these minerals as possible. Adults may get by for decades on a high-phytate diet, but growing children run into severe problems. In a phytate-rich diet, their bodies will suffer from the lack of calcium and phosphorus with poor bone growth, short stature, rickets, narrow jaws and tooth decay; and for the lack of zinc and iron with anemia and mental retardation.

#### THE EXPERIMENTS OF EDWARD MELLANBY

As early as 1949, the researcher Edward Mellanby demonstrated the demineralizing effects of phytic acid. By studying how grains with and without phytic acid affect dogs, Mellanby discovered that consumption of high-phytate cereal grain interferes with bone growth and interrupts vitamin D metabolism. High levels of phytic acid in the context of a diet low in calcium and vitamin D resulted in rickets and a severe lack of bone formation.

His studies showed that excessive phytate consumption uses up vi-

#### PHYTATES: A BENEFICIAL ROLE?

As evidence of the detrimental effects of phytates accumulates, reports on alleged beneficial effects have also emerged. In fact, a whole book, *Food Phytates*, published in 2001 by CRC press, attempts to build a case for "phytates' potential ability to lower blood glucose, reduce cholesterol and triacylglycerols, and reduce the risks of cancer and heart disease."<sup>14</sup>

One argument for the beneficial effects of phytates is based on the premise that they act as anti-oxidants in the body. But recent studies indicate that an overabundance of anti-oxidants is not necessarily a good thing as these compounds will inhibit the vital process of oxidation, not only in our cells but also in the process of digestion.

Another theory holds that phytates bind to extra iron or toxic minerals and remove them from the body, thus acting as chelators and promoting detoxification. As with all anti-nutrients, phytates may play a therapeutic role in certain cases.

For example, researchers claim that phytic acid may help prevent colon cancer and other cancers.<sup>15</sup> Phytic acid is one of few chelating therapies used for uranium removal.<sup>16</sup>

Phytic acid's chelating effect may serve to prevent, inhibit, or even cure some cancers by depriving those cells of the minerals (especially iron) they need to reproduce.<sup>17</sup> The deprivation of essential minerals like iron would, much like other broad treatments for cancer, also have negative effects on non-cancerous cells. For example, prolonged use of phytic acid to clear excess iron may deprive other cells in the body that require iron (such as red blood cells).

One theory is that phytates can help patients with kidney stones by removing excess minerals from the body. However, a long-term study involving over forty-five thousand men found no correlation between kidney stone risk and dietary intake of phytic acid.<sup>18</sup>

Phytates also have the potential for use in soil remediation, to immobilize uranium, nickel and other inorganic contaminants.<sup>19</sup> tamin D. Vitamin D can mitigate the harmful effects of phytates, but according to Mellanby, "When the diet is rich in phytate, perfect bone formation can only be procured if sufficient calcium is added to a diet containing vitamin D."<sup>20</sup>

Mellanby's studies showed that the ricketsproducing effect of oatmeal is limited by calcium.<sup>21</sup> Calcium salts such as calcium carbonate or calcium phosphate prevent oatmeal from exerting rickets-producing effect. According to this view, the degree of active interference with calcification produced by a given cereal will depend on how much phytic acid and how little calcium it contains, or how little calcium the diet contains. Phosphorus in the diet (at least from grains) needs some type of calcium to bind to. This explains the synergistic combination of sourdough bread with cheese. Historically, the cultivation of grains usually accompanies the raising of dairy animals; high levels of calcium in the diet mitigates the mineral-depleting effects of phytic acid.

In Mellanby's experiments with dogs, increasing vitamin D made stronger bones regardless of the diet, but this increase did not have a significant impact on the amount of calcium excreted. Those on diets high in phytate excreted lots of calcium; those on diets high in phosphorus from meat or released from phytic acid through proper preparation excreted small amounts of calcium.

Based on Mellanby's thorough experiments, one can conclude that the growth of healthy bones requires a diet high in vitamin D, absorbable calcium and absorbable phosphorus, and a diet low in unabsorbable calcium (supplements, pasteurized dairy) and unabsorbable phosphorus (phytates). Interestingly, his experiments showed that unbleached flour and white rice were less anti-calcifying than whole grains that contain more minerals but also were higher in phytic acid. Other experiments have shown that while whole grains contain more minerals, in the end equal or lower amounts of minerals are absorbed compared to polished rice and white flour. This outcome is primarily a result of the blocking mechanism of phytic acid, but may be secondarily the result of other anti-nutrients in grains.

Thus, absorbable calcium from bone broths and raw dairy products, and vitamin D from certain animal fats, can reduce the adverse effects of phytic acid.

Other studies show that adding ascorbic acid can significantly counteract inhibition of iron assimilation by phytic acid.<sup>22</sup> Adding ascorbic acid significantly counteracted phytate inhibition from phytic acid in wheat.<sup>23</sup> One study showed that anti-iron phytate levels in rice were disabled by vitamin C in collard greens.<sup>24</sup>

Research published in 2000 indicates that both vitamin A and beta-carotene form a complex with iron, keeping it soluble and preventing the inhibitory effect of phytates on iron absorption.<sup>25</sup> Here we have another reason to consume phytate-rich foods in the context of a diet containing organ meat and animal fats rich in vitamin A, and fruits and vegetables rich in carotenes.

#### PHYTASE

Phytase is the enzyme that neutralizes phytic acid and liberates the phosphorus. This enzyme co-exists in plant foods that contain phytic acid.

Ruminant animals such as cows, sheep and goats have no trouble with phytic acid because

#### **OTHER ANTI-NUTRIENTS**

Phytates represent just one of many anti-nutrients in grains, nuts, tubers, seeds and beans. These include oxalates, tannins, trypsin inhibitors, enzyme inhibitors, lectins (hemagglutinins), protease inhibitors, gluten, alpha-amylase inhibitors and alkylresorcinols.

Anti-nutrients exist in these plant foods because they are part of the process of life. The natural world requires them in order to perform many important tasks, including protection against insects, maintaining freshness of seeds for germination, and protection against mold and fungus. In order to consume these foods on a regular basis we must remove the phytates and other anti-nutrients through processing in harmonious ways. Many people in the health field assure us that if something is from nature, then it doesn't require processing. Phytates act as the seed's system of preservatives, like the impossible-to-open plastic packaging of many consumer goods. To get to the item we need—namely, phosphorus—we need to unwrap the phytate-phosphorus package.

this view, the degree of active interference with calcification produced by a given cereal will depend on how much phytic acid and how little calcium it contains, or how little calcium the diet contains.

According to

phytase is produced by rumen microorganisms; monogastric animals also produce phytase, although far less. Mice produce thirty times more phytase than humans,<sup>26</sup> so they can be quite happy eating a raw whole grain diet. Data from experiments on phytic acid using mice and other rodents cannot be applied to humans.

In general, humans do not produce enough phytase to safely consume large quantities of high-phytate foods on a regular basis. However, probiotic lactobacilli, and other species of the endogenous digestive microflora can produce phytase.27 Thus, humans who have good intestinal flora will have an easier time with foods containing phytic acid. Increased production of phytase by the gut microflora explains why some volunteers can adjust to a high-phytate diet.

Sprouting activates phytase, thus reducing phytic acid.28 The use of sprouted grains will reduce the quantity of phytic acids in animal feed, with no significant reduction of nutritional value.29

Soaking grains and flour in an acid medium at very warm temperatures, as in the sourdough process, also activates phytase and reduces or even eliminates phytic acid.

Before the advent of industrial agriculture, farmers typically soaked crushed grain in hot water before feeding it to poultry and hogs. Today, feed manufacturers add phytase to grain mixes to get better growth in animals. Commercial phytases are typically produced using recombinant DNA technology. For example, a bacterial phytase gene has recently been inserted into yeast for commercial production.

Not all grains contain enough phytase to eliminate the phytate, even when properly prepared. For example, corn, millet, oats and brown rice do not contain sufficient phytase to eliminate all the phytic acid they contain. On the other hand, wheat and rye contain high levels of phytase-wheat contains fourteen times more phytase than rice and rye contains over twice as much phytase as wheat.<sup>30</sup> Soaking or souring these grains, when freshly ground, in a warm environment will destroy all phytic acid. The high levels of phytase in rye explain why this grain is preferred as a starter for sourdough breads.

Phytase is destroyed by steam heat at about 176 degrees Fahrenheit in ten minutes or less. In a wet solution, phytase is destroyed at 131-149 degrees Fahrenheit.<sup>31</sup> Thus heat processing, as in extrusion, will completely destroy phytase-think of extruded all-bran cereal, very high in phytic acid and all of its phytase destroyed by processing. Extruded cereals made of bran and whole grains are a recipe for digestive problems and mineral deficiencies!

Phytase is present in small amounts in oats, but heat treating to produce commercial oatmeal renders it inactive.

Even grinding a grain too quickly or at too high a temperature will destroy phytase, as will freezing and long storage times. Fresh flour has a higher content of phytase than does flour that has been stored.<sup>32</sup> Traditional cultures generally grind their grain fresh before preparation. Weston Price found that mice fed whole grain flours that were not freshly ground did not grow properly.33

Cooking is not enough to reduce phytic acid-acid soaking before cooking is needed to activate phytase and let it do its work. For example, the elimination of phytic acid in quinoa requires fermenting or germinating plus cooking (see Figure 3). In general, a combination of acidic soaking for considerable time and then cooking will reduce a significant portion of phytate in grains and legumes.

#### THE PHYTATE THRESHOLD

It appears that once the phytate level has been reduced, such that there is more available phosphorus than phytate in the grain, we have passed a critical point and the food becomes more beneficial than harmful. Retention of phosphorus decreases when phytate in the diet is 30-40 percent or more of the total phosphorus.<sup>35</sup>

For best health, phytates should be lowered as much as possible, ideally to 25 milligrams or less per 100 grams or to about .03 percent of the phytate-containing food eaten. At this level, micronutrient losses are minimized. (For phytate content of common foods as a percentage of dry weight, see Figures 4 and 5.)

White rice and white bread are low-phytate foods because their bran and germ have been removed; of course, they are also devitalized and empty of vitamins and minerals. But the low phytate content of refined

PROCESS	PHYTATE REDUCTION
Cooked for 25 minutes at 212 degrees F	15-20 percent
Soaked for 12-14 hours at 68 degrees F, then cooked	60-77 percent
Fermented with whey 16-18 hours at 86 degrees F, then cooked	82-88 percent
Soaked 12-14 hours, germinated 30 hours, lacto-fermented 16-18 h	ours, 97-98 percent
then cooked at 212 degrees F for 25 minutes	

FIGURE 3: QUINOA PHYTATE REDUCTION<sup>34</sup>

carbohydrate foods may explain why someone whose family eats white flour or white rice food products may seem to be relatively healthy and immune to tooth cavities while those eating whole wheat bread and brown rice could suffer from cavities, bone loss and other health problems.

#### PHYTATES AND GERMINATION

Beer home brewers know that in order to make beer, they need malted (sprouted) grains. Soaking and germinating grains is a good idea, but it does not eliminate phytic acid completely. Significant amounts of phytic acid will remain in most sprouted grain products. For example, malting reduces wheat, barley or green gram phytic acid by 57 percent. However, malting reduces anti-nutrients more than roasting.<sup>36</sup> In another experiment, malting millet also resulted in a decrease of 23.9 percent phytic acid after 72 hours and 45.3 percent after 96 hours.<sup>37</sup>

In legumes, sprouting is the most effective way to reduce phytic acid, but this process does not get rid of all of it. Germinating peanuts led to a 25 percent reduction in phytates. After five days of sprouting, chick peas maintained about 60 percent of their phytate content and lentils retained about 50 percent of their original phytic acid content. Sprouting and boiling pigeon pea and bambara groudnut reduced phytic acid by 56 percent.<sup>38</sup> Germinating black eyed beans resulted in 75 percent removal of phytate after five days sprouting.

Germination is more effective at higher temperatures, probably because the heat encourages a fermentation-like condition. For pearled millet, sprouting at 92 degrees F for a minimum of 48 hours removed 92 percent of the phytate. At 82 degrees F, even after 60 hours, only 50 percent of phytic acid was removed. Higher temperatures above 86 degrees F seem less ideal for phytate removal, at least for millet.<sup>39</sup>

Sprouting releases vitamins and makes grains and beans and seeds more digestible. However it is a pre-fermentation step, not a complete process for neutralizing phytic acid. Consuming grains regularly that are only sprouted will lead to excess intake of phytic acid. Sprouted grains should also be soaked and cooked.

#### ROASTING AND PHYTIC ACID

Roasting wheat, barley or green gram reduces phytic acid by about 40 percent.<sup>40</sup> If you subsequently soak roasted grains, you should do so with a culture that supplies additional phytase, as phytase will be destroyed by the roasting process.

#### ACIDIC SOAKING AND PHYTIC ACID

For grains and legumes that are low in

In legumes, sprouting is the most effective way to reduce phytic acid, but this process does not get rid of all of it.

FIGURE 4: PHYTATE<sup>41</sup> As Percentage of Dry Weight

5.36
3.29
1.00 - 2.22
0.60 - 2.38
0.74 - 1.78
1.60
1.37
1.05 - 1.76
1.19
1.17
1.05
1.01
0.96
0.84 - 0.94
0.28 - 1.26
0.27 - 1.05
0.2

FIGURE 5: BREAD PHYTATES<sup>42</sup> As Percentage of Weight

Cornbread	1.36
Whole wheat bread	0.43-1.05
Wheat bran muffin	0.77-1.27
Popped corn	0.6
Rye	0.41
Pumpernickel	0.16
White bread	0.0323
French bread	0.03
Sourdough rye	0.03
Soured buckwheat	0.03

It is not necessary to completely eliminate phytic acid from the diet, only to keep it to acceptable levels. phytase, soaking does not usually sufficiently eliminate phytic acid. Soaking of millet, soya bean, maize, sorghum, and mung bean at 92 degrees F for 24 hours decreased the contents of phytic acid by 4–51 percent.<sup>43</sup> With these same grains and beans, soaking at room temperature for 24 hours reduced phytic acid levels by 16–21 percent.<sup>44</sup> However, soaking of pounded maize for one hour at room temperature already led to a reduction of phytic acid by 51 percent.<sup>45</sup>

Sourdough fermentation of grains containing high levels of phytase—such as wheat and rye—is the process that works best for phytate reduction. Sourdough fermentation of whole wheat flour for just four hours at 92 degrees F led to a 60 percent reduction in phytic acid. Phytic acid content of the bran samples was reduced to 44.9 percent after eight hours at 92 degrees F.<sup>46</sup> The addition of malted grains and bakers yeast increased this reduction to 92-98 percent. Another study showed almost complete elimination of phytic acid in whole wheat bread after eight hours of sourdough fermentation (See Figure 6).<sup>47</sup>

A study of phytates in recipes used typically by home bread bakers found that leavening with commercial yeast was much less effective at removing phytates. Yeasted whole wheat breads lost only 22-58 percent of their phytic acid content from the start of the bread making process to the complete loaf.<sup>48</sup>

#### PHYTIC ACID AND YOU

The purpose of this article is not to make you afraid of foods containing phytic acid, only to urge caution in including grains, nuts and legumes into your diet. It is not necessary to completely eliminate phytic acid from the diet, only to keep it to acceptable levels.

An excess of 800 mg phytic acid per day is probably not a good idea. The average phytate intake in the U.S. and the U.K. ranges between 631 and 746 mg per day; the average in Finland is 370 mg; in Italy it is 219 mg; and in Sweden a mere 180 mg per day.<sup>49</sup>

In the context of a diet rich in calcium, vitamin D, vitamin A, vitamin C, good fats and lacto-fermented foods, most people will do fine on an estimated 400-800 mg per day. For those suffering from tooth decay, bone loss or mineral deficiencies, total estimated phytate content of 150-400 mg would be advised. For children under age six, pregnant women or those with serious illnesses, it is best to consume a diet as low in phytic acid as possible.

In practical terms, this means properly preparing phytate-rich foods to reduce at least a portion of the phytate content, and restricting their consumption to two or three servings per day. Daily consumption of one or two slices of genuine sourdough bread, a handful of nuts, and one serving of properly prepared oatmeal, pancakes, brown rice or beans should not pose any problems in the context of a nutrient-dense diet. Problems arise when whole grains and beans become the major dietary sources of calories when every meal contains more than one whole grain product or when over-reliance is placed on nuts or legumes. Unfermented soy products,





Wise Traditions

extruded whole grain cereals, rice cakes, baked granola, raw muesli and other high-phytate foods should be strictly avoided.

#### RICE

Brown rice is high in phytates. One reference puts phytate content at 1.6 percent of dry weight, another at 1250 mg per 100 grams dry weight (probably about 400 mg per 100 grams cooked rice). Soaking brown rice will not effectively eliminate phytates because brown rice lacks the enzyme phytase; it thus requires a starter. Nevertheless, even an eight-hour soak will eliminate some of the phytic acid, reducing the amount in a serving to something like 300 mg or less.

The ideal preparation of rice would start with home-milling, to remove a portion of the bran, and then would involve souring at a very warm temperature (90 degrees F) at least sixteen hours, preferably twenty-four hours. Using a starter would be ideal (see sidebar recipe).

For those with less time, purchase brown rice in air-tight packages. Soak rice for at least eight hours in hot water plus a little fresh whey, lemon juice or vinegar. If you soak in a tightly closed mason jar, the rice will stay warm as it generates heat. Drain, rinse and cook in broth and butter.

#### NUTS

In general, nuts contain levels of phytic acid equal to or higher than those of grains. Therefore those consuming peanut butter, nut butters or nut flours, will take in phytate levels similar to those in unsoaked grains.

Unfortunately, we have very little information on phytate reduction in nuts. Soaking for seven hours likely eliminates some phytate. Based on the accumulation of evidence, soaking nuts for eighteen hours, dehydrating at very low temperatures—a warm oven—and then roasting or cooking the nuts would likely eliminate a large portion of phytates.

Nut consumption becomes problematic in situations where people on the GAPS diet and similar regimes are consuming lots of almonds and other nuts as a replacement for bread, potatoes and rice. The eighteen-hour soaking is highly recommended in these circumstances.

It is best to avoid nut butters unless they have been made with soaked nuts—these are now available commercially. Likewise, it is best not to use nut flours—and also coconut flour—for cooking unless they have been soured by the soaking process. for the hickory nut, which they used for oils. To extract the oil they parched the nuts until they cracked to pieces and then pounded them until they were as fine as coffee grounds. They were then put into boiling water and boiled for an hour or longer, until they cooked down to a kind of soup from which the oil was strained out through a cloth. The rest was thrown away. The oil could be used at once or poured into a vessel where it would keep a long time.<sup>50</sup>

By contrast, the Indians of California consumed acorn meal after a long period of soaking and rinsing, then pounding and cooking. Nuts and seeds in Central America were prepared by salt water soaking and dehydration in the sun, after which they were ground and cooked.

#### BEANS

All beans contain phytic acid and traditional cultures usually subjected legumes to a long preparation process. For example, according to one source, "Lima beans in Nigeria involve several painstaking processes to be consumed as a staple."<sup>51</sup> In central America, beans are made into a sour porridge called *chugo*, which ferments for several days.

The best way of reducing phytates in beans is sprouting for several days, followed by cooking. An eighteen-hour fermention of beans without a starter at 95 degrees F resulted in 50 percent phytate reduction.<sup>52</sup> Lentils fermented for 96 hours at 108 degrees F resulted in 70-75 percent phytate destruction.<sup>53</sup> Lentils soaked for 12 hours, germinated 3-4 days and then soured will likely completely eliminate phytates.

Soaking beans at moderate temperatures, such as for 12 hours at 78 degrees F results in an 8-20 percent reduction in phytates.<sup>54</sup>

It is instructive to look at Native American preparation techniques

#### PREPARATION OF BROWN RICE

- 1. Soak brown rice in dechlorinated water for 24 hours at room temperature, without changing the water. Reserve 10 percent of the soaking liquid (which should keep for a long time in the fridge). Cook the rice in the remaining soaking liquid and eat. This will break down about 50 percent of the phytic acid.
- 2. The next time you make brown rice, use the same procedure as above with a fresh batch of dechlorinated water, but add the 10 percent soaking liquid from the last batch. This will break down about 65 percent percent of the phytic acid in 24 hours.
- 3. Repeat the cycle of fresh water soaking with the previous 10 percent reserve. The process will gradually improve until 96 percent or more of the phytic acid is degraded at 24 hours. The authors found that it took four rounds to get to 96 percent.

Source: Stephan Guyenet http://wholehealthsource.blogspot.com/2009/04/new-way-to-soak-brown-rice.html.

SPRING 2010

When legumes comprise a large portion of the diet, one needs to go to extra steps to make beans healthy to eat. Beans should usually have hull and bran removed. Adding a phytase-rich medium to beans would help eliminate the phytic acid in beans. Adding yeast, or effective micororganisms, or kombu seaweed may greatly enhance the predigestive process of the beans. One website suggests using a starter containing effective microorganisms and cultured molasses for soaking beans.<sup>55</sup>

At a minimum, beans should be soaked for twelve hours, drained and rinsed several times before cooking, for a maximum of thirty-six hours. Cooking with a handful of green weed leaves, such as dandelion or chickweed, can improve mineral assimilation.

#### TUBERS

Sweet potatoes and potatoes contain little phytic acid but yams and other starchy staples contain levels of phytate that we cannot ignore. The phytic acid content of arrowroot is unknown, but it may contain a significant amount.<sup>56</sup> These foods should be fermented—as they usually are in traditional cultures—if they are a staple in the diet. For occasional eating, cooking well and consuming with plenty of butter and vitamin C-rich foods should suffice.

#### BREAD

Bread can only be called the staff of life if it has undergone careful preparation; otherwise bread can be the road to an early grave.

For starters, the flour used in bread should be stone ground. Wheat and rye contain high levels of phytase, but this is destroyed by the heat of industrial grinding, and also lessens over time. Fresh grinding of wheat or rye berries before use will ensure that the original amount of phytase remains in the flour.

Rye has the highest level of phytase in relation to phytates of any grain, so rye is the perfect grain to use as a sourdough starter. Phytates in wheat are greatly reduced during sourdough preparation, as wheat is also high in phytase. Yeast rising bread may not fully reduce phytic acid levels.<sup>57</sup> Phytate breakdown is significantly higher in sourdough bread than in yeasted bread.<sup>58</sup>

Yet even with the highly fermentable rye, a traditional ancient recipe from the French calls for removal of 25 percent of the bran and coarse substances.<sup>59</sup> As an example of this practice, one small bakery in Canada sifts the coarse bran out of the flour before making it into bread.<sup>62</sup>

#### OATS

Oats contain very little phytase, especially after commercial heat treatment, and require a very long preparation period to completely reduce phytic acid levels. Soaking oats at 77 degrees F for 16 hours resulted in no reduction of phytic acid, nor did germination for up to three days at this temperature.<sup>63</sup> However, malting (sprouting) oats for five days at 52 degrees

#### PHYTATES IN BRAN

A survey of indigenous dishes shows that the bran is consistently removed from a variety of grains. The only exception seems to be beer. Traditional beer production—involving soaking, germination, cooking and fermentation—removes phytic acid and releases the vitamins from the bran and germ of grains.

The traditional method for preparing brown rice is to pound it in a mortar and pestle in order to remove the bran. The pounding process results in milled rice, which contains a reduced amount of the bran and germ. Experiments have verified the fact that milled rice, rather than whole brown rice, results in the highest mineral absorption from rice.

The idea we should eat bran is based on the idea of "not enough." We somehow believe that grains without the bran do not provide enough nutrients. But solving the problem of a lack of bioavailable minerals in the diet may be more a question of soil fertility than of consuming every single part of the grain. A study of the famous Deaf Smith County Texas, the "town without a toothache"—because of their mineral-rich soil producing fabulous butter fat—found that its wheat contained six times the amount of phosphorus as normal wheat.<sup>60</sup> In this case, wheat minus the bran grown in rich soils will have significant amounts or even more phosphorus compared to wheat with the bran grown in poor soil. Low nutrient content in food seems to be better solved by focusing on soil fertility, rather than trying to force something not digestible into a digestible form.

There are many studies in which researchers have tried to find out how to make the bran of different grains digestible and to provide additional nutrition. But small additions of phosphorus- and calcium-rich dairy products, such as milk and cheese, or phosphorous-rich meat will make up for the moderate reductions in mineral intakes from grains without the bran. In one study, the calcium, magnesium, phosphorous and potassium in diets made up with 92 percent flour (almost whole wheat) were less completely absorbed than the same minerals in diets made up with 69 percent flour (with a significant amount of bran and germ removed).<sup>61</sup> This study involved yeasted bread. With sourdough bread, the phytate content of bran will be largely reduced if a phytase-rich starter is used and the flour is fermented at least twenty-four hours.
F and then soaking for 17 hours at 120 degrees F removes 98 percent of phytates. Adding malted rye further enhances oat phytate reduction.<sup>64</sup>

Without initial germination, even a five-day soaking at a warm temperature in acidic liquid may result in an insignificant reduction in phytate due to the low phytase content of oats. On the plus side, the process of rolling oats removes at least part of the bran, where a large portion of the phytic acid resides.

How do we square what we know about oats with the fact that oats were a staple in the diet of the Scots and Gaelic islanders, a people known for their robust good health and freedom from tooth decay? For one thing, high amounts of vitamin D from cod's liver and other sources, helps prevent calcium losses from the high oat diet. Absorbable calcium from raw dairy products, consumed in abundance on mainland Scotland, provides additional protection.

In addition, it is likely that a good part of the phytase remained in the oats of yore, which partially germinated in stacks left for a period in the field, were not heat treated and were hand rolled immediately prior to preparation. And some Scottish and Gaelic recipes do call for a long fermentation of oats before and even after they are cooked.

Unprocessed Irish or Scottish oats, which have not been heated to high temperatures, are availabile in some health food stores and on the internet. One study found that unheated oats had the same phytase activity as wheat.<sup>65</sup> They should be soaked in acidulated water for as long as twenty-four hours on top of a hot plate to keep them at about 100 degrees F. This will reduce a part of the phytic acid as well as the levels of other anti-nutrients, and result in a more digestible product. Overnight fermenting of rolled oats using a rye starter—or even with the addition of a small amount of fresh rye flour—may result in a fairly decent reduction of phytate levels. It is unclear whether heat-treated oats are healthy to eat regularly.

### SEEDS

Seeds—such as pumpkin seeds—are extremely high in phytic acid and require thorough processing to remove it. Some may be removed by soaking and roasting. It is best to avoid consuming or snacking on raw seeds. By the way, cacao is a seed. Cacao contains irritating tannins and is said to be extremely high in phytic acid, although studies verifying phytic acid levels in cacao could not be located. Some brands of raw cocoa and

### FIGURE 7: NUTRIENTS IN GRAINS AND OTHER FOODS<sup>67</sup> In milligrams per 100 grams.

Calcium Ph	osphorus	Iron	Calories
34	346	3.9	339
15	108	1.2	364
9	108	0.4	366
10-30	80-150	.2-2.8	349-373
10-50	170-430	).2-5.2	363-385
96	39	2.9	54
62	14	1	95
169	117	0.1	97
4	246	3.8	146
505	354	0.4	300
	Calcium Pho 34 15 9 10-30 10-50 96 62 169 4 505	Calcium Phosphorus     34   346     15   108     9   108     10-30   80-150     10-50   170-430     96   39     62   14     169   117     4   246     505   354	Calcium Phosphorus Iron343463.9151081.291080.410-3080-150.2-2.810-50170-430.2-5.296392.9621411691170.142463.85053540.4

cocoa powder may be fermented, others may not be. Check with the manufacturer before indulging!

#### CORN

Corn is high in phytic acid and low in phytase. The Native Americans fermented cooked corn meal for two weeks, wrapped in corn husks, before preparing it as a flat bread or tortilla. In Africa, corn is fermented for long periods of time using a lactobacillis culture to produce foods like kishk, banku, or mawe. No such care is given to corn products in the western world! But you can prepare healthy corn products at home. As with oatmeal, the addition of a rye starter or rye flour to the soaking water may be particularly helpful in reducing phytate content-think of the colonial "Ryn'n'Injun" bread made from rye and corn. In one research project, soaking ground corn with 10 percent whole rye flour resulted in a complete reduction of phytate in six hours.<sup>66</sup> Again, more research—and more experimenting in the kitchen-is needed!

### RYE TO THE RESCUE

For those who need to reduce phytic acid to minimum levels—those suffering from tooth decay, bone loss and nutrient deficiencies—the magic ingredient is rye. To bring the phytate content of your diet to the absolute minimum, add freshly ground rye flour or a sourdough rye culture to rolled or cut oats, cornmeal, rice and other low-phytase grains, then soak in an acidic medium—preferably water with whey, yogurt or sour milk added—on a hot plate to bring the temperature up to about 100 degrees F. This is a better solution than consuming white rice and white flour, which are relative low in phytate but have a greatly reduced mineral content (see Figure 7).

The intention of the article is not to impose a decision about whether or not to consume grains, nuts, seeds and beans; rather it is to clarify how to consume them with awareness. This way you can maximize your health by making grain-based foods more digestible and absorbable. Now it is very clear which foods contain phytic acid and how much they contain, what the health effects of phytic acid are and how to mitigate phytic acid in your diet with complementary foods rich

### SOME FERMENTED GRAIN FOODS FROM AFRICA

KISHK, a fermented product prepared from parboiled wheat and milk, is consumed in Egypt and many Arabian countries. During the preparation of kishk, wheat grains are boiled until soft, dried, milled and sieved in order to remove the bran. Milk is separately soured in earthenware containers, concentrated and mixed with the moistened wheat flour thus prepared, resulting in the preparation of a paste called a hamma. The hamma is allowed to ferment for about 24 hours, following which it is kneaded. Soured salted milk is added prior to dilution with water. Fermentation is allowed to proceed for a further 24 hours. The mass is thoroughly mixed, formed into balls and dried.

BANKU is a popular staple consumed in Ghana. It is prepared from maize or a mixture of maize and cassava. The preparation involves steeping the raw material in water for 24 hours followed by wet milling and fermentation for three days. The dough is then mixed with water at a ratio of 4 parts dough to 2 parts water; or 4 parts dough to 1 part cassava and 2 parts water. Continuous stirring and kneading of the fermented dough is required to attain an appropriate consistency during subsequent cooking. Microbiological studies of the fermentation process revealed that the predominant microorganisms involved are lactic acid bacteria and molds.

MAWE is a sour dough prepared from partially dehulled maize meal which has undergone natural fermentation for a one- to three-day period. Traditional mawe production involves cleaning maize by winnowing, washing in water and crushing in a plate disc mill. The crushed maize is screened by sieving whereby grits and hulls are separated by gravity and the fine endosperm fraction collected in a bowl. The grits are not washed but home dehulled, following which they are mixed with the fine fraction, moistened over a 2- to 4-hour period and milled to a dough. The kneaded dough is then covered with a polyethylene sheet and allowed to ferment naturally to a sour dough in a fermentation bowl, or wrapped in paper or polyethylene. In the commercial process which takes place entirely in a milling shop, the grits are washed by rubbing in water, following which the germ and remaining hulls are floated off and discarded along with the water. The sedimented endosperm grits are subsequently blended with the fine endosperm fraction. The dominant microorganisms in mawe preparation include lactic acid bacteria and yeasts.

INJERA is the most popular baked product in Ethiopia. It is a fermented sorghum bread with a very sour taste. The sorghum grains are dehulled manually or mechanically and milled to flour which is subsequently used in the preparation of injera. On the basis of production procedures three types of injera are distiguishable: thin injera which results from mixing a portion of fermented sorghum paste with three parts of water and boiling to yield a product known as absit, which is, in turn, mixed with a portion of the original fermented flour; thick injera, which is reddish in color with a sweet taste, consisting of a paste that has undergone only minimal fermentation for 12-24 hours; and komtata-type injera, which is produced from over-fermented paste, and has a sour taste. The paste is baked or grilled to give a bread-like product. Yeasts are the major microorganisms involved in the fermentation of the sweet type of injera.

Source: http://www.fao.org/docrep/x2184e/x2184e07.htm#pre

in vitamin C, vitamin D and calcium. Methods for preparation of grains, seeds, and beans have been clarified, so that you can estimate how much phytic acid you are consuming. One meal high in phytic acid won't cause a healthy person any harm. But high phytic acid levels over weeks and months can be very problematic.

Fortunately, not only are properly prepared foods better for you, they also taste great. Now you can enjoy some well fermented sourdough bread, together with a piece of raw milk cheese, lots of butter and a slice of meat of your choice and taste the essence of life.

Note to readers: This article is a work in progress. Please send additional information or comments to phytates@curetoothdecay.com.

### IRISH AND SCOTTISH OATMEAL

Commercial oats in the U.S. are heat treated to about 200° F for four or five hours, "to prevent rancidity." Oats are rich in polyunsaturated oils that can go rancid within three months, especially at warm temperatures, and oats are harvested only once a year. Heat treatment kills enzymes that accelerate oxidation and helps prevent a bitter taste, although it surely damages the fragile polyunsaturated oils as well.

While Irish and Scottish oatmeal is said to be "unheated," this is not exactly true; these oats are also heat treated—for the same reasons, to minimize rancidity—but usually at lower temperatures. McCann's Irish steel cut oats are heated to only 113-118° F but Hamlyn's heats to 212° F. Truly raw rolled oats are available from www.rawguru.com.

The Alford brand, available only in the U.K., is kiln dried for four hours, according to their website www.oatmealofalford.com; they do not provide temperatures.

Hulless oats that have not been heat treated are available from www.sproutpeople.com; these can be ground or rolled at home before soaking and preparation as oat meal.

#### REFERENCES

- Tannenbaum and others. Vitamins and Minerals, in *Food Chemistry*, 2nd edition. OR Fennema, ed. Marcel Dekker, Inc., New York, 1985, p 445.
- 2. Ibid.
- Singh M and Krikorian D. Inhibition of trypsin activity in vitro by phytate. *Journal of Agricultural and Food Chemistry* 1982 30(4):799-800.
- Johansen K and others. Degradation of phytate in soaked diets for pigs. Department of Animal Health, Welfare and Nutrition, Danish Institute of Agricultural Sciences, Research Centre Foulum, Tjele, Denmark.
- Navert B and Sandstrom B. Reduction of the phytate content of bran by leavening in bread and its effect on zinc absorption in man. *British Journal of Nutrition* 1985 53:47-53; Phytic acid added to white-wheat bread inhibits fractional apparent magnesium absorption in humans1–3. Bohn T and others. *American Journal of Clinical Nutrition*. 2004 79:418 –23.
- Srivastava BN and others. Influence of Fertilizers and Manures on the Content of Phytin and Other Forms of Phosphorus in Wheat and Their Relation to Soil Phosphorus. *Journal of the Indian Society of Soil Science*. 1955 III:33-40.
- 7. Reddy NR and others. Food Phytates, CRC Press, 2001.
- Figures collected from various sources. Inhibitory effect of nuts on iron absoprtion. American Journal of Clinical Nutrition 1988 47:270-4; J Anal At Spectrum. 2004 19,1330 –1334; Journal of Agriculture and Food Chemistry 1994, 42:2204-2209.
- Effects of soaking, germination and fermentation on phytic acid, total and in vitro soluble zinc in brown rice. *Food Chemistry* 2008 110:821–828.
- Wills MR and others. Phytic Acid and Nutritional Rickets in Immigrants. *The Lancet*, April 8, 1972, 771-773.
- Walker ARP and others. The Effect of Bread Rich in Phytate Phosphorus on the metabolism of Certain Mineral Salts with Special Reference to Calcium. *The Biochemical Journal* 1948 42(1):452-461.
- Iron absorption in man: ascorbic acid and dose-depended inhibition. American Journal of Clinical Nutrition. Jan 1989 49(1):140-144
- 13. Inhibitory effect of nuts on iron absorption. *American Journal* of Clinical Nutrition 1988 47:270-4.
- 14. Reddy NR and others. Food Phytates, CRC Press, 2001.
- 15. Vucenik I and Shamsuddin AM. Cancer inhibition by inositol hexaphosphate (IP6) and inositol: from laboratory to clinic. *The Journal of Nutrition* 2003 Nov 133(11 Suppl 1); Jenab M and Thompson LU (August 2000). Phytic acid in wheat bran affects colon morphology, cell differentiation and apoptosis. *Carcinogenesis* 2000 Aug 21(8):1547–52.
- Cebrian D and others. Inositol hexaphosphate: a potential chelating agent for uranium. *Radiation Protection Dosimetry* 2007 127(1-4):477–9.
- http://www.phytochemicals.info/phytochemicals/phytic-acid. php.
- Critical Reviews in Food Science and Nutrition, 1995 35(6):495-508.
- 19 Seaman JC and others. In situ treatment of metals in contaminated soils with phytate. *Journal of Environmental Quality* 2003 32(1):153–61.
- Mellanby E. The Rickets-producing and anti-calcifying action of phytate. *Journal of Physiology* 1949 109:488-533.
- 21. Creese DH and Mellanby E. Phytic acid and the rickets-producig action of cereals. Field Laboratory, University of Sheffield, and the Department of Biochemistry, Queen's University, Belfast (Received 11 August 1939)
- Iron absoprtion in man: ascrobic acid and dose-depended inhibition. *American Journal of Clinical Nutrition*. Jan 1989. 49(1):140-144.
- 23. Ibid.
- 24. Rice and iron absorption in man. *European Journal of Clinical Nutrition.* July 1990. 44(7):489-497.
- 25. Layrisse M and others. New property of vitamin A and Bcarotene on human iron absorption: effect on phytate and polyphenols as inhibitors of iron absorption. *Archivos Latinoamericanos de Nutricion* Sept 2000 50(3).
- Iqbal TH and others. Phytase activity in the human and rat small intestine. *Gut.* 1994 September 35(9):1233–1236.

- Famularo G and others. Probiotic lactobacilli: an innovative tool to correct the malabsorption syndrome of vegetarians? *Medical Hypotheses* 2005 65(6):1132–5.
- Malleshi NG. Nutritive value of malted millet flours. Plant Foods for Human Nutrition 1986 36:191-6.
- 29. Malleshi NG. Nutritive value of malted millet flours. *Plant Foods for Human Nutrition* 1986 36:191-6.
- Egli I and others. The Influence of Soaking and Germination on the Phytase Activity and Phytic Acid Content of Grains and Seeds Potentially Useful for Complementary Feeding. *Journal of Food Science* 2002 Vol. 67, Nr. 9.
- 31. Peers FG. Phytase of Wheat. The Biochemical Journal 1953 53(1):102-110.
- Campbell J and others. Nutritional Characteristics of Organic, Freshly stone-ground sourdough and conventional breads. http://eap.mcgill.ca/publications/EAP35.htm.
- Price WA. Nutrition and Physical Degeneration. Price-Pottenger Nutrition Foundation. 8th edition, page 249.
- 34. Reddy NR and others. Food Phytates, CRC Press, 2001.
- Gontzea I and Sutzescu P. Natural Antinutritive Substances in Foodstuffs and Forages. Karger AG, Basel, Switzerland, 1968.
- Antinutritional content of developed weaning foods as affected by domestic processing. Food Chemistry. 1993 47(4):333-336.
- 37. Effect of traditional fermentation and malting on phytic acid and mineral availability from sorghum (Sorghum bicolor) and finger millet (Eleusine coracana) grain varieties grown in Kenya. Food and Nutrition Bulletin 2002 23(3 supplement).
- Effects of processing methods on phytic acid level and some constituents in bambara groundnut and pigeon pea. *Food Chemistry* 1994 50(2):147-151.
- 39. Reddy NR and others. Food Phytates, CRC Press, 2001, p 118.
- 40. Food Chemistry 1993. 47(4)333-336.
- 41. Reddy NR and others. Food Phytates, 1st edition, CRC Press, 2001, pages 30-32
- 42. Ibid.
- 43. Lestienne I and others. Relative contribution of phytates, fibers and tannins to low iron and zinc in vitro solubility in pearl millet. *Journal of Agricultural Food Chemistry* 2005 Oct 53(21):8342-8.
  44. Mahgoub SEO and Elhag SA. Effect of milling, soaking, malting, heat-treatment and fermentation
- on phytate level of four Sudanese sorghum cultivars. *Food Chemistry* January 1998 61 (1-2):77-80. 45. Hotz C and others. A home-based method to reduce phytate content and increase zinc bioavail-
- ability in maize based complementary diets. *International Journal of Food Science and Nutrition* 2001 52:133–42.
- 46. Dephytinization of wheat bran by fermentation with bakers' yeast, incubation with barley malt flour and autoclaving at different pH levels. *Journal of Cereal Science* 2008 48(2):471-476.
- 47. Hauspy R. Fabrication du pain au levain naturel. Nature et Progres. Paris 1983, 1:26-28.
- McKenzie-Parnell JM and Davies NT. Destruction of Phytic Acid During Home Breadmaking. Food Chemistry 1986 22:181–192.
- Ellis R and others. Phytate:zinc and phytate X calcium: zinc millimolar rations in self-selected diets of American, Asian Indians, and Nepalese. *Journal of the American Dietetic Association* 1987 Aug 87(8):1043-7; Ready NR and others. *Food Phytates*, CRC Press, 2001
- 50. http://www.marciesalaskaweb.com/choctawFood.htm
- Ologhobo AD and Fetuga BL. Distribution of Phosphorus and Phytate in Some Nigerian Varieties of Legumes and some Effects of Processing. *Journal of Food Science* 1984 Volume 49.
- Indigenous legume fermentation: effect on some anti-nutrients and in-vitro digestibility of starch and protein. *Food Chemistry* 1994. 50(4):403-406.
- 53. Journal of the Science of Food and Agriculture 1996 71(3).
- Proximate Composition and Mineral and Phytate Contents of Legumes Grown in Sudan. Journal of Food Composition and Analysis 1989 2:69-78.
- 55. www.gobeyondorganics.com.
  - Analysis of phytate in raw and cooked potatoes. Journal of Food Composition and Analysis 2004 17:217-226; Ion Chromatography of Phytate in Roots and Tubers. Journal of Agriculture and Food Chemistry 2003 51:350-353.
- Journal of Agriculture and Food Chemistry 2001, 49 (5), pp 2657–2662 DOI: 10.1021/jf001255z Publication Date (Web): May 4, 2001 Copyright © 2001 American Chemical Society.
- 58. Journal of Agriculture and Food Science 2001 49(5):2657–2662
- 59. http://www.williamrubel.com/artisanbread/examples/ryebread/rye-bread-from-france-pain-bouilli.
- 60. Taylor, Edward. Preliminary Studies on Caries Immunity in the Deaf Smith County (Texas) Area. Journal of the American Dental Association. March, 1942.
- Mineral Metabolism of Healthy Adults on White and Brown Bread Dietaries. Journal of Physiology 1942 101:44-8.
- 62. http://www.littlestream.com/.
- 63. Egli and others. The Influence of Soaking and Germination on the Phytase Activity and Phytic Acid Content of Grains and Seeds Potentially Useful for Complementary Feeding. *Journal of Food Science* 2002 67(9):3484-3488.
- 64. Phytate reduction in oats during malting. Journal of Food Science. July/Aug 1992 57(4):994-997.
- Frolich W and others. Studies on phytase activity in oats and wheat using <sup>31</sup>P-NMR spectroscopy. Journal of Cereal Science July 1988 8(1):47-54.
- 66. Egli and others. Phytic Acid Degradation in Complementary Foods Using Phytase Naturally Occurring in Whole Grain Cereals. *Journal of Food Science* 2003:68(5):1855-1859.
- 67. http://www.nutritiondata.com/facts/cereal-grains-and-pasta/5744/2.

# The Role of Oxalates in Autism and Chronic Disorders

by William Shaw, PhD



mummy that had been preserved for a couple of thousand years in the high desert of Chile was discovered upon X-ray examination to have a very large oxalate stone in the kidney, about the size of a golf ball. The discovery of this ancient sufferer is testimony to the fact that kidney stones and oxalate toxicity have afflicted humans for a very long time.

Oxalates (the salt form of oxalic acid) are extremely painful when deposited in the body. About eighty percent of kidney stones are caused by oxalates



and they are by far the most common factor in kidney stone formation. There is also a large degree of genetic variability in the ability to detoxify the chemicals that produce oxalates. Perhaps twenty percent of the population has a genetic variance that increases their likelihood of producing oxalates, even when not consuming a high-oxalate diet.

Wise Traditions

#### STONED

Oxalates can form all throughout the kidney and the urinary tract, and can also form in the ureter as well as in the bladder. These star-shaped crystalline stones cause pain as the pressure in the urinary filtrate builds up, and perhaps also by tearing into the walls of the urinary tract itself.

Some kidney stones acquire a stag horn shape, while some oxalate crystals resemble pieces of coral. The crystals do have a lot of calcium in them just as coral does. Oxalate crystals appear in different colors. Some are black and almost look the color of Indian arrowheads made of obsidian. On page 42 is shown a picture of a kidney with one of the oxalate crystals imbedded in it. You can see that the crystal is very pointed. Some of these have extremely sharp ends that cause severe pain.

Kidney stones are one of the most common medical ailments—ten to fifteen percent of adults will be diagnosed with a kidney stone in their lifetime. One million Americans develop kidney stones each year and most of these are oxalate related. Seventy-five to ninety percent of kidney stones are made of oxalic acid bound to another compound, usually calcium.

Once you have experienced a kidney stone attack, you have a very high chance of having another unless you change your way. The common symptoms are pain in the side and the back below the ribs. The episodes of pain last between twenty to sixty minutes, and it is common to hear women who have suffered kidney stones claim that they are more painful than childbirth.

The pain radiates from the side and the back to the lower abdomen and groin. There may be bloody, cloudy and foul-smelling urine. If there is infection, there may also be fever and chills. Pain with urination may accompany nausea and vomiting, and the sufferer may have a persistent urge to urinate.

This last symptom is a common factor in autism. It has been noted that many children with autism urinate perhaps fifty times a day, but only release a small amount of urine each time. After I did my research it became clear that the behavior

### One million Americans develop kidney stones each year and most of these are oxalate related.

### THE CHEMISTRY OF OXALATES

Oxalate refers to the salt form of oxalic acid. All acids follow the same convention of nomenclature. The salt of citric acid is citrate, for example. The salt form simply means it is missing hydrogen atoms. Instead, the salt form has a negative charge attached to it. When the acid has the hydrogen attached to it, it has the suffix –ic. When the hydrogen atoms are removed so that it is negatively charged, it has the suffix –ate. The critical thing about this, from the chemist's point of view, is that the pH, which is a measure of the acidity of the molecule, of oxalates is the lowest of all the organic acids. (A low pH rating corresponds to a high level of acidity.) It's the most acidic, most corrosive organic acid there is because of its very low pH value. For example, citric acid might have a pH of 5—mildly acidic in comparison, and hundreds of times less acidic than oxalate. The molecule of oxalic acid could lose two hydrogen atoms so it can become doubly negatively charged and this is the form in which oxalate is predominantly found in the blood and the urine. This form in which there are two negative charges makes it much more likely to bind to a number of metals. Calcium, zinc and mercury are examples.

What is very interesting from the chemist's point of view is the fact that oxalate binds most tightly to toxic metals such as mercury and lead. One might think this strong chelating action is beneficial, but it is quite the opposite. Once oxalate binds with mercury or lead it immediately becomes insoluble and precipitates out of the bloodstream and forms crystals in the bones and other tissues. Rather than attaching to these toxic metals and escorting them out of the body, the oxalate traps the toxic metals within the body. This is one aspect of oxalates that I believe should be more closely examined as it may explain why oxalates are associated with so many diseases. They will trap heavy metals and enhance their toxicity.

The oxalate itself is water soluble, but once it binds with a metal ion it becomes insoluble and then precipitates out to be deposited in tissue. In a comparison of the different strengths of reaction of oxalates with various metals, the metal with the highest reactivity is mercury. When oxalate reacts with mercury, even if there is only a tiny amount present, it will preferentially bind with mercury compared to calcium or other metals. The oxalate almost seems to seek out and trap toxic metals. The reactivity of oxalate with calcium and magnesium, on the other hand, is very low, and the lowest reactivity is with magnesium. One of the treatments to help people get rid of excess oxalates is to take very high doses of magnesium, or in some cases, actually give intravenous infusions of magnesium. Because it has the least solubility with oxalates magnesium will help to dissolve them, so to speak.

Even though oxalate crystals are most common in the kidney, they also can form in virtually any other tissue in the body, including the brain and the blood-brain barrier. arose because these children were suffering from kidney stones and high oxalate concentrations. The children would urinate only a small amount at a time since when urinating normally the pressure of the stream causes pain. Frequently releasing small amounts of urine causes much less pain to the child.

### NOT JUST IN THE KIDNEYS

Even though oxalate crystals are most common in the kidney, they also can form in virtually any other tissue in the body, including the brain and the blood-brain barrier. Oxalate crystals resembling pieces of glass can form in the heart muscle. As the heart muscle contracts, these pieces of oxalate crystals actually tear into the tissue. If these crystals are deposited in skeletal muscle, normal movement and exercise can be very painful. I'm convinced this is also one of the factors responsible for fibromyalgia. Oxalates may also cause thyroid disease as they react in thyroid tissue.

Oxalate crystals can form in the bone. The oxalate crystals can become so dense they actually push the bone marrow cells out of the bones, leading to severe anemia. Deficiencies of red blood cells as well as white blood cells may result due to the oxalate depositions in the bones. Oxalates can likewise cause osteoporosis. The oxalates form in the bone marrow and alter the structure of the bone matrix so the bone is much weaker and prone to breakage.

Other diseases in which oxalates may play a role include arthritis, joint pain and interstitial cystitis.

### PROPERTIES OF OXALATES

The shape of the crystal will depend on which metal the oxalate combines with. Calcium is one of the most common but it can combine with virtually any metal. There are cobalt oxalates and zinc oxalates. The cobalt ones are spear shaped whereas the zinc oxalate resembles thin disks. These are extremely thin and very sharp.

Oxalates in the gastrointestinal tract have a tendency to bind essential elements. If you have a lot of oxalates, you won't be able to utilize essential elements like calcium, magnesium and



LEFT: Star-shaped kidney stones can cause great pain in the kidneys and bladder.

RIGHT: Typical stag-horn shaped kidney stone.





LEFT: A kidney stone embedded in the kidney.

RIGHT: Oxalate stones resembling glass embedded in the heart.



Wise Traditions

SPRING 2010

zinc because they will also form deposits with oxalates. If you have excess oxalates, you may have to increase your intake of calcium, magnesium and zinc. In addition, rather than acting as antioxidants, oxalates are prooxidants, so they encourage the oxidation of your fats, forming rancid fats in your body.

### A FUNGAL ORIGIN

An unexpected finding is the fact that oxalate crystals are produced in very high amounts by molds and fungus. Aspergillus—a common organism that causes infection in humans and also is found in the black fungi that you see in your bathroom—produces oxalates.

I remember I was in San Juan, Puerto Rico, at the old fort that overlooks the sea. There was a lot of black mold on the walls and I could see stalactites coming down. The stalactites in this case were formed from calcium oxalate. Aspergillus produces these oxalates, and these stones will form any place that has infection by the fungus.

In the case of sinus infection, mold and fungus, not bacteria, are the most common causes of infection. A colleague of mine, who is an eye, nose and throat specialist, X-rayed a patient's sinuses and found large oxalate crystals in her sinuses, which disappeared after anti-fungal treatment.

Large oxalate crystals have also been isolated from the lungs of people who had Aspergillus infection of the lungs. The deposits can also form in the skin where they create black areas and necrotic lesions in people with very high oxalate levels.

### OXALATES AND AUTISM

I first became interested in this topic because of improvements that were noted in autistic children by the researcher Susan Owens. It was Owens who collected the data showing that many autistic children had frequent urination of small volume and found that the phenomenon was associated with oxalates. She also found that these children often manifested gastro-intestinal symptoms such as diarrhea and stomach pain. They may also have pain in the urinary tract. That pain is relieved when a low oxalate diet is instituted. Owens also found that children had improved cognitive, academic and motor skills once the amount of oxalates in their diets was sharply reduced. The same dietary measures helped reduce pain in their muscles and feet, and also brought about a reduction in abnormal behavior and self-abuse as well.

Eighty percent of people with genetic diseases that cause them to produce kidney stones die before the age of twenty. These genetic diseases, which belong to a class of disorders called hyperoxaluria, are frequently fatal unless the victim receives both a liver and a kidney transplant. Sometimes even after the transplants people die because the oxalates are deposited in tissues all throughout the body. The oxalates will come out of the bones or the muscles and then form in the transplanted kidneys and still kill the person.

More than a third of children with autism have oxalate values as high as people who have these rare genetic disorders, even though these autistic children do not have the disorders. The question naturally arose: If they don't have this genetic disorder, why are their oxalates so high?

We correlated the amount of oxalate in autistic children with other biochemical parameters and found there was a high correlation with the sugar arabinose, which is a Candida marker. It appears that the main reason for the high oxalates in children with autism is because of the Candida

### OXALATE PATHWAYS

About fifty percent of oxalate comes from the diet and the other fifty percent comes from what your body makes itself. Oxalic acid in the diet is first converted to glycolate, then glyoxylate, and then at this point glyoxylate can either bind to a mineral to form oxalate or it can be transferred and form glycine.

If you have a genetic deficiency in the enzyme AGXT, the glyoxylate primarily forms oxalate because reduced amounts of AGXT do not function adequately to override this process. One in five people in the population has this genetic variant in which they cannot detoxify this compound. Instead it predominantly forms oxalate.

It has been found that one third of the people with oxalate toxicity have this genetic variant, and 53 percent of them are likely to have acute, very severe neurotoxicity versus only 4 percent in those with normal genotype expression. Probably a high percentage of people who have kidney stones are in this group of 20 percent of individuals with this genetic variant.

One of the body's energy production factories called glycolysis is inhibited by oxalates. The enzyme pyruvate kinase is involved in the last step in the body's energy production and is strongly inhibited by oxalate. It is very interesting that the same enzyme inhibition is largely responsible for Tourette syndrome. People with Tourette syndrome, however, have strep antibodies that inhibit this enzyme. Oxalates also strongly inhibit the same enzyme.

The critical factor here is that this enzyme works much better in the presence of high amounts of vitamin  $B_6$ . This is another one of the holistic treatments for people with kidney stones. In fact, vitamin  $B_6$  treatment is also used by the mainstream medical community for people with kidney stones.

problem, which is prevalent in autism. Arabinose is very low in normal children and very high in those with autism. We found in my earliest research that treatment with the anti-fungal drug Nystatin markedly decreased this compound. In addition, autistic symptoms such as hyperactivity, lack of eye contact, and aggressive behavior markedly decreased as well. Because of the dramatic reduction in symptoms, anti-fungal treatment has become one of the most common therapies in autism in the world today.

### VULVODYNIA

Another condition associated with oxalates is vulvodynia, or pain in and outside the vagina. The oxalate crystals act like tiny pieces of glass, which are deposited in the tissue. The oxalate is extremely acidic so it is corrosive as well. The pain is often described as burning or stinging, with a feeling of rawness or irritation.

One of the published studies on the treatment of this condition states that this is due to a reaction with yeast. There is indeed a connection of vulvodynia with yeast, most often Candida. There are about a dozen different species of Candida yeast normally associated with humans, the most common of which is *Candida albicans*. It was found that the main way to treat volvodynia was anti-fungal treatment to get rid of Candida, along with a low-oxalate diet. These two approaches have been very effective in correcting this condition.

Children who take oral antibiotics will frequently have much higher amount of oxalates. Antibiotics severely disrupt the balance of normal flora in the gut, with a consequent exponential proliferation in the growth of Candida, which is resistant to antibiotics. Oral antibiotics first appeared in the early 1950s, and the pharmaceutical companies actually included antifungal drugs along with the antibiotics because they knew about this problem. The FDA disallowed the addition, declaring that there was no approval for the prophylactic use of anti-fungals, thereby washing their hands of the whole business. It is significant to note that if individuals are given the same amount of antibiotics intravenously, their oxalate values do not rise because there was no effect on the GI tract. In some ways the old medical treatment—a shot of penicillin—was a lot safer.

### CHRONIC FATIGUE AND FIBROMYALGIA

Yeast is a common factor in chronic fatigue and fibromyalgia, and antifungal therapy is very useful in treating these problems. Jacob Teitelbaum has written several books about the treatment of fibromyalgia and indicates two-thirds of individuals improved their chronic fatigue and fibromyalgia after anti-fungal therapy.

A Dr. Eaton in England found that individuals who had chronic fatigue would actually produce alcohol from their sugar intake. He describes patients who would do a baseline blood-alcohol test, then take some glucose dissolved in a flavored drink, and measure the blood alcohol one or two hours later. The blood alcohol would be substantially higher if the person had a severe Candida problem.

Eaton found that by using this test he could monitor patients undergoing different treatments for chronic fatigue and fibromyalgia and found



The OH component readily attaches to minerals like calcium, zinc and mercury, forming oxalates.

Oxalates in the body come from food, can be formed in the gut by yeasts and fungi; or they can result from an interruption in the glycolate pathway in which nutritional deficiencies and inborn errors of metabolism cause the formation of oxalates rather than the protein glycine.



that 42 percent of patients improved just with sugar restriction alone. If he combined a low-sugar diet together with anti-fungal drugs, he had about a 78 percent success rate.

The most comprehensive study was that of a Dr. Jessop in California, who treated over one thousand people with chronic fatigue and fibromyalgia using a single anti-fungal drug, ketoconazole. Eighty-four percent of the patients improved. Of the 1,100 patients, 685 were on disability payments. After the treatment with anti-fungal treatment, only twelve remained on disability. It was an extremely effective treatment!

### ZELLWEGER SYNDROME

High amounts of oxalates have also been found in persons with a metabolic disorder called Zellweger syndrome, which causes the reduction or absence of an intracellular organelle called peroxisome, leading to mental retardation and severe metabolic problems. In one study, nineteen of twenty-three patients exhibited high amounts of oxalate, and there was a direct relationship between the degree of mental impairment in children and their levels of oxalates. The children with the highest amounts of oxalates were the ones who were the most mentally impaired.

### OXALATES AND CANCER TREATMENT

Oxalates also come into play in cancer treatment. One of the drugs used to treat cancer, oxaliplatin, contains a combination of platinum and oxalate. In many of the people taking this drug, their cancer improved, but they also experienced severe neurotoxicity and nerve damage. While undergoing treatment, patients developed high amounts of oxalates which were coming from the drugs. Researchers found the effect was specific to the oxalates. If they gave the drug without the oxalate the toxicity did not occur; the toxicity was a result of the oxalate combined with the drug.

Research has also found that people with genetic variations called polymorphisms experienced much more neurotoxicity when exposed to this drug. Alanine-glyoxylate aminotransferase (AGXT) is the enzyme responsible for moderating the production of oxalates in the body. People with a genetic variation that leaves them deficient

### VITAMIN C, COPPER AND OXALATES

What about the controversy surrounding vitamin C therapy? Vitamin C has been shown to be very helpful in kids with autism, although theoretically vitamin C can form oxalates. I say theoretically. Vitamin C can increase your risk of kidney stones if you take extremely high doses, in the range of 100 grams (100,000 mg) a day.

A double-blind study found that very high doses of vitamin C was very effective in reducing autistic symptoms. A study showed that a person taking 2000 mg (2 grams) of vitamin C a day for ninety days did not cause a significant effect or change in oxalate levels.

Another study evaluated forty-five thousand men who took vitamin C and vitamin  $B_6$  over six years and examined the effect this supplementation had on their kidneys. In the six years of follow up they found 751 cases of kidney stones out of 45,000 men. There was no association, however, of vitamin C or vitamin  $B_6$  intake with the kidney stones. In fact, men who took more vitamin C had less risk of kidney stones than men who took less than 250 mg vitamin C.

The real problem with vitamin C is the metals that the person may be taking. If one is taking high amounts of copper or iron, these can accelerate the breakdown of vitamin C to form oxalates. Someone with high copper or iron levels may be at risk for higher oxalate formation if also supplementing with vitamin C. The vitamin C may be broken down to form dehydroascorbate and then oxalate. Knowing your copper and iron status can be very important.

If, for example, you have copper pipes in your home, which is very common, and you have acidic water, that water will dissolve your copper pipes so that most of the water coming out of your faucet will contain high amounts of copper. In turn, the high copper may cause you to degrade your vitamin C. There is a problem with forming extra oxalates, but this also means that even if you take high doses of vitamin C, it may not be useful because the copper can degrade it so rapidly. It is the free copper that is so toxic.

Copper is bound to a protein in the blood called ceruloplasmin. Isolating ceruloplasmin from blood was one of the first things I did after earning my PhD. I went to the Red Cross and obtained outdated plasma and I didn't even have to test it. All I had to do was look at the color of the plasma. Donors who had high copper had serum that was green. I could pick out the samples with high copper just by looking at them in the freezer and choosing the green color.

Almost invariably the samples were from women who were on birth control pills. The estrogen causes the body to make more of this protein. We test this copper-zinc profile in the Great Plains Laboratory and the most important value is the free copper. A person with autism can have ten times the value of free copper compared to normal individuals. In some individuals with autism this can be most significant; but this copper-zinc imbalance is important in almost every chronic disease: ADD, schizophrenia, arthritis, chronic fatigue, and many others. When you have too much copper and not enough zinc, vitamin C will not be utilized, it will be destroyed.

in AGXT are much more likely to suffer severe reactions. They suffer peripheral neuropathy, the disease of the peripheral nerves that causessuperficial and deep sensory loss; sensory ataxia, which means not feeling a sense of balance; and functional impairment.

### OXALATES IN FOOD

People who are vegetarians really have to be aware of all the oxalates they take in. The biggest culprit for all vegetarians is soy protein, and the second is spinach. Virtually everybody who eats a large spinach salad every day is going to succumb to kidney stones. I've tested them over and over again and the people who have the highest oxalate values invariably tell me that a cornerstone of their daily diet is a large spinach salad. If they add nuts to their salad and textured soy protein, both of which are very high in oxalates, you've got a cocktail made to produce kidney stones. Spinach is so high I would not recommend eating it even cooked, as a main course. Lettuces, by the way, are very low in oxalates. The biggest problem vegetarians face is eating a diet high in soy protein and spinach.

Once after I gave a talk a physician came up afterwards and told me that a few months earlier he had decided to get healthy. He decided to forswear all the McDonald's and the like. He was going to start eating healthy and eating healthy meant a very large spinach salad with lots of pecans on it every day. Within two months he had kidney stones.

Cooking does not destroy the oxalates; they are extremely stable. Cooking may reduce the oxalates in foods as they precipitate into the cooking water, and if you discard that water you are likely reducing the oxalates remaining in the food. If you drink that pot liquor, however, you will absorb the full amount.

Peppercorns are very high in oxalates, but

not many people eat a pound of black pepper every day. However, if you like pepper-coated steaks, pepper may contribute to your oxalate load. The same goes for parsley, it's very high in oxalates but you don't eat very much of it.

Peanuts and peanut butter are problematic because some kids eat them every single day. Peanut butter is not a poison, so eating it occasionally isn't going to bother you. The problems come when you make a few highoxalate foods the staples in your diet.

Dr. Massey at Washington State University found that textured soy protein is very high in oxalates. There are 638 milligrams of oxalate per 85-gram serving, which is about the size of one of these small soy burgers and as much as you would find in a typical serving of spinach. The recommended amount of oxalate for people who have kidney stones is less than 30 mg a day. One soy burger contains twenty times the recommended daily dose in just one single portion. This, I would say, is a major problem for the soy producers. The soy cheese does not have nearly as much. It's the textured soy protein, the soy burgers, the soy bacon that have such high levels. Some soy companies recommend that you pour textured soy protein on your breakfast cereal. You really don't want to do that.

How much oxalate is in the typical diet? There's a very large range from 97 to 930 mg a day. To reduce kidney stones you should consume less than 30 to 50 mg a day.

### TREATMENT

Even though we can avoid the worst offenders—soy foods and spinach—if you are enjoying a varied diet, it is difficult to reduce dietary oxalate levels to near zero because they occur in so many foods—grains, nuts, vegetables and fruits.

The most effective way to get rid of oxalates is the use of calcium citrate. This supplement exerts a double potency action in eliminating oxalate. The calcium part of calcium citrate binds to the oxalate and causes it to precipitate out in the stool so it will not be absorbed. But part of the oxalate escapes. The citrate is a second line of defense, which competes directly with the oxalate for absorption.

For the treatment to be effective, the calcium citrate must be taken at the same time as the oxalate-containing food. If you have problems with any of conditions caused by oxalates—kidney stones, autism or vulvodynia—then taking calcium citrate with each meal can be very effective. If there is an adequate amount of calcium in the diet—if supplementing with calcium citrate, for example—it will combine with the oxalate in the GI tract, precipitate out in the stool, and then be eliminated in the stool.

SL	PER HIGH OXALATE FO	ODS
Spinach Soy protein Tofu Peanuts Peanut butter Pecans Lemon peel	Lime peel Rhubarb Swiss chard Parsley Sweet potatoes Pokeweed Black pepper	Chocolate Instant coffee Leeks Tea Okra Wheat germ

Wise Traditions

The optimum dosage is approximately 300-350 mg calcium as calcium citrate for a total of 1000 mg (one gram) of calcium a day. If you're taking this you don't need additional sources of calcium. An even better approach would be to use magnesium citrate. The adult dosage is about 300-400 mg a day. Some practitioners recommend up to 1000 mg but many people report problems with diarrhea if they exceed 400 mg. Again, a divided dose would be best, taking the magnesium citrate with each meal.

Some other supplements that can be very useful include probiotics and anti-fungal medication to help to control Candida. The probiotic bacteria have enzymes that break down oxalates.

The amino acid arginine helps to prevent the depositing of oxalates in the tissues.

The omega-3 fatty acids and cod liver oil are also very effective in preventing oxalate deposition. The omega-6 fatty acids, mostly from commercial vegetable oils, behave in the reverse, and accelerate the deposition of oxalate.

The supplement that is most helpful is vitamin  $B_6$ . This costs only pennies a day and is extremely safe. I take 100 mg every single day. I recommend just the pyridoxine form. I know the type called P5P is also used but personally I don't think you get the additional benefit by the P5P.

There are a number of medical tests for oxalate status that we use at Great Plains Laboratory. We have a urine panel to measure oxalates and we can also test for yeast markers. We typically find that where the yeast marker is very high, the oxalate marker is also very high. We also test for vitamin  $B_6$ .

With these measures, kidney stones are largely preventable. This is good news because oxalate buildup can do a lot of damage.

William Shaw, PhD, is Director of The Great Plains Laboratory for Health, Nutrition and Metabolism, a laboratory specializing in the diagnosis and treatment of metabolic disorders of adults and children along with autism, PDD, hyperactivity, inborn errors of metabolism and adult disorders such as depression, fibromyalgia, and chronic fatigue.

### BACK ISSUES OF WiseTraditions AND INFORMATIVE LITERATURE

Spring 2005	Vitamin B <sub>10</sub> ; Liver; Cob	alt in Agriculture; The China St	udy; Making Yogurt					
Summer 2005	Wrong Advice in Baby I	Vrong Advice in Baby Books; Homemade Formula FAQs; Vaccinations; Reproductive Health; Baby Food						
Summer 2006	Modern Bread; Recove	10dern Bread; Recovery from Celiac; Naked Oats; Cloth Diapers; Gluten-Free Recipes; Sunburn						
Fall 2006	Is Vitamin D Toxic? Sun	Vitamin D Toxic? Sunlight and Melanoma; Saturated Fat Attack; Varicose Veins; Picky Eaters						
Spring 2007	Dr. Prico's Activator X:	Istory of Organic Agriculture; Making Our World GM-Free; Vitamin D for Infants; Legumes						
Winter 2007	Children's Issue: Gut an	nd Psychology Syndrome: Vitan	nins for Fetal Development Traditional Remedies					
Summer 2008	History of Mercury in N	story of Mercury in Medicine: Toxic Metal Cleanse: Agriculture in Ancient Rome						
Fall 2008	WAPF Diet Budget; He	althy School Lunch Program; S	etting Up a Local Food Club; Raw Milk Illness Reports					
Winter 2008	Fat-Soluble Vitamins for	it-Soluble Vitamins for Mental Health; Moods and the Immune System; Metals and the Mind						
Spring 2009	The Cod Liver Oil Deba	e Cod Liver Oil Debate; Cod Liver Oil Manufacture; Diet in Scotland; Curds and Whey						
Summer 2009	Treating Low Metabolis	reating Low Metabolism; A Thyroid Treatment Protocol; Iodine Debate; Non-Gluten Sourdough Baked Goods						
Fall 2009	Treating Malocclusions;	Treating Malocclusions; Cradleboards Among Native Americans; Nutrition Degrees and Certification						
Winter 2009	Holistic Cancer Treatme	ent; Live Blood Cell Analysis of	Those on the WAPF Diet; Child-Led Weaning					
		Back issues are \$12 (includes a	shinning & handling)					
		back issues are \$12 (includes i						
Healthy Baby Iss Heart Disease Iss	<b>ue:</b> Wrong Advice in Bab sue: What Causes Heart	y Books; Baby Formula; Vaccir Disease? Benefits of High Chol Special issues are \$12 (includes	nations; Baby Food; Gut and Psychology Syndrome esterol; Oiling of America and more shipping & handling).					
28-p	age Dietary Guidelines B 28-page Dietary Guidelin	ooklets are \$1 each (includes s es Booklets in Spanish and Fre	hipping & handling), 60 cents each for 100 or more nch are \$1 each (includes shipping & handling)					
	10 /	I						
Flyers:	Real Milk	Soy Alert!	How to Protect Yourself Against Cancer with Food					
	All About <i>Trans</i> Fats	Why Butter is Better	Myths & Truths About Cholesterol					
	NEV	v! Cod Liver Oil, Our Number	One Supertood					
Sug	gested donation for flyer	rs is 25 cents each (includes shi	pping & handling), 15 cents each for 100 or more					
2010 Shopping Guide \$1 each (includes shipping and handling)								
	Payment by check, Vis	a or Mastercard. Make checks	payable to The Weston A. Price Foundation.					
		ORDER ONLIN	NE AT					
		www.westonaprice.org/Or	der-materials.html					
SPRING 2010		Wise Trad	itions					

### **Nightshades** Problems from these Popular Foods Exposed to the Light of Day

by Garrett Smith, NMD, BS, CSCS, CBP

The nightshades are members of an enormous family of plants called Solanaceae, represent a huge family of plants. The ones that concern us in the Western diet mainly include tomatoes, potatoes (not sweet potatoes or yams), eggplant and peppers—this means all peppers including chili peppers, habenero, cayenne pepper and paprika (not peppercorns, see sidebar). Paprika is a sneaky one, showing up in lots of flavoring mixes and often under "spices" on ingredient labels. Other nightshades include goji berries (the new darling of the antioxidant crowd), ashwagandha (an adaptogenic herb from Ayurvedic medicine), Cape gooseberries (not normal gooseberries), ground cherries and garden huckleberries (not blueberries).

I'm a licensed naturopathic physician in private practice, and I will admit right off the bat that I am biased against nightshades. I used to eat a ton of foods in the nightshade family, but now I avoid them as much as possible. I am one of those who is very sensitive to these foods. In my medical practice, I treat pain often. My goal in pain treatment is pain relief. In my opinion, pain management—that is, long-term painkillers, without a goal of true pain relief—is for suckers. For me and many of my patients, nightshade avoidance is the answer to long-term relief from pain. Why should you care about this? It's likely that you enjoy eating these foods and can't imagine that they are bad for you in any way. Well, if you suffer from inflammation, joint pain and cracking, avoiding nightshades will lessen your pain, whether or not the nightshades are the true source of the pain. Are you sensitive to weather changes? This can be an indication of nightshade sensitivity. Muscle pain and tightness, morning stiffness, poor healing, arthritis, insomnia and gall bladder problems—these can all be caused by nightshades. Nightshades can also cause heart burn or GERD—a lot of people already know they react this way when they eat peppers or tomatoes.

Like soy, most nightshades are relative newcomers to European/Western diets. The tomato came to North America in the very early eighteenth century. It was termed the "love apple" and grown first as an ornamental. That means people grew it because it is pretty, yet they did not eat it. Why did they not eat it? They thought the tomato was poisonous. The leaves of the nightshade family are indeed overtly poisonous (livestock farmers know this well) and people avoided the fruit as well.

During a famine in 1782, Scottish highlanders complained of dropsy (an old term for edema or swelling, often associated with congestive heart failure) when they ate abundantly of potatoes.<sup>1</sup> Russian prisoners of World War II returned with advanced cases of dropsy, which was blamed on heavy potato consumption.<sup>2</sup> An old saying in New Hampshire in 1719 was that the white potato shortened men's lives.

Eggplant was also first grown as an ornamental, a decorative plant. It was not eaten until relatively recent years in North America. According to Dr. Norman Childers, author of *The Arthritis Diet*, peoples of the Mediterranean area previously believed that the eggplant would cause insanity if it was eaten daily for a month, in fact, it had the nickname of "mad apple."<sup>3</sup> How many foods that you eat have a reputation like that?

It's extremely easy to overdose on nightshades in Western culture, especially if you are a foodie. Let's say you have salsa on your eggs at breakfast, potato salad at lunch, and eggplant with peppers along with other spicy dishes at dinner. This is a large amount of nightshades, eaten three times per day, in multiple combinations. It's very hard to avoid the nightshades, believe me, it's a lot of work! This can be easily demonstrated by reading the menu at any restaurant—nightshades have become ubiquitous. Nightshade sensitivity, in terms of the vigilance needed to keep them out of the diet, is almost as bad as gluten sensitivity!

For those of you who think you have tried "everything" for your arthritis pain, tried this and tried that but haven't tried avoiding nightshades—in my opinion, it's something you do need to try. I can tell you as a naturopathic doctor that I have tried many different remedies for my middle back pain. Nightshade avoidance got rid of 90 percent of it. If you're one of those people whose pain treatments (be it chiropractic, acupuncture, laser, energy medicine, whatever!) provides only a day or two of relief, you're quite possibly nightshade sensitive.

A physical therapist once told me that if a patient isn't responding to treatment, one of the first things to consider is nightshade sensitivity—there is simply nothing else that anyone can do to help somebody in pain when nightshade sensitivity is the cause—because once they eat some nightshades again, their pain will return as it was before. Sad but true, as I have witnessed many times in my practice.

### CALCITRIOL IN NIGHTSHADES

The nightshades are considered a "calcinogenic" plant; that is, they cause calcinosis, which is a toxic calcification of soft tissues when eaten by animals. This happens because they contain calcitriol (1,25-dihydroxy vitamin D), the most active form of vitamin D. Please note that calcitriol is not vitamin  $D_3$  (cholecalciferol). This is an extremely important distinction, as you will see.

In humans, calcitriol is normally the end product of vitamin D metabolism, so let me start at the beginning. Cholecalciferol, or vitamin  $D_3$ , is produced in the skin by the action of sunlight or can be consumed in food or supplements. In the liver, vitamin  $D_3$  is transformed into calcidiol (25-hydroxycholecalciferol, the compound that we test in the blood as a measure of vitamin D status); then the kidneys transform calcidiol into calcitriol (1,25-dihydroxy vitamin D).

For those of you who think you have tried "everything" for your arthritis pain, tried this and tried that but haven't tried avoiding nightshades in my opinion, it's something you do need to try.

Calcitriol is an extremely potent hormone, thousands of times more potent than vitamin  $D_3$ . It has been said that calcitriol is the most powerful hormone in the human body. Production of calcitriol is very tightly regulated by the kidney. Why is it so tightly regulated?

Calcitriol signals the intestines to absorb calcium from our diet. While we absolutely need calcitriol to maintain proper bone density, too much calcitriol, from any source, leads to hypercalcemia, also known as high blood calcium. The body does not like this situation and wants to get the calcium levels back down to normal as quickly as possible, as an imbalance of minerals in the blood particularly affects the heart. The quickest solution for the body is to deposit the extra calcium into the soft tissues. Each hypercalcemic episode likely lasts for only a short while, however, each episode leaves a small deposit behind. Over time, these deposits lead to the condition known as calcinosis.

Overconsumption of calcitriol from nightshade foods can circumvent the kidney's control and over time lead to calcium deposits in the soft tissues such as the tendons, ligaments, cartilage, cardiovascular tissues, kidneys and skin. Osteoarthritis is basically calcium deposits in the soft tissues of joints. Chronic hypercalcemia can lead to generalized vascular (blood vessel) calcification, which is coronary artery disease. Nephrocalcinosis is calcification of the kidneys.

We are not supposed to bypass the body's control mechanisms for calcitriol. Nightshades do this to our detriment. Many of us do not notice because it happens so slowly and gradually. What causes arthritis? The conventional view is that arthritis is the result of the joint "wearing out." If this were the case, then arthritis would always be accompanied by inflammation. Think of parts in a car. If they "wear out" due to friction, there is heat, which could be likened to inflammation in our bodies. However, osteoarthritis typically has no inflammation, so it really should be called osteoarthrosis.

What if calcinosis could explain most, if not all these osteoarthritic changes? Instead of your joints wearing out, what if nightshades and their calcitriol content were causing the joints (cartilage, tendons, ligaments) to slowly calcify? Bone spurs are calcium deposits in tendons or ligaments. Many people are told that they have "no cartilage left" in their joints, but what if the truth was that the cartilage had slowly calcified? It would be nearly impossible to tell the difference between the two situations unless one knew exactly what to look for.

Scleroderma is a widespread connective tissue disease that involves changes or hardening in the skin, blood vessels, muscles and internal organs. The cause is said to be unknown. Could it be caused by nightshades, leading to calcinosis?

Some physicians are giving calcitriol or its analogs for simple vitamin D deficiency. This is overkill and not good for the system. In bypassing the body's control systems we are creating the same situation I described above. If your doctor insists on using calcitriol, ergocalciferol (vitamin  $D_2$ , an unnatural form of vitamin D made by irradiating a fungus with ultraviolet light), or any other expensive analogue of vitamin D other than vitamin  $D_3$  (cholecalciferol), you may want to find another doctor who is more educated in vitamin D supplementation.Please note that there are medical conditions where administering calcitriol is necessary, but simple vitamin D deficiency is not one of them.

According to Medline, common side-effects of calcitriol injections include weakness, headache, somnolence, nausea, vomiting, dry mouth, constipation, muscle pain, bone pain and metallic taste.<sup>4</sup> Note the muscle and bone pain—do these sound like nightshade problems I've mentioned already? The liver and gall bladder can be affected, resulting in pale or fatty stools, an indication you are not digesting your fats well. Yellowing of skin or eyes (jaundice) is another symptom, indicative of liver issues.



### VITAMIN D PATHWAY

Hallucinations can happen, and a rare side effect is overt psychosis. Remember what was said to happen when one eats eggplant every day for a month?

#### SOLANINE

Solanine is a glycoalkaloid, that is, a non-protein compound containing nitrogen. It is a potent poison found in species of the nightshade family, especially potatoes and eggplant. It can occur naturally in any part of the plant, including the leaves, fruit, and tubers.

Solanine poisoning is primarily displayed by gastrointestinal and neurological disorders. Symptoms include nausea, diarrhea, vomiting, stomach cramps, burning of the throat, cardiac dysrhythmia, headache and dizziness. Hallucinations, loss of sensation, paralysis, fever, jaundice, dilated pupils and hypothermia have been reported in more severe cases.<sup>5</sup>

Potatoes naturally produce solanine and chaconine, a related glycoalkaloid, as a defense mechanism against insects, disease and predators (humans included). Potato leaves, stems and shoots are naturally high in these glycoalkaloids. When potato tubers are exposed to light, they turn green and increase glycoalkaloid production. This is a natural defense to help prevent the uncovered tuber from being eaten.

In potato tubers, 30-80 percent of the solanine develops in and close to the skin. If the potato looks green under the skin, throw it away; likewise if it has begun to sprout, just discard it.

How toxic are these compounds? The World Health Organization sets an upper limit of 20 mg per 100 grams of solanine per fresh weight of potato. Above that limit, they cannot be sold in stores, as they are considered too toxic for human consumption.<sup>6</sup>

Solanine and related glycoalkaloids are poisonous because they are acetylcholinesterase inhibitors—they inhibit the breakdown of acetylcholine, resulting in increased level and duration of action of this neurotransmitter. What does this mean? They cause prolonged muscle contractions. This is why people who are sensitive to nightshades or eat a lot of them often feel stiff when they wake up in the morning or sit for extended periods.

Studies with animals indicate that solanine causes cell membrane disruption in the digestive tract—exacerbated irritable bowel disorder in mice,<sup>7</sup> gastrointestinal tissue destroyed in Syrian hamsters.<sup>8</sup> It affects

### NIGHTSHADES IN MEDICINE

Many of the alkaloids in the nightshade plants are extremely toxic; yet they have many uses in medicine if administered in extremely small dosages. They can serve as an antidote to poisoning caused by pesticides and chemical warfare agents such as sarin and VX. They are also used to halt—but not cure—many types of allergic reactions. Scopolamine, a commonly used ophthamological agent, dilates the pupils and thus facilitates examination of the interior of the eye. Nightshade compounds are also used as antiemetics in people prone to motion sickness or receiving chemotherapy.

Some of the most interesting uses of nightshades occur in homeopathy. Belladonna was one of the first homeopathic remedies, developed in 1799 by Samuel Hahnemann for scarlet fever, after he observed that symptoms of deadly night-shade poisoning closely matched those of scarlet fever. Belladonna now serves as a major homeopathy remedy for acute illnesses of sudden, violent onset. Other homeopathic remedies derived from the nightshade family include Stramonium, Hyoscamus, Tabacum, Dulcamara and Capsicum. Note that all of the "food nightshades" are used as homeopathic remedies as well. For those of you familiar with homeopathic theory and the "similimum," it may start to make sense to you that eating significant amounts these foods could cause symptoms of disease in a healthy person.

SPRING 2010

the gene expression of the human intestinal cell linings and also inhibits proteolytic enzyme activity.<sup>9</sup> Solanines also destroy human liver cells in vitro.<sup>10</sup>

I have found fourteen research reviews linking potato blight in Ireland with birth defects in the following years.<sup>11</sup> Potato blight involves a particular fungus growing on potatoes, causing them to kick in their defense mechanisms and make high levels of solanine. In my opinion, it would be wise for pregnant women to avoid the nightshades.

#### NICOTINE

All nightshades contain nicotine, which is why they can be addictive. Is nicotine a problem when we eat it? A large body of research shows that nicotine consumption inhibits proper healing. In one study, nicotine delayed tendon-tobone healing in a rat shoulder—the equivalent of our rotator cuff.<sup>12</sup> A follow-up study by the same authors showed that delayed healing in tendonto-bone injuries resulted in inferior permanent healing of the area.<sup>13</sup>

### CAPSAICIN

Capsaicin is an alkaloid found in hot peppers. We hear a lot about capsaicin supposedly having anti-inflammatory properties, but it actually is an irritant for mammals, including humans, and produces a sensation of burning in any tissue it comes in contact with.

Spicy peppers are the only plants that contain capsaicin, to my knowledge. The active ingredient in pepper spray is capsaicin. It can shut down the lungs—this is why some people have died from pepper spray. Asthmatics would do well to avoid capsaicin in general. They actually use capsaicin in animal studies to stimulate something very much like an asthma attack.

Substance P is released from the terminals of specific sensory nerves. It is found in the brain and spinal cord and is associated with inflammatory processes and pain—it acts as a neurotransmitter to carry pain signals to the nervous system. Capsaicin makes your nerves release almost all the substance P they have, and researchers have therefore suggested that drugs containing capsaicin can help reduce pain. For example, there is an over-the-counter cream containing capsaicin that is promoted to help deplete substance P from local nerve endings and relieve pain.

However, inducing massive releases of substance P on a regular basis is like taking speed until your adrenals run out of adrenaline; it leads to a chronic local or systemic depletion of substance P. Substance P is necessary for proper healing. The brain gets a signal from substance P telling it that something is hurt and needs to be fixed. So when you have diabetics using capsaicin cream for their neuropathy, they feel better—the pain signal is gone—but they are inhibiting the healing process.

A recent study looked at the use of capsaicin in insulin-dependent diabetic rats.<sup>14</sup> The standard explanation for type 1 diabetes is malfunction and death of the insulin-producing islet cells in the pancreas. Another theory holds that malfunction of the pain nerves surrounding cells in the pancreas can cause type 1 diabetes. Researchers have found that the islet cells in diabetics are surrounded by large numbers of pain nerves that signal to the brain that pancreatic tissue is damaged. When the researchers injected Substance P into the rats, the islet cells began producing insulin normally almost immediately. They also produced insulin for about a month when they were injected with capsaicin.

Capsaicin depletes substance P. Although this study was reported as showing a beneficial role for capsaicin, the proper conclusion is that capsaicin is likely horrible for diabetics and their blood sugar control. I have witnessed firsthand the negative impact of consuming peppers on blood sugar control in some of my diabetic patients (the ones who keep diet and blood glucose logs).

Capsaicin receptors have been found in arthritic joints. When they inject capsaicin into mouse knee joints, it reduces blood flow.<sup>15</sup> That's a bad thing. Blood is what heals us. When neonatal rats were given capsaicin, their immune markers were depressed for ninety days.

In humans, increased consumption of peppers is associated with an increase risk of nasopharyngeal carcinoma and stomach cancer. Researchers found seventeen times (!) the risk of stomach cancer in people who self-rated themselves as high consumers of peppers.<sup>16</sup> In people who had tissue biopsies of colon polyps, dysplasia and adenocarcinoma, researchers couldn't find any substance P in those biopsies. Where would it have gone? What they found was the presence of capsaicin receptors instead.<sup>17</sup>

### TREATMENT

How do you find out whether nightshades are causing your medical problems? For many, no relief comes until the diet is totally clear of all these nightshades for at least six weeks. Many people notice an improvement in their pain; sometimes it goes away completely.

If the person has strictly avoided the nightshades for six weeks, yet still doesn't believe their pain has decreased, I suggest that they do a "nightshade party day": salsa and eggs for breakfast, tomato and eggplant for lunch, potatoes for dinner—just have it all, and have a lot. Eat as much as you can in one day and then watch for symptoms over the next two days. Often there is a delayed onset reaction—there is for me.

But the real question is, why are some people more sensitive than others? Nutrient deficiencies certainly come into play. For example, if you don't have enough magnesium, you will be more prone to calcinosis. Deficiency in vitamin D may exacerbate the problem. The speed at which one's liver and kidneys detoxify these compounds plays a huge role, and this is dependent both on genetics and nutrition.

A key nutrient is vitamin  $K_2$ —Dr. Price's famous Activator X. I love this study on vitamin  $K_2$ : The Effect of Vitamin  $K_2$  on Experimental Calcinosis.<sup>18</sup> They gave rats calcinosis by giving them way too much vitamin  $D_2$ .  $D_2$  tends to cause calcinosis anyway. What did they find? A high dose of vitamin  $K_2$  suppressed experimental calcification of soft tissues induced

### WHAT ABOUT PEPPER?

Peppercorns are not the same as peppers; they are not members of the nightshade family. Peppercorns do not contain poisonous alkaloids. Fresh ground pepper is the best; pre-ground pepper is not good for you. It doesn't taste very good and you'll notice you have to use a lot more of it. Once the peppercorns are cracked open, the protective and flavorful essential oils begin to evaporate. This allows a type of aspergillus mold to grow, which then produces aflatoxin. You may be familiar with aflatoxin already, as it is very toxic to the liver and is the same toxin that occurs with peanuts. If you don't eat peanuts for this reason, you would not want to use pre-ground pepper either. Freshly ground pepper helps with digestion—pre-ground pepper does not.

by vitamin  $D_2$ . So if you want to avoid problems with nightshades, be sure to eat goose liver, cheese, fatty grass-fed meats and pasture-fed butter—and take your butter oil.

If you suffer from osteoarthritis and you feel like you have some catching up to do in terms of resolving calcifications, you may want to take a vitamin K supplement. I use Allergy Research Full-Spectrum Vitamin K softgels, which combine vitamin  $K_1$  (phytonadione) and vitamin  $K_2$ (as both menaquinone-4 and menaquinone-7, known as MK-4 and MK-7, respectively).

#### MY EXPERIMENT

Recently after a powerlifting meet, I felt like cheating on my diet. I called it an "experiment." My old favorite food was pizza—the nastiest combination of all the nastiest foods there are, at least for me. We had it with peppers, sausage containing paprika, tomato sauce, gluten and dairy, all of which I'm sensitive to. I felt that this was my chance to test my vitamin K hypothesis. I took two Allergy Research Full-Spectrum Vitamin K softgels with the meal, along with digestive enzymes and some buffered vitamin C. Normally the enzymes and the buffered vitamin C don't help me much. However, this time, when I had loaded up on vitamin  $K_2$ , I had no day-after morning stiffness and none of my middle back pain returned. I've only done the experiment once at this point, but that's what I found.

Even if you are one of those lucky people who don't seem to have trouble with nightshades, in my opinion it's a good idea not to overdo. Avoid having nightshades with every meal; we are far too reliant as a culture on potatoes, tomatoes and peppers. Vary your diet so you are not so dependent on these foods. Sweet potatoes, yams and parsnips are good substitutes for potatoes. You can steam cauliflower and mash it with butter and cream. As a substitute for chili pepper, use wasabi, horseradish, mustard powder, ginger, or freshly ground peppercorns. There's no good substitute for tomatoes, so learn to use them sparingly.

Cooking does reduce the solanine levels in potatoes somewhat,<sup>19</sup> and may even help reduce other toxins. So if you are eating nightshade foods, be sure to cook them, and cook them in butter or poultry fat—this is a synergistic combination because these fats provide vitamin  $K_2$ . And you'll end up eating less of the nightshade foods because when you cook in good fats, you are more quickly satisfied and end up eating less.

For those who are sensitive to nightshades, the best strategy is to avoid them completely for a long time, until you can completely heal. That means no potatoes, pizza, tomato sauce or Mexican food—but to live pain-free makes it worth the sacrifice.

### TOMATOES

Tomatoes contain lycopene, which is one of the first things people mention when I suggest avoiding nightshades. Lycopene is a carotenoid found in almost any red, orange or pink fruit or vegetable; it's simply highest in tomatoes. As with all of the fat-soluble carotenoids, to maximize absorption you'll need to eat it with fat.

We hear a lot about lycopene supposedly preventing cancer. However, in a study on prostate cancer in rats, when rats were given lycopene by itself, there was no observed decrease in cancer mortality when compared to the controls.<sup>20</sup> However, when given tomato powder, there was a significant decrease in mortality rates from the induced prostate cancer. So there's something in the whole tomato that protects against cancer and it's not lycopene by itself.

The new theory in this reductionist way of thinking is that the anti-cancer substance in tomatoes is another glycoalkaloid called tomatine. While tomatine has been shown to inhibit and destroy cancer cells, it has also been shown to do the same to normal cells!<sup>21</sup> This is the likely reason why many people get heartburn after eating tomatoes, not only because they are acidic (they are), but because the cells that line the stomach and esophagus are being destroyed. Can you really blame the stomach for sending you a signal that it isn't very happy?

By the way, epithelial cells are what line the urethra as it passes through the prostate. Eating tomatoes in the hopes of reducing prostate cancer is similar to friendly fire—it destroys the cancerous cells and normal cells at the same time. Does destroying your normal and healthy cells sound like a good idea? Not to me. Actually, it sounds very similar to chemotherapy and radiation—trying to kill cancer cells while hoping that the normal cells survive the process. While there is a time and place for that type of approach, I don't think I'd want to be eating such a potentially cell-destructive substance every day in my food.

Scientists are currently studying tomatine to use as an adjuvant in vaccines, in order to make the vaccine more effective by stimulating a massive immune reaction. The immune reaction happens because the body is reacting to the cell destruction that occurs when tomatine comes in contact with human cells.

Tomatoes also contain tomato lectin (another well-known lectin is gluten) which has been shown to agglutinate human, mouse and sheep erythrocytes—it can cause red blood cells to clump together. Combined together with tomatine, these compounds can cause leaky gut syndrome and potentially be a major issue in autoimmune diseases of all sorts.

For those of you have gone off gluten and you're wondering why you still have digestive problems, it may be because of tomatoes. Potatoes can be another culprit, as many gluten-free products are filled with potato starch.

Garrett L. Smith NMD, CSCS, CBP, BS, is a native and near-lifetime resident of Tucson, Arizona. An alumnus of the Southwest College of Naturopathic Medicine, he currently operates a general naturopathic medical practice (Naturopathic Medicine of Southern Arizona) and a Low Intensity Laser Therapy practice (Laser Therapeutics). An ardent believer in First Do No Harm, the three major areas Dr. Smith focuses on are nutrition, exercise and energic medicine modalities, including Low Intensity Laser Therapy (LILT) and BodyTalk. Dr. Smith is a strong believer in looking to traditional cultures, evolutionary biology, and the "Blue Zones" to guide his approaches to nutrition, exercise, and lifestyle. In his spare time, Dr. Smith enjoys strength training, reading, cooking, road cycling, and spending time with family and friends. He can be contacted at adminNMSA@gmail.com.

#### REFERENCES

- Famine, Mortality, and Epidemic Disease in the Process of Modernization, by John D. Post © 1976 Economic History Society, http://www.jstor.org/ pss/2594505.
- 2. Childers NF. Arthritis-Childer's Diet to Stop It. Nightshades, Aging, and Ill Health, 4th ed. Florida: Horticultural Publications, 1993; 19-21.
- 3. *Ibid*.
- http://www.nlm.nih.gov/medlineplus/druginfo/meds/ a682335.html.
- http://www.inchem.org/documents/jecfa/jecmono/ v30je19.htm.
- World Health Organization, *Toxicological Evaluation* of Certain Food Additives and naturally Occuring *Toxicants*, Thirty-ninth Meeting of the Joint FAO/

WHO Expert Committee on Food Additives (JECFA) WHO Food Additives Series, No 30; http://apps.who.int/bookorders/anglais/detart1.jsp

- Patel B and others. Potato glycoalkaloids adversely affect intestinal permeability and aggravate inflammatory bowel disease. *Inflamm Bowel Dis.* 2002 Sep;8(5):340-6. PubMed ID: 124796498.
- Baker D and others. Lesions of potato sprout and extracted potato sprout alkaloid toxicity in Syrian hamsters. *J Toxicol Clin Toxicol*. 1987;25(3):199-208. PubMed ID: 3612898.
- 9. Ruseler-van Embden JG and others. Potato tuber proteins efficiently inhibit human faecal proteolytic activity: implications for treatment of peri-anal dermatitis. *Eur J Clin Invest.* 2004 Apr;34(4):303-11. PubMed ID: 15086363.
- Friedman M and others. Anticarcinogenic effects of glycoalkaloids from potatoes against human cervical, liver, lymphoma, and stomach cancer cells. J Agric Food Chem. 2005 Jul 27;53(15):6162-9. PubMed ID: 16029012.
- Masterson JG and others. Anencephaly and potato blight in the Republic of Ireland. Br J Prev Soc Med. 1974 May;28(2):81-4. PubMed ID: 4604097.
- 12. Galatz LM and others. Nicotine delays tendon-to-bone healing in a rat shoulder model. *J Bone Joint Surg Am.* 2006 Sep;88(9):2027-34. PubMed ID: 16951120.
- Galatz LM and others. Delayed repair of tendon to bone injuries leads to decreased biomechanical properties and bone loss. *J Orthop Res.* 2005 Nov;23(6):1441-7. PubMed ID: 16055296.
- Razavi R and others. TRPV1+ sensory neurons control beta cell stress and islet inflammation in autoimmune diabetes. *Cell*. 2006 Dec 15;127(6):1123-35.PMID: 17174891.
- Keeble J and others. Involvement of transient receptor potential vanilloid 1 in the vascular and hyperalgesic components of joint inflammation. *Arthritis Rheum.* 2005 Oct;52(10):3248-56. PubMed ID: 16200599.
- López-Carrillo L and others. Chili pepper consumption and gastric cancer in Mexico: a case-control study. *Am J Epidemiol*. 1994 Feb 1;139(3):263-71. PubMed ID: 8116601.
- Dömötör A and others. Immunohistochemical distribution of vanilloid receptor, calcitonin-gene related peptide and substance P in gastrointestinal mucosa of patients with different gastrointestinal disorders. Inflammopharmacology. 2005;13(1-3):161-77. PubMed ID: 16259736.
- Seyama Y and others. Effect of vitamin K2 on experimental calcinosis induced by vitamin D2 in rat soft tissue. *Int J Vitam Nutr Res.* 1996;66(1):36-8. PubMed ID: 8698544.
- 19. Tajner-Czopek A and others. Changes in glycoalkaloids content of potatoes destined for consumption (2008) *Food Chemistry*, 106 (2), pp. 706-711.
- Boileau TW and others. Prostate carcinogenesis in N-methyl-N-nitrosourea (NMU)testosterone-treated rats fed tomato powder, lycopene, or energy-restricted diets. J Natl Cancer Inst. 2003 Nov 5;95(21):1578-86.PubMed ID: 14600090.
- Friedman M and others. Tomatine-containing green tomato extracts inhibit growth of human breast, colon, liver, and stomach cancer cells. *J Agric Food Chem.* 2009 Jul 8;57(13):5727-33. PubMed ID: 19514731.

### FAITHFUL WAPF SUPPORTERS WILL BE MISSED!



Edward Harris DeBoer (1924-2009) of Bakersfield, California, was a dairy farmer and direct farm product marketeer; on his radio program "Return to Eden," he frequently talked about the Weston A. Price Foundation and the virtues of raw milk.

Betty C. Williams (1930-2010), proud owner of Belle of the Earth Ranch in Lindale, Texas, raised grass-fed beef and was passionate about ranching and living a healthy life. She was a faithful financial supporter of WAPF, having contributed to our conference as a Gold Sponsor for many years. They will both be missed!

The family of Ed DeBoer has asked friends and relatives to consider a donation to the Weston A. Price Foundation in his memory.



Wise Traditions

SPRING 2010

### Homeopathy Journal

TRAVIS THE TEENAGER LOVES NIGHTSHADES By Joette Calabrese, HMC, CCH, RSHom (NA)

"Sweet!" swooned Travis, the sixteenyear-old, as he rose one morning with renewed strength. Just the night before, he had suffered from a 104-degree fever, thrashing anger and ruthless ear pain. After three doses of the homeopathic remedy *Belladonna* and much needed sleep, this pale, emotional adolescent was made whole. Since it was Saturday, this meant he would be able to go to his school dance that night. His parents had no reservations about his intentions for the evening. They knew from years of using homeopathy that when the remedy is correct, there is no need for a relapse. Regardless of the intensity of his illness, they recognized that their son had recovered fully.

When properly administered, homeopathy is an unparalleled form of medication. It matters not that it's medically documented, nor that it's accepted as the norm by medical doctors in England, Germany, France and India. What matters to Travis and to thousands of other teens throughout the world is that it works.

How can something so inexpensive and gentle make such a difference in a high fever, or in any illness? The efficacy of homeopathy has been evidenced in medical journals throughout the world. It has been shown clinically for more than two hundred years to resolve illness such as the one Travis suffered, without side effects and within remarkably short order. These results are to be expected because homeopathy stirs the person's own ability to bring illness to a natural close. If, in the case of Travis's fever, an antibiotic and analgesic had been administered instead, Travis would have experienced a false sense of wellness, propped up by powerful drugs, which have a list of side effects as long as his texting buddy list. For many who are dosed this way, such an illness turns into repeated episodes over a period of months. This is a common outcome in ailments that have been suppressed by conventional pharmaceuticals.

*Belladonna*, or deadly nightshade, was the remedy Travis's parents chose because his fever was high, his eyes had a glassy look, and his ear pain was severe. And the illness came on with a fury. These are the keynotes of symptoms that need to be present for *Belladonna* to do its good work. If the fever had been low, accompanied by chills, and presented in an irritable teen, the remedy choice would likely have been *Nux vomica*. Or if Travis's earache appeared with a medium fever, he was fractious, and with one cheek red while the other pale, he might have been given *Chamomilla*.

This is how patient-detailed and individual the selection must be. No other medical paradigm incorporates the individual into the remedy choice. In fact, one of the common criticisms of modern medicine is that it treats all of us the same—not so with homeopathy. And perhaps even more important, had Travis's parents succumbed to the conventional medical treatment of their son, the infection might have been subdued, but we would have been left with the angry teen. Is it no wonder that parents who use homeopathy find that their children are often less disruptive to the family after the well chosen remedy is administered? The illness actually becomes an important opportunity to tender the proper remedy for deeper issues.

Homeopathy's role in the health of teens offers more than meets the eye. A medicine that addresses a noteworthy fever and earache as well as the accompanying anger is the role of a dynamic medical model. Yet Travis doesn't need to be convinced of homeopathy's ability to do the job. His only concern is how to persuade his parents to let him borrow the car for the dance.

The scientific statute of "like cures like" is the foundation upon which homeopathy is girded. Homeopathy employs plants that often have poisonous characteristics and transforms them into submissively curative agents. Although the The illness actually becomes an important opportunity to tender the proper remedy for deeper issues. Thus the rogue category of nightshades that might be a trigger for inflammation can actually become a curative agent when properly harnessed. remedy *Belladonna* is made from deadly nightshade, it's a powerful healing ally. In fact the use of this homeopathic is so effective that even doctors without homeopathic medical training recall its ability to cure such ailments.

Here's the inherent wisdom that makes homeopathy fascinating and profound: the very symptoms that can be caused by a substance in its gross form, as it is found in nature, can be antidoted when formulated into a homeopathic medicine. This is because the method of making the remedy is a mathematical nano-dilution that renders the poisonous effects neutral while allowing the curative aspects to appear. In this way we can use a substance that would be detrimental or even noxious in its gross form, diluted according to the International Homeopathic Pharmacopoeia, and it will become a medicine of vast power. It has the unique ability to restore physical wellbeing as well as balance the emotional or mental aspects of the individual. After all, isn't genuine health the restoration of the entire human—not just the physical aspect? Why of course!

Thus the rogue category of nightshades that might be a trigger for inflammation can actually become a curative agent when properly harnessed. The very cluster of symptoms marked by dilated pupils, red cheeks and high fever is what would be caused by ingesting this poisonous nightshade berry. (The common name for the plant, belladonna, or beautiful lady, refers to the historic cosmetic use of the berry juice to dilate the pupils when instilled in the eye.) Yet because of this cutting edge scientific method and Travis's well-read parents, *Belladonna* set him on his way to the Saturday night dance. Indeed, Travis might recognize someday the fact that nightshades are scoundrels until tamed by homeopathic methodology. Sweet! Until then, what better way to embrace teenagers and otherwise ill-intentioned plants!

Joette Calabrese,HMC,CCH,RSHom(Na) is a certified classical homeopathic consultant and educator. Her signature philosophy maintains that the blessing of authentic health is not bestowed randomly, but can be achieved through the detailed and systematic method of classical homeopathy in conjunction with the Weston A. Price philosophy. Go to Homeopathyworks.net for her FREE report "50 Ways to Avoid Cancer" or call 716.941.1045 for a FREE 15 minute phone conversation to see if homeopathy is a fit for your health strategy.

Moms like Travis's use Joette Calabrese's book to determine the correct remedy for fevers. Want to know how to do this, too? Joette is offering a FREE download of the fever and ear infection chapter from her book Cure Yourself and Family With Homeopathy. Try your hand at this safe and empowering medicine. Visit www. homeopathyworks.net and click on "Free Fever Chapter Download."

### SOME STUDIES ON HOMEOPATHY

The European Committee for Homeopathy (address: Chaussee de Bruxelles, 132, B-1190, Brussels, Belgium) conducted a review of human trials using a Quality of Life questionnaire, and found that in evaluating the treatment of 6,915 patients, 70 percent experienced significant clinical improvement by using homeopathic medicines (this percentage was even higher in children receiving homeopathic medicine) (Van Wassenhoven, 2005). They also found a 75 percent improvement in homeopathic patients (versus 65 percent improvement in conventional medical patients) for hyperactive children. In addition, they found a 67.3 percent improvement in respiratory tract infections (versus 56 percent with conventional treatment). Of note is the fact 22 percent of the patients receiving conventional medical treatment reported side effects, while only 7.8 percent of patients receiving homeopathic treatment reported side effects.

One of the few studies that compared homeopathic treatment versus conventional medical treatment of a specific condition with a single conventional drug versus a single homeopathic drug (a homeopathic formula product) was published in an AMA journal (Weiser, 1998). This study compared results in the treatment of vertigo, with half of the subjects given a homeopathic medicine (a combination of four homeopathic medicines mixed together) and half given a conventional drug (betahistine). The study showed that those given the homeopathic medicine experienced at least as good results as those given the conventional drug, though the homeopathic medicine was considerably safer and less expensive.

### GAPS Guide

Simple Steps to Heal Bowels, Body and Brain One Hill Productions, 2009 By Baden Lashkov

Baden Lashkov, a young mother who lives in British Columbia, has written a complementary guidebook to Dr. Natasha Campbell-McBride's popular treatise on healing multiple gastro-intestinal conditions, *Gut and Psychology Syndrome*. Lashkov successfully implemented the GAPS protocol to improve her own health and that of her son, but not without pitfalls suffered along the way. Based on her experiences and those of many others committed to the program, she has compiled this step-by-step guide largely for newcomers to the GAPS approach to gut healing.

Although the steps to heal bowels, body and brain are deemed "simple," and many who have adopted the GAPS protocol will attest to nearmiraculous improvements, many have also been frustrated by setbacks, obstacles and apparent failure to progress with the diet, even with the best of intentions and dedication to instructions. What is needed for those at such impasses is support from others whose own trial-and-error struggles can light the way and provide helpful signposts at the critical junctures, which virtually everyone dedicated to the program will stumble upon.

Lashkov emphasizes the three-pronged approach to the GAPS program—diet, detoxification and supplementation—and the commitments one will need to undertake in order to receive the most benefit from seriously adopting the entire program. With the calm assurance of one who has been down this path before, she counsels newcomers to ease into the program as slowly and comfortably as possible—the transition will not only be one of dietary habits, but of psychological and emotional patterns as well. Each new step must be taken with full awareness of its implications within both the mundane practicalities of daily life, and the complex dynamics of the family. Lashkov provides a template for this slowmotion evolution that gradually introduces a new food preparation technique, a new food, locating alternative grocers and suppliers, outfitting the kitchen with necessary tools, and planning for uninterrupted time for the program. To be sure, this prelude to the program itself will prove to safeguard more than one parent's sanity!

The GAPS Guide provides in-depth details to the introductory diet-a protocol that patients of Dr. Campbell-McBride will have received in their personal recommendations, but readers of Gut and Psychology Syndrome will not find in the book. Nevertheless, virtually anyone starting on the GAPS program will benefit from beginning with the "intro diet" and in fact, may only achieve the desired results by doing so. This preamble to the full GAPS diet is a simple yet extremely nourishing and easy-to-digest variation of meat broths, boiled meats and vegetables meant to soothe and pacify the digestive system while prompting its healing. The intro diet can be returned to whenever some stage of the program has provoked an uncomfortable digestive response, and reliably returns the system to balance. Many who have embarked on the GAPS protocol without this information will welcome the added detailed instructions and guidance that may make all the difference in their success with the program. Recipes for foods in the intro diet are also provided in a separate section.

The chapter "Frequently Asked Questions" covers everything from practical matters of transporting foods to work or school to the question of whether one can be vegetarian or vegan on the program. Lashkov treats this last query with sincere compassion—a former vegetarian and occasional vegan herself, she understands the ethical position of those who choose these paths. She herself needed the meats and broths



Many who have embarked on the GAPS protocol without this information will welcome the added detailed instructions and guidance that may make all the difference in their success with the program.

to heal, and reminds readers that Dr. Campbell-McBride stresses the fact that children especially cannot be healthy as vegans, and everyone should consume at least one cup of bone broth daily for digestive health. Unfortunately, "many committed vegetarians continue to suffer" rather than adopt the GAPS diet to help their health issues.

The topics of pathogen die-off; constipation and other digestive distress; and unexplained relapse are some of the common problems addressed in the chapter "Troubleshooting." Lashkov offers numerous approaches for handling each, yet the last topic, "Finding Time for GAPS" has the most involved answer of any in this section. While fairly large lifestyle and health changes (not to say upheavals) will take place when implementing the GAPS program, Lashkov reminds us that having the home front in order and our lives simplified as much as possible will support our success "so that good food can take over without everything else falling apart!" Her advice in this section to downsize, organize, get help when you need it, and so on, will enhance the efficiency and happiness of anyone in any situation, but especially when one needs to focus clearly, without distractions, on serious matters of health. Subsequent chapters address the most common topics that new GAPS adherents may find confusing or daunting, such as juicing, detoxification, enemas and choosing supplements, especially the centrally important probiotics.

Lashkov addresses the economic side of the GAPS program in terms of making it available to anyone who needs it. She offers many tips for shopping in season, making the most from bones, finding your local farmers, stocking up, and more, to wring the most out of a tight budget. This subject is close to Lashkov's heart, since she has essentially rescued herself from a precarious downward spiral as related in the early autobiographical chapter "Our Stories." Misdiagnosed health problems early on plagued Lashkov, and as a young woman struggling with mammoth physical and mental imbalances she was briefly homeless and near suicide. Her recovery is not only a testament to tremendous personal grit and determination, but an invitation for all of us to reconsider our judgment of those marginalized by society. How many of the homeless, those in institutions, or incarcerated could be happy, productive, creative citizens if they were liberated from their longstanding biochemical disorders and restored to health via access to safe housing, rest, and truly nourishing food?

The *GAPS Guide* packs a lot of advice, encouragement, clarification and good humor in its one hundred sixty pages. Reviewed and approved by Dr. Campbell-McBride, readers can feel confident in its guidance into the more minute details of day-to-day implementation of the program. Throughout the chapters, Lashkov frequently invites readers to learn even more about specific topics by visiting her website, www.gapsguide. com. Indeed, during my first visit there I spent a couple of hours happily exploring and yet barely touched a sliver of all the resources available. Lashkov also writes an enjoyable blog in her clear, direct and very personable voice; her energy never seems to flag as she answers all readers' questions carefully and fully—and there are many! Further, there is already a column of amplification and occasional correction to the *GAPS Guide* at the website. I was glad to find a correction of the startling recommendation in the book to drink half of one's weight in water each day! (The real advice is to take one's weight in kilos, divide by two, and drink that number of ounces of water each day—rather more manageable!)

Lashkov has already been asked to write a second edition of the *GAPS Guide*, and one will likely be in the works soon enough, if reader demand is any goad. Resources for those on the GAPS program seem to grow daily, and so much good information and advice are generated through the sharing of support groups online. The usefulness of a second edition would be enhanced by an index, and also a chapter devoted to middle-aged and older newcomers to the GAPS program. This older population faces somewhat different challenges from those of young parents and their children, yet stands to gain great health benefits as well if given the needed support.

Baden Lashkov has performed a grand public service by writing the *GAPS Guide* and bolstering the education and morale of parents everywhere who have turned to the GAPS program to help themselves and their children regain health. The book may be ordered from International Nutrition: www.nutrivene.com (410-335-2802).

Review by Katherine Czapp

Protein Power Lifeplan A New Comprehensive Blueprint for Optimal Health By Michael Eades, MD and Mary Dan Eades, MD Warner Books, 2000

In 1996 weight-loss doctors Michael and Mary Dan Eades wrote the *New York Times* bestseller *Protein Power* in which they asserted that excessive consumption of carbohydrates, rather than fats, cause obesity and illness such as diabetes and heart disease. In 2000, the husbandand-wife team followed with *Protein Power Lifeplan*, an expansion of their theories as well as guide to a nutritional philosophy of lifelong health and freedom from disabling diseases. Although loss of excess weight may be a happy benefit of adopting the Eades's plan, achieving vibrant health and productive longevity are the real goals of their program.

Protein Power Lifeplan revisits the hunter/ gatherer perspective of our genetic heritage and reminds us that this inheritance continues to govern our metabolic functions today. As have other writers, the Eades point out that agriculture is an innovation of merely ten thousand years ago-much too recent for us to have fully adapted to such an altered dietary environment. Our pre-farming ancestors of 500,000 to three million years ago consumed far fewer carbohydrates (and none of them refined) than do cultures which base their diets on grains. Easily digested carbohydrate foods are all converted to sugar during digestion. The body must mount constant corrective measures to balance blood sugar, and does so via the hormone insulin. It is the constant circulation of insulin, rather than the mere fact of high blood sugar, that is the culprit not only in stimulating weight storage and gain, but in other serious disorders such as hypertension, heart disease and diabetes.

The Eades hammer home the message of the

SPRING 2010

insulin connection to a host of disease conditions, and focus on the reduction of insulin levels as the primary goal of carbohydrate restriction. Raising the body's sensitivity to insulin—so that it requires less to function optimally—can best be done by reducing carbohydrate consumption. (Reducing overall calorie intake and increasing exercise can help, too.) With this premise at the core of their dietary plan, the Eades establish the other nutritional components of our ancestors' diets that are necessary for sound health—namely fat and protein.

In the chapter "The Fat of the Land" we read an excerpt of field notes from researchers in the 1940s who meticulously documented how Australian Aborigines prepared and ate a wallaby. The Eades included these details to emphasize how the fat content of modern diets-heavy in rancid, adulterated vegetable oils-has drastically changed from the diet of wild-game hunters. Even the diet of modern, "civilized" meat eaters-who choose muscle meats exclusively, and most often from unnaturally raised feedlot animals-cannot approximate the rich and varied source of healthy fats that our ancestors feasted upon, and which conferred such robust health. The Aborigines with their meal of whole wallaby on the fire pit began with the viscerakidneys, liver, and heart-along with the fat cushioning those organs which were eaten first. The lungs were briefly cooked and used to soak up the blood, which was eaten next. The tail fat was cooked and eaten; the skull cracked for the brain and bones for their marrow. The fifteento-twenty pound carcass was cooked for barely half an hour, and only the stomach and intestines were not consumed. Native hunting groups from all over the globe consume their whole animal catches in similar manner-leaving behind only the truly inedible bits.

With the wallaby dinner as a graphic point of departure, the Eades take us on a tour of modern industrialized oils and fats that will be familiar

Wise Traditions



to *Wise Traditions* readers but perhaps not to typical readers of *The New York Times*. The dangers of rancid, factory-produced oils that are heavy in inflammatory omega-6 fatty acids, transmogrified *trans* fats, and partially hydrogenated oils are revealed to be the dietary villains they are. A chapter on cholesterol vindicates the useful nutrient from the scapegoating it has suffered for decades as heart-health scourge, while throwing light on the serious dangers (and futility) of statin drugs. Blood lipid levels are important signals regarding cardiovascular health and their relationship to high insulin as well as to good fats and other nutrients in the diet are explored in detail.

Chapters entitled "The Miracle Magnesium" and "The Modern Iron Age" present important information on these two minerals that may be new to readers. The Eades frequently have their patients supplement their diets with magnesium to improve health conditions as varied as hypertension, pre-diabetes and gout. Magnesium is required for the functioning of at least three hundred metabolic pathways in the body. The modern diet is severely deficient in this mineral—the best food sources include tree nuts, leafy greens and bones—but mineral-deficient farming soils and the preponderance of processed foods mean most people receive very little. A high-carbohydrate diet demands a great deal of magnesium during assimilation, and stress causes the adrenals to "waste" the mineral as well. An over abundance of calcium—magnesium's metabolic dance partner—means that the deficiency can cause serious conditions such as calcification of soft tissues (as in the arteries), muscle cramping, including that of the heart (calcium contracts, magnesium relaxes) and impaired bone and tooth maintenance.

Iron presents the opposite problem: most men and post-menopausal women are at risk to accumulate too much. The excess iron is not necessarily coming from a diet of red meat, but from all the iron-fortified wheat products that make up the vast majority of processed foods, from cold breakfast cereals to pastries, crackers, and other snack items lining supermarket shelves. Although iron is absolutely necessary for life, excess iron is an oxidizer—rust comes easily to mind—and can cause serious problems in the organs in which it accumulates, such as the heart, liver, thyroid,

### FOOD RULES: AN EATER'S MANUAL By Michael Pollan Penguin Group

In this little volume, Michael Pollan of *The Ominivore's Dilemma* fame decries the confusion and uncertainty in the field of nutrition. For the "Nutritional Industrial Complex," confusion about food "is good business," he says. *Food Rules* builds on Pollan's haiku-like aphorisms: Eat food; mostly plants; not too much. But his prescription is nothing but confusion and contradiction from square one. Case in point: He comes out firmly against meat in the Introduction, lumping consumption of meat with "added fat and sugar, lots of refined grains" instead of "vegetables, whole grains and fruits" as the cause—agreed upon by "all contending parties in the nutrition wars"—of all the Western diseases (he didn't ask our opinon). Yet he notes that the Eskimos, the Masai and the French are healthy—and these folks eat lots of meat. He also says to eat the way our grandmothers ate; weren't our grandmothers the ones who heaped our plates with meat so we'd be healthy and strong? No, says Pollan, "Eating what stands on one leg [mushrooms and plant foods] is better than eating what stands on two legs [fowl], which is better than what stands on four legs [cows, pigs and other mammals.]" Snacks, he says, should be limited to unprocessed plant foods—hungry teenagers should lift their sagging blood sugar with carrot sticks, according to Pollan, not cheese, eggs, milk or salami.

Likewise regarding saturated fats, Pollan dedicates the book to his mother, "who always knew butter was better for you than margarine" and admonishes readers to avoid foods with the words "lite" or "lowfat" on the labels. But elsewhere Pollan hews to the party line, blaming saturated fats for chronic disease. (There's nary a mention of *trans* fats in the whole book; we shouldn't focus, says Pollan, on "the *evil* nutrient in the Western diet.")

"Don't eat cereals that change the color of your milk," says Pollan, but studiously avoids discussion of breakfast cereals or milk—presumably as long as your breakfast cereal doesn't change the color of your UHT milk, you'll be fine. Pollan's rules are witty and clever, but they do not answer the questions that people are asking and certainly don't make the subject of nutrition any less confusing. Don't waste your money on this book. THUMBS DOWN.

pancreas, and others. In fact, the most destructive damage from a heart attack occurs not from the occlusion that prevents blood flow, but from the explosive reaction of the stored iron in the heart with the oxygen in the blood newly reaching the heart after the blockage has cleared. The Eades recommend monitoring iron levels and donating blood regularly as a simple means to maintain healthy levels.

Why do humans absorb and store iron so well if there is a great potential for excess to be harmful? The Eades propose the theory that our hunter-gatherer ancestors hosted a community of intestinal parasites that took care of excess iron by regularly draining blood from their hosts. These "guests" did not compromise the overall health of hunters because of their diet rich in meat sources of iron, and whose skeletal remains demonstrate robust stature and structure. The Eades contend that agriculturalists, on the other hand, harbored the same parasites, but were no longer protected by their diet from the constant blood drain, and their skeletal remains show telltale signs of iron deficiency. If we can become comfortable with the fact that we are made up of more cells of bacteria in our guts than of "us" then perhaps we will next have to consider the idea that a symbiotic life with parasites might have its benefits as well!

As far as the Protein Plan diet itself, the Eades present three approaches to readers: the purist, which cleaves most closely to the Paleolithic ideal of pastured meat and no grains or dairy; and the dilettante and the hedonist, with respective modest increases in grain and dairy foods for each, along with allowances for some questionable modern concoctions, particularly for the hedonist The plan offers stages of carbohydrate consumption, especially when weight loss is desired, which gradually increase to a modest level in the maintenance stage, which the authors suggest can be followed for life. To help understand the effect of a carbohydrate food on insulin levels, the Eades offer a guide which they call the "effective carbohydrate content." By subtracting the unabsorbable fiber from the total carbohydrate in a food, you are left with the amount of sugars and starches that will have a metabolic effect on blood sugar and insulin levels. Restricting quantities of these foods will help keep blood insulin levels low.

Amounts of protein on the plan are not excessive—this is not a proteinheavy diet, despite the book's title—but are adequate as calibrated for the activity levels of adults, as well as for body size. A typical serving of protein for those of "average" size is about four ounces, for example—less than many people may actually routinely eat on "normal" diets.

When the book was written ten years ago, the Eades were perhaps overly circumspect in highlighting what the reader discovers their diet actually encourages: a healthy intake of good fats to provide necessary nutrients and satiety. They sanction all fats from animals, including butter, lard, and egg yolks as desired and with no restrictions as to amounts. Cod liver oil is a recommended supplement, but they warn against fish oil in capsules which are so often rancid. The Eades include a chapter warning of the dangers of artificial sweeteners and highlighting Russell Blaylock's revelatory book on the same topic, *Excitotoxins: The Taste That Kills*.

Other chapters encourage the reader to get outside and sunbathe (without burning), meditate and exercise the brain, and pleasurably move the body. The even-handed tone of the authors is refreshing to read, and much of the advice in *Protein Power Lifeplan* is useful even if one never bothered to change one's diet. The Eades's well-reasoned argument that a diet low in starchy carbohydrates can confer many more health benefits than mere weight loss may nevertheless convince you that it is in your best interests to do so.

In spite of all these good points, we can only give this book a very qualified thumbs up, because after all the discussion about good meats and fats, and the dangers of modern foods, some very objectionable modern foods show up in the "allowed" foods lists at the end of the book, including soy foods, saccharine and canola oil. We hope that on reprinting, the Eades will have the good sense to remove these unhealthy processed foods.

Review by Katherine Czapp



SPRING 2010

#### CHEF OUTREACH

WAPF publicist Kimberly Hartke meets with Sean O'Connell Executive Chef of Fontainebleau Resorts and Michael Schwartz, Chef owner of Michael's Genuine Food and Drink, in the Miami Design district, to garner support for pasture-raised and nutrient-dense food. For more information, visit her blog at http://hartkeisonline.com/2010/01/04/ christmas-in-miami/.



Wise Traditions



### The Compassionate Carnivore Catherine Friend Published by Da Capo Life Long

This would not be the first book I've read that was written by a shepherd. There are some good points in the book along with a good sense of humor. Most people who read this will already know industrial feedlots are not a good thing. I heard somewhere a long time ago that no one can do a thing unless they are somehow able to justify it to themselves. So how do feedlot operators do what they do? At least some of them actually believe the cows don't mind. Ms. Friend shares the anecdote about a cattleman with a large feedlot who was telling his visitors just that. When one of the visitors suggested he open the gate to the open field and let the cows decide, he was disinclined to acquiesce.

The reader gets a fairly detailed view of what goes on around a sheep farm. We see not just the scenic, fun and pleasant side but also the less glamorous and sometimes painful side also. We get some excellent pointers on solving problems which are sure to come in very useful someday. For example, if you have an upset pig, the way to calm her down—give her a beer. We also learn a little about the joys of AI (farmers know what that is and for the computer people, it does not mean artificial intelligence in this context). We also see how difficult it can be for many farmers when it is time to ship the animals they cared for off to the slaughterhouse.

There are other good points through the book. There is a good chapter on how USDA organic standards have subverted the original intention behind organic food. In some areas it is not even possible to meet official organic standards. One important feature of being compassionate is not wasting this real food. When you buy it, eat it—all of it. Eat it with gratitude. Don't turn it into a science experiment that sits in the back of the refrigerator for years. The author also briefly mentions the question of what, ultimately, is the purpose of these animals? I was disappointed that she didn't go into more detail but I suppose that's just me.

Toward the end there is a chapter on vegan strategy. In a nutshell the point is that the vegan strategy for helping animals is ineffective. I would agree. Their strategy is just to not eat any animal products. OK, if that's what you want to do, that's your choice, but how does that help? I can just see the feedback I'm going to get for saying this but I don't care. Since healthy omnivores are generally better at reproducing that vegans, it is unlikely that vegans will ever be a majority and by simply not eating meat, they are not helping themselves and they are not really helping animals, which will just be eaten by those pesky omnivores.

This is not a totally bad book and almost got a thumbs up but the author strayed into environmental issues and got on my nerves a little. Some may think I'm being a little too harsh and I respect that, but here is how I see it. Part of the subtitle of the book mentions something about reducing your hoofprint. When that statement is out there all by itself, it invites all kinds of misinterpretation. It seems to imply we have too many cows, sheep, etc. In fairness, the author never actually quite says that. I think what she means is that big farms are too big. We certainly cram too many animals too close together in CAFOs but, in the big picture, we don't have too many cows or sheep.

The author does say that the methane produced by ruminants is an environmental hazard and even provides a reference. Well, I know where that pseudo-science comes from (the same end of the bovine that produces the methane) and I'm not impressed. This is where I must strongly disagree. I think Matt Rales did an excellent job in the Spring 2008 *Wise Traditions* of explaining that methane is a non-issue. Joel Salatin has also made the good point many times that decaying,

### Milk Diet as a Remedy for Chronic Disease by Charles Sanford Porter, MD God's Whey, LLC

Simple. Concise. A true self-help manual. First published in 1905, the book was written with the purpose of helping individuals treat themselves with raw milk, *Milk Diet as a Remedy for Chronic Disease* by Charles Sanford Porter M.D. chronicles the effects of a raw milk diet as he used it in the early 1900s. Unlike many health protocols that require working with a practitioner to monitor lab tests and supplements, this book puts the power of healing in the hands of the reader. Drawing on twenty-seven years of experience in using the raw milk diet as a cure for chronic diseases, Porter details how to use a raw milk diet and what to expect during the treatment.

Dr. Porter based his version of the raw milk diet on a few basic premises. First, raw milk is white blood and therefore a good source of materials with which your body can easily make new blood. The second premise is that the best method of treating chronic disease is by addressing the quality and quantity of circulation of blood through the body. Porter suggests that, "On the condition of the blood depends the outcome of the struggle, whether life or death, a short or long illness. The circulation of the blood is nature's agent in eliminating disease" (page 55). Supporting evidence of Porter's blood theory is found in the live blood cell analysis of people eating a WAPF diet as published in the winter 2009 *Wise Traditions j*ournal. This article shows a clear connection between the quality of blood and the health of the individual.

Why read the book if the cure seems so simple? Porter addresses reactions to the treatment, such as how constipation can occur and how to remedy it. He addresses the need for rest, warm baths and fresh air. He explains how the muscles will grow larger and heavier as they distend with the large quantity of new blood circulating through them and also how the new blood nourishes, rebuilds and heals the internal organs.

Within 48-78 hours of beginning the milk cure, a person's pulse will increase twelve beats to the minute. (page 51). Understanding how the body is reacting to the milk cure gives a person courage to continue on the diet until health is reestablished.

In a day and age of increasing chronic disease Porter's protocol can have lasting effects on many people. Most intriguing is the fact that this cure can be undertaken without lab tests or supplements and as Porter declares, it "is a simple thing, and within any person's reach" (page 135). Indeed it is and Porter's book helps make it so.

Review by Shannon Nash

tinent.

rotting grass will produce methane whether it is inside the cow or not. You might as well get a good steak out of it. Dr. Tom Cowan made the point in his article in the Winter 2009 *Wise Traditions* that massive herds of buffalo stomped around the great plains for thousands of years. There was no global warming. In fact, the result was some of the thickest, most fertile soil in the world. CAFOs are an environmental hazard. Our abuse of animals is an environmental hazard.

The merest suggestion that ruminants are an environmental hazard threatens my access to real food and therefore, my survival. I can't just let that go as a minor point. The book overall didn't exactly rock my world, and with this key flaw, the thumb is down. Review by Tim Boyd



Our wealth is imaginary. It comes from soil Janine Benyus, Founder, Biomimicry Institute

QUOTABLES

Africa is not poor. Ethiopia alone, if properly

cultivated, could feed the entire African con-

Pierre Rabhi



Calorie restriction has been tried from every angle for many decades now. It can give you short term results but unless you have the willpower to starve yourself for the rest of your life, those lost pounds will be back with their friends. 64

### S.P.E.E.D. The Only Weight Loss Book Worth Reading! by Jeff Thiboutot MS, CN and Matt Schoeneberger MS, CES Reason Productions, LLC

S.P.E.E.D. stands for sleep, psychology, exercise, environment and diet. It is always dangerous to make acronyms like this because I will be tempted to provide my own words for the letters. I'll try to resist this time. In chapter one we are told that studies show weight is strongly affected by genetics but that the recent, rapid gain many Americans have been experiencing is probably not genetic. I would agree that such a large increase in less than 50 years can't be genetic.

Toward the end of the book is a discussion on critical thinking which brings up some good points. One example is *ad hominem*. Telling someone they are ugly and their mama dresses them funny may be emotionally satisfying but not a relevant argument. I would also say that age of a study (an argument we hear a lot) is irrelevant and betrays a certain naïveté about how much modern science has been corrupted by corporate agendas.

The authors eventually get around to talking about calorie restriction and tell us 20-40 percent restriction is necessary for weight loss. This is followed by a long list of benefits to calorie restriction. Lower insulin tops the list. There is no explanation of the fact that calories from carbohydrates tend to spike insulin levels while calories from fat tend not to. So, is calorie restriction a radically new idea? I don't think so.

Calorie restriction has been tried from every angle for many decades now. It can give you short term results but unless you have the willpower to starve yourself for the rest of your life, those lost pounds will be back with their friends. Calorie restriction has been literally tried to death. Is the population thinner as a result? I don't think so. Next is a discussion of low carb diets which are put in a positive light. There is some discussion about what is the right amount of protein but no mention of fat. Do they mention that a low carb diet must be a high fat diet or it is doomed to failure? I don't think so.

The advice starts to get really dizzy after this point. The authors mention the importance of sleep prominently on the front cover and elsewhere in the book. They also say caffeine is a good way to lose weight. Do they also mention it is a good way to lose adrenal function? And sleep? I don't think so.

They go on to say stevia is the best sweetener and their second choice is a good, old-fashioned, traditiona. . . artificial sweetener? We are going from dizzy to scary now. We are also led to believe canola oil is a good oil. Oh, and try the Zero Impact bars too. I never heard of them so I looked them up. The listed ingredients include yummies like maltitol, glycerin, low DE corn syrup, brown rice syrup and xanthan gum. Elsewhere on the same page they say the bar has no maltitol. And the dizziness returns. Are these things components of traditional diets? I don't think so.

The appendix provides a list of other protein bars, which I looked over. Jay bars have agave syrup, hydrolyzed whey protein, xylitol and natural flavors. Elev8me bars have whey protein isolate, low fat and high fiber. Fuco bars have soy and so on. I won't make up any new words for the SPEED acronym but were they Sleeping when they did their research? What kind of Psychology was in play during this writing Exercise? In what Environment would a Diet full of these bars be a good idea? Most importantly, should I give this book a thumbs up? I don't think so.

Review by Tim Boyd

### Tim's DVD Reviews

### **Processed People**

Mostly Magic, Inc.

Some of our chapter leaders have seen a trailer for this movie that could lead one to believe it is a good one, but since our chapter leaders are pretty sharp, they saw a few warning flags and thought we'd better review this more carefully to make sure.

It would be easy to make a trailer full of excerpts that would make this film look quite good. It points out the flaws in the health care system, including the misleading name "health care" when "sick care" is what is really going on. A lot of time is also spent focusing on the wellpublicized, uncontroversial villains responsible for poor health in America. Besides junk food, poor lifestyle makes the list. We hear that Americans are "stuffing themselves like ducks on a foie gras farm." Well, maybe some of them are and I think the main reason for that is because what they are stuffing themselves with doesn't have much in the way of real nutrition—and this film says that. All this is fine as far as it goes.

Then I start seeing familiar names and faces like Fuhrman, McDougall, Esselstyn Jr. and other harbingers of things to come. Sure enough, I'm treated to a full-scale, unveiled attack on meat and dairy. The issue is almost always fogged up due to confusion between industrial meat/dairy and local, organic meat/dairy. Claims abound that humans thrive on plant-based diets, that we don't need to eat animals to be healthy, that whole milk products promote obesity, that a starch-based diet is the key to good health, that it's good to have a cholesterol level of less than 150 and that meat-eating causes global warming. That's why it's snowing in Dallas.

Once again I hear the popular myth that hunter-gatherers ran themselves ragged everyday chasing after their food. The first thing that comes to mind when I hear that is, no, they didn't. Next, I find it interesting that, even among vegetarians, the hunter-gatherers so often come up as an example of healthy people. True, they were healthy but were they supposedly expending all this energy hunting and chasing plant foods?

If you buy into the idea that this planet is overcrowded, then this would be a good DVD to show to everybody for good population reduction options. I'll be blunt. This movie isn't just bad, it is awful. I can't tell you what I really think because it wouldn't get past the editors. Every thumb I have is DOWN on this one.

### Chore Time

### Tim Wightman

Farm-to-Consumer Legal Defense Fund

Some of you may know about the Raw Milk Production Handbook by Tim Wightman produced for the Farm-to-Consumer Legal Defense Fund. You may have heard (correctly) that it is very good but you're waiting for the movie. Wait no more. There is now a two-DVD set featuring Tim Wightman himself.

You get a first-class tour of everything from milk house design and setup through equipment, milking, processing cream, to final cleanup. The only thing you don't get to see is the actual building of the milk house. I'm guessing that would make the video too long. There is a lot of good advice on things like planning ahead for upgrades you may want in the future and minimizing flat surfaces that collect dirt. This is probably not the video for a regular chapter meeting but would be excellent for anyone entertaining the idea of getting into milk production. This video will give you a good idea what it's like and many good pointers that will make life easier. You even get a lesson on how to break in a cow that is new to the milking scene so you don't end up getting kicked into the next zip code.

And there is a brief message from his cat at the end which I enjoyed very much. THUMBS UP. You get a first-class tour of everything from milk house design and setup through equipment, milking, processing cream, to final cleanup.

### Tim's DVD Reviews

### Leap of Faith: Fast Lane to Farmstead

Executive Producers: Alexandra Austin and Michael J. Walsh

Mind-Made Media

Corporate refugees from San Francisco abandon their cubicles for a farm near Healdsburg, California in this short documentary. Pugs Leap Farm has thirty-four goats on about three and one half acres. The main product of the farm is goat cheese. They have wisely chosen to stay small and local rather than working toward industrial organic compromise.

There are many things to think about in the farming business. Even something as seemingly mundane as packaging can require carefully thought-out decisions. Choosing bioplastic packaging seems like a no-brainer but at least some kinds use GMO corn. This is just one more piece of evidence that, if you ever see a book called "Farming for Dummies," don't buy it because it doesn't take a book to simply say it can't be done right by dummies.

My personal experience with goats is that they are geniuses at getting into trouble. While they don't specifically say that in this video, they do illustrate the fact that goats can be funny creatures. For example, their goats don't like rain and they hold you personally responsible for any weather they don't approve of. Kind of like some people I know.

Also, by some strange coincidence, goats named after rock stars misbehave much more than average. These are just some of the things you have to keep in mind if you take up goat farming. THUMBS UP.

School lunches wouldn't pass fast food McStandards. Super Natural Mom

### Interview with Dr. David Kessler Beth Greer Progressive Radio Network

Dr. David Kessler was once the head of the FDA and has recently written a book about how the food industry is manipulating people into

overeating. A number of valid points are made throughout. There is convincing evidence that fructose is fattening. School lunches wouldn't pass fast food McStandards. Food from China contains harmful preservatives (and American food doesn't?) and is sometimes deceptively labeled as being from somewhere else.

When discussing how the food industry lures people into overeating, the focus is almost completely on sugar or an optimum combination of sugar, salt and fat. Beth Greer recently noticed the ingredients on a bag of airline peanuts included salt and four or five different kinds of sugar. Dr. Kessler made the amusing and slightly disturbing observation that they use several different kinds of sugar because if they lumped it all together, sugar might be the first ingredient on the list.

There is nothing terribly wrong with any of the points in this audio recording, but the careless or uncritical listener might jump to the conclusion that fat and salt are always bad and should always be avoided. The discussion also seemed incomplete. There was no mention of MSG or aspartame and how addictive they are or how they enhance appetite. So while this interview is not all that bad, it is not quite good enough for me to give an enthusiastic thumbs up.

### Full Signal

Written and directed by Talal Jabari

There are billions of people in the world who have a lot of talking to do. Around 3.5 billion people subscribe to cell phones as of 2009. Consequently the land is being blanketed by cell towers because cell phones don't work very well without them. Even without considering other sources of signals, like satellites and other wireless devices, that adds up to a lot of radiation. This movie takes a look at the health implications of massively increasing our radiation exposure.

Thirteen studies have found a correlation between cell signals and DNA breaks. That may

### Tim's DVD Reviews

not sound too serious but if it turns out to lead to cancer or something more exotic like, I don't know, growing a second head, that could be serious. At this point there are no studies that prove any of these dire consequences, but cell phones have only been around in significant numbers for about ten years. Studies didn't show that ten years of smoking had a significant effect on health either but as time goes on, the picture gets clearer. Safety standards that do exist have been set by engineers and physicists, not health professionals. Given the track record of our health system, the cynical side of me can't help wondering whether that really matters.

This movie will probably be a little slow-paced for the ADHD types. Cell phone lovers will want to stick their fingers in their ears and loudly sing "Here's a Quarter, Call Someone Who Cares" off-key. Those of us who grew up eating fast food, breathing in lead paint and trusting our government to look out for our safety might want to know that in 1996, Congress passed a law against objections to cell towers for health reasons. While health consequences may not be proven yet, we are unquestionably involved in yet another very large and dangerous experiment. A glow-inthe-dark THUMBS UP for this one.

### Dirt, The Movie

Bill Benenson and Gene Rosow

### Common Ground Media

Dirt starts off with a bang, literally. A large cosmic bang is not what I would expect in a movie about dirt, but I kind of like it. Eventually they get around to talking about dirt and soil. I personally make the distinction that soil is full of life and dirt is what's left when you kill all of that life. One way to kill the soil is to subject it to monoculture for long periods of time. Even when done organically (USDA organic standards, that is) as it was in the Great Plains for several decades, the end result was a dust bowl. The main theme of the movie is the critical importance of healthy, living soil.

It would be interesting to see at least a summary of all the civilizations that have destroyed their soil and then died out, but they make no mention of that in the movie. They do mention cows a couple of times but cows don't get the attention I think they deserve for their key role in building healthy soil. They also repeatedly annoy me with many references to climate change as if that is something new that hasn't been going on for hundreds of thousands of years. These irritations made my thumb feel very heavy but the pyrotechnics were just good enough to give me the strength to barely hold my THUMB UP for this one.

### Cancer, Nutrition, and Healing: A Personal Odyssey by Jerry Brunetti Acres, USA

Jerry Brunetti was diagnosed with non-Hodgkins lymphoma approximately ten years ago. He consulted several doctors and oncologists and carefully studied his options and had lots of tests done so he knew exactly what he was dealing with. The oncologists told him that without chemotherapy he had six months to two years to live. After careful consideration he decided to try something that had a better chance of working. About five years later he made this video, in which he still looked very much alive even though he didn't follow all the expert advice he was given. That was about five years ago. I saw him in person a couple of months ago at our last conference and he still looked very much alive. So how did he do it?

He took a very broad spectrum approach that included detoxification, nutrition, herbs, low-dose naltrexone and life-style improvements. One of the things the tests revealed was high levels of mercury, so carefully removing amalgams containing mercury was a priority. He also took steps to deal with other heavy metals.

Another component of his protocol was hyper-immune milk. Without going into too much detail, he infused his blood into a healthy cow which then developed immune factors in her milk to deal with any pathogens in his blood. He then drank her milk.

While I wouldn't necessarily go along with every detail of his protocol, it is very good overall and I won't argue with success. It is a pleasant relief to see a cancer video that recognizes the importance of good fats and animal foods, in contrast to the pile of videos that tell us to eat like rabbits. THUMBS UP.

### Growing Wise Kids

MODERNIZING YOUR DIET WITH TRADITIONAL FOODS A New Twist on Our Ideas About Health, Food and Nutrition By Jen Allbritton, CN

By taking the right steps, the process of transitioning yourself and your family to a more nourishing way of life can be easier than you imagine. Note to Wise Traditions readers: The intention of this article is to provide a resource for those who are more experienced with traditional foods to share with friends, colleagues and family members who may be dabbling with thoughts of a traditional foods lifestyle but have trouble seeing the big picture and a practical starting point.

When you think of traditional foods, what pictures come to mind? Little children running around a homestead pulling eggs from under chickens as in *Little House on the Prairie*? Grandma skillfully rolling out pie crusts made with lard? Or perhaps the booths at the local farmers' market bursting with the colors of the spring harvest?

Simply put, traditional foods are those in their most natural state, unadulterated and unrefined. It is these real, whole, nourishing foods enjoyed for generation upon generation that provide the cells of our bodies with the necessary fats, proteins, vitamins, minerals and phytonutrients needed for vibrant health. This state of well-being is characterized by a quiet and strong digestive system, superior brain function, blissful sleep, sturdy bones, calm mind and an immune function that prevents infection.

Yet, even the idea of making these traditional foods a reality day in and day out in your family life can seem overwhelming, especially to those dependent on the ease of processed foods or limited by tight schedules.

But by taking the right steps, the process of transitioning yourself and your family to a more nourishing way of life can be easier than you imagine. This piece is a starting point—a priority list, if you will—of actions that will ease your family into nutritional shape, at your own individual pace.

### TEN DIETARY RULES

Here are ten dietary habits practiced among healthy non-industrialized peoples. The cultures consumed different specific foods, but the patterns among these different peoples were easy to identify. All traditional cultures . . .

All traditional cultures . . .

- 1. Consume some sort of animal protein, including organ meats and fat, every day.
- Consume foods that contain very high levels of minerals and fat-soluble vitamins (vitamin A, vitamin D and vitamin K<sub>2</sub> found in seafood, organ meats and animal fats).
- 3. Consume some foods with a high enzyme and probiotic content.
- 4. Consume seeds, grains, and nuts that are soaked, sprouted, fermented, or naturally leavened in order to neutralize a portion of the naturally occurring anti-nutrients in these foods.
- 5. Consume plenty of natural fats but no industrial liquid or hardened (partially hydrogenated) oils.
- 7. Consume natural, unrefined salt.
- 8. Consume animal bones, usually in the form of gelatin-rich bone broths.
- 9. Provide extra nutrition for parents-to-be, pregnant women, breastfeeding women and growing children, to ensure the health of the next generation.
- 10. Do not consume refined or processed foods, including white flour, refined sweeteners, pasteurized and lowfat milk products, protein powders, industrial fats and oils and chemical additives.

### WESTON A. PRICE PRIMER: OUR FOOD BLUEPRINT

With food fads and gimmicks blurring our food-intuition, the meaning of "good nutrition" is often muddled. Fortunately, it can be quite simple: just think back to a time before factories and industrial chemicals had a place in food production; before industrial processing. As societies have moved away from their traditional food fare and practices passed down from generation to generation, our health and happiness have suffered greatly.

A number of factors influence one's vitality: sleep quality, rest, companionship, physical activity, chemical exposure, and more. Yet food remains the key player for nourishing the body's every cell. The body's genes are constantly communicating with the nutrients we take in through food; in fact, seventy-five percent of our health is dependent on what we have done to our genes throughout life, instead of what our family genes do to us.<sup>1</sup> In other words, food either feeds or poisons a cell. And this is a powerful concept when one considers that cells make tissues, tissues make organs, and organs make us—our brains, our bones, our reproductive organs, our joints.

Here is the most wonderful news: you have a choice! Yes, health is a choice: a decision to make good food a priority; to slow down and breathe; to consider meal preparation a joy; and to make every single bite you serve yourself and family a powerful influence on your lives. Let's look at where it all started so you can get a clear picture of how to make true vitality a reality.

To understand the meaning of true nutrition, this story begins with a visionary dentist by the name of Weston A. Price. "What does dentistry have to do with nourishing my family?" you ask. More than you might think!

Back in the 1930s, Dr. Price noticed a troubling pattern developing among his patients: those with the worst teeth typically had the worst health problems elsewhere in the body. To satisfy his curiosity as to the cause of this unhealthy trend, Price traveled the globe for ten years to study the effects of modern foods on dental health and physical development. His research is detailed in his book, Nutrition and Physical Degeneration, first published in 1939. Dr. Price's findings were remarkable indeed. The correlation between diet and physical health and development was incontestable. Among the many indigenous cultures he visited, the differences between those who had remained with their ancestral diet from birth and those who had succumbed to the temptations of the western cultures-namely sugar, white flour, and soft drinks-were undeniable!

Price found that the native groups eating their traditional wholesome diet had less than one percent of their permanent teeth decayed. You may be thinking, "They must have brushed their teeth day and night!" In fact, these cultures never As societies have moved away from their traditional food fare and practices passed down from generation to generation, our health and happiness have suffered greatly.

#### THREE-MINUTE, THREE-STEP SALAD DRESSING

Homemade dressing is one of the simplest ways to make a significant improvement in diet and infuse your family with more high quality, nourishing oils, while reducing the damaged oils found in most store-bought varieties. Below is a slight variation on Sally Fallon Morell's Basic Dressing recipe from *Nourishing Traditions*. This simple recipe provides a wonderful base from which to experiment.

STEP 1. Dip a fork into a jar of mustard (either Dijon, yellow, or your favorite variety) and scoop out about one teaspoon worth. Place the fork in a small bowl.

STEP 2. Add 2 1/2 tablespoons of vinegar-wine, balsamic, or apple cider-to the mustard and mix well.

STEP 3. In a thin stream, add 1/2 cup olive oil, all the while whisking the ingredients with the fork to form an emulsion between the oil and mustard mixture.

Once you have gained confidence with this basic formula, have fun and add different herbs and spices (fresh or dried), grated fresh ginger, a touch of lemon or lime juice, or raw cultured cream. Replacing a portion or all of the olive oil is another way to add variety; walnut and avocado oils are lovely and sesame gives a delicious Asian flare.

used a toothbrush. The good doctor concluded that the state of one's teeth was an excellent reflection of the state of one's overall physical and mental health. Moreover, those consuming nutrient-dense foods produced offspring with beautifully round faces, and jaws wide enough to accommodate all their teeth with proper spacing, few or no cavities, and broad heads to allow for proper brain development. No one needed braces in societies consuming traditional foods!

Women of childbearing age had hips wide enough to give birth to a baby with relative ease.

In contrast to these robustly healthy people, those who had switched to a more "civilized" diet of processed foods, sodas, and other westernized products soon began to manifest modern diseases and produce offspring with narrow jaws and crowded teeth, and more narrow faces. Diseases virtually unknown prior to exposure to processed foods, including cavities, set in at early ages, and mental unrest was common.<sup>2,3</sup>

Current research confirms Dr. Price's extraordinary findings regarding the relationship between nutrition, health and physical development. As you can guess, the foods these cultures consumed were real, whole, natural and fresh, untouched by industrial processing or other technology. For us today, this means to eat like our grandparents, or perhaps great grandparents, ate. Lucky for us, their diet wasn't bland and fat-free. They enjoyed rich and delicious butter, cheese, cream, eggs, and meats; whole grains, legumes and nuts; along with seasonal vegetables and fruits.

Also on the menu were some foods less commonly eaten today, such as liver and other internal organs, fish roe, and bone marrow, which are indeed super foods with a nutrient profile unparalleled by most others.

The methods our forebears used to preserve and prepare these foods enhanced the nutritional package—methods such as fermenting, as in sauerkraut; culturing, as in kefir or yogurt; and soaking grains, nuts, and legumes to jump-start their digestibility. (If at this point you are feeling overwhelmed, relax—these things will be added into your life gradually, as your energy and desire grow.)

### WHAT DOES THIS MEAN FOR YOUR FAMILY TABLE?

When it comes to assessing your own kitchen prowess, you may marvel at the depth of a friend's talents to prepare gourmet meals or envy another's commitment to serving everything homemade—but you just aren't ready to make the leap. Everyone has her own timing. The more you dig, the more questions you ask, the further you will go into your traditional food journey. The further you go, the less daunting these seemingly overwhelming traditional food practices will become. So where do you begin? What if your current lifestyle doesn't allow for food extremes? Let's examine four action steps that will get you started nourishing yourself and the ones you love to the best of your abilities, right now. Do what you can, make the improvements that are possible with your current circumstances. Remove any guilt for not being able to incorporate everything; growth in any area is a process. We will begin with the easiest first (and ironically the most important) and progress to the more energy-intensive steps.

### 1. COD LIVER OIL

That's right, add cod liver oil to the family's daily routine. Cod liver oil is the elixir that has stood the test of time. In Johanna Spyri's beloved novel *Heidi*, first published in 1880, Clara, Heidi's sickly companion, regains her health on cod liver oil, raw goat's milk and fresh mountain air! Oh, if

### COD LIVER OIL FOR KIDS

Here are guidelines for cod liver oil dosages for children. For more on cod liver oil and recommended brands, visit http://www.westonaprice.org/Cod-Liver-Oil-Basics-and-Recommendations.html. The best way to give cod liver oil is with an eye dropper (for infants) or mixed with a small amount of water or fresh juice.

- Children age 3 months to 12 years: A dose of cod liver oil that provides about 5000 IU vitamin A and about 500 IU vitamin D daily, obtained from about 1 teaspoon of regular cod liver oil or 1/2 teaspoon of high-vitamin cod liver oil.
- Children over 12 years and adults: A maintenance dose of cod liver oil that provides about 10,000 IU vitamin A and about 1000 IU vitamin D daily, obtained from 2 teaspoons of regular cod liver oil or 1 teaspoon of high-vitamin cod liver oil.
- Pregnant and nursing women: A dose of cod liver oil that provides about 20,000 IU vitamin A and about 2000 IU vitamin D daily, obtained from 4 teaspoons regular cod liver oil or 2 teaspoons high-vitamin cod liver oil.<sup>9</sup>

To defray the cost of your monthly bottle of cod liver oil (good things don't come cheap), find little ways to save during the week. How about cutting back on dining out for lunch? Or drinking sparkling water instead of expensive lattés or sodas?

only we could all live on a mountainside and frolic in the sun and grass all day, right? Not surprisingly, Dr. Price regularly gave cod liver oil as part of a regimen to heal his patients. You may even remember stories about your parents being chased around the house with a distasteful spoonful of cod liver oil that was mandatory medicine. Cod liver oil is still critical for healing from chronic or acute illnesses, and health maintenance. And fortunately for us, today's cod liver oil is more palatable, and flavored varieties can make it go down much easier (refer to www.westonaprice. org for brand recommendations).

Recall the ten traditional food principles: vitamins A and D were the very nutrients that Price found to be ten times more abundant in our ancestors' diets than in ours today. Not only does vitamin A help preserve the freshness of the cod liver oil itself, but it also is critical for vision, healthy skin, maintaining cell membranes (particularly the surfaces of the respiratory and intestinal tracts), and strong immunity.<sup>4</sup> Vitamin A is also intimately involved in the development of a healthy fetus.

Vitamin D from cod liver oil has a strong connection with cancer prevention, not to mention bone health, mineral absorption, immunity, insulin production, proper growth, healthy skin, brain function and even feel-good chemicals.<sup>5</sup>It is estimated that moderate time in the sun, which stimulates vitamin D production in our skin, would prevent 30,000 annual cancer deaths in the United States.<sup>6</sup>However, studies show that our vitamin D levels today are desperately low.<sup>7,8</sup>

We can only make vitamin D from sunlight during the summer months; the rest of the time we need to get vitamin D from food. string of ear infections? Or every cold that comes along? How about digestive upset, focus and attention issues, asthma, or allergies? Gut bugs, or our intestinal ecosystem, are a major part of the puzzle. Our digestive system houses trillions of microorganisms. While some of the estimated 500 species are harmful, most are essential to our health and often referred to as probiotics, which means "for life." An overabundance of the bad guys, also called dysbiosis, results in gut inflammation and leaky gut syndrome. And a leaky gut leads to unwanted food particles entering the bloodstream that often become allergens, causing even more trouble with inflammation and immune system reactions. Essentially, your bacterial ecosystem is your first line of defense against illness and disease.<sup>10, 11, 12</sup> So if you want fewer trips to the doctor's office, more vibrant health, and better assimilation of every food that passes your lips, revive your family's gut flora.

The reason most of us are in such dire need of replacing these valuable bugs is that many common lifestyle choices lead to their demise. The most obvious gut flora nemesis is antibiotics (literal translation means "against life"), either overdosing through prescriptions or the residual remaining in the meats and dairy products from commercial farming practices. Chemicals found

### 2. GOOD BUGS

Get some "good bugs" every day. Is your family hit with a continuous

### INITIAL INVESTMENT, LONG-TERM GAINS

It's a sad truth that the more processing a food endures, the less strain it places on your pocketbook—at least initially. It seems backwards that a feedlot meat burger loaded with fillers from the corner drive-thru costs less than a buck, but a pound of properly raised, grass-fed beef can go for more than five dollars. Government subsidies and simple supply and demand are at the crux of this cost conundrum. For a better understanding of the cycle, watch *Food, Inc.*, a documentary that sheds a much-needed light on our nation's food industry, exposing how our food supply is now controlled by a select few corporations that put profit ahead of consumer health.

It is the hardworking, tenacious farmers who pour their hearts into growing chemical-free produce and raising pastured meats who deserve the portion of our budget slotted for food. Small, local, family farmers are few and far between but are slowly making a comeback, not only for the sheer joy of being involved in the cycle of growing and raising food, but also because such food is necessary for our survival. It is these folks who are paving the way for a brighter, cleaner, more nutrient-dense future.

Bottom line: sure, the initial investment in these high-quality foods may be more than stopping off at the local fast food joint, but the long term benefits are unquestionably worth every penny. Fewer illnesses, happier demeanors, reduced medical bills, no medications, better productivity at work. Do you want to fill the cells of your body with white flour, *trans* fats, and artificial colors? If the answer is no, then put your money toward your most prized treasure—your family—by nourishing their bodies through traditional foods.

Ways to cut costs while eating traditional foods: Buy in bulk, on your own or in co-ops. Once you find you can't do without that perfect pastured roast or your favorite coconut oil, buy big and save. Invest in a second freezer and buy a half or whole butchered cow, buffalo, hog or lamb. Make more things from scratch. As time goes on, traditional food preparation becomes less intimidating—fermenting homemade sauerkraut, culturing milk with kefir grains at home, or even baking your own loaves of sourdough bread. All these little extras will save money in the long run.

Cultured foods are easy to consume and small amounts will make a dramatic impact on your health. in our food and water supply, along with contraceptive pills and most other prescription drugs used today have a detrimental effect on gut flora. Finally, a diet laden with sugar and processed breads is perfect for tipping the scale toward the unfavorable species of intestinal critters.<sup>13</sup>

So how can we get more of these "for life" bugs? The easiest way to get started may be to supplement with a live culture probiotic (ask for assistance at your local health food store). However, even better than popping a pill is regularly consuming cultured foods that are teeming with a wide array of species, such as yogurt, kefir, and fresh (unpasteurized) sauerkraut. Culturing foods (which is accomplished through the process of fermentation) is one of the oldest and most economical methods of preserving foods and was widely used before the time of fridges and freezers. Fermentation is simply the predigesting of a food, which is more accurately called lacto-fermentation because the process involves lactobacilli (lactic-acid-producing bacteria). The lactobacilli convert the natural sugars and starches in fruits, vegetables, and dairy products into lactic acid. The lactic acid then goes on to preserve the food, enhance its digestibility, and encourage growth of good bacteria throughout the digestive tract while discouraging the bad.<sup>14</sup> Finally, when consumed with other foods, the enzymes found in cultured foods improve digestion of the entire meal.

Cultured foods are easy to consume and small amounts will make a dramatic impact on your health. Cultured veggies, such as kimchee

### SLOW COOKER PORRIDGE

2 cups Irish or Scottish oatmeal 2 tablespoons yogurt or lemon juice 2 cups coconut milk (freshly made or canned)

4 to 8 tablespoons butter, preferably organic, cut into cubes

dried apples, cut into little bits with kitchen scissors

1 cinnamon stick, broken in half or thirds

The hardest part about this recipe is remembering when to get it started, because it only takes about five minutes to prepare. To make the oatmeal more digestible, it is ideal to soak it for about twelve to twenty-four hours before you start cooking. So the morning before you want to eat this hardy breakfast, soak the two cups of oatmeal in a bowl of warm water with two tablespoons of yogurt or lemon juice. Before you head off to bed, drain the oatmeal and give it a good rinse. Place the soaked oatmeal, coconut milk, butter, apples and cinnamon, along with 4 cups filtered water, in a greased slow cooker, turn on low and cook overnight (approximately eight hours). Try making different varieties. For example, omit apples and cinnamon stick, but once the oatmeal is done, add vanilla and fresh fruit or your favorite nut butter and a dribble of maple syrup. Also vary the grains used; try short-grain brown rice, amaranth, and quinoa.

72

or sauerkraut, make a zesty garnish with almost any meal, kefir (a yogurt-like drink) makes fantastic bases for smoothies, and kombucha is a tangy, thirst-quenching beverage. Making cultured foods in your own kitchen is easy; however, raw, unpasteurized varieties of many of these foods are now available at your local health food stores or online. When you are ready to learn more about making your own, read *Nourishing Traditions* by Sally Fallon (www. newtrendspublishing.com), *The Body Ecology Diet* by Donna Gates (www.bodyecology.com) and *Wild Fermentation* by Sandor Ellix Katz (www.wildfermentation.com). Many recipes and directions abound on blogs and websites as well.

### 3. GO FOR NUTRIENT DENSITY

Replace common ingredients with more nutrient-dense options: Although swapping out the type of meat or produce you buy may be simple, procuring these higher quality foods will likely constitute the biggest effort. To most palates, higher quality foods simply taste bettercleaner, sweeter, and richer. Therefore, replacing feedlot ground beef from the supermarket with pastured ground beef from the local rancher will usually either go unnoticed or be a welcome change. And tossing out the alternative "spread" and using real, organic butter in its place will mostly definitely be appreciated. Most important, simply opting for higher quality choices of the foods your family already enjoys will make a big dent in their nutrient intake. Peruse through the details outlined in the section titled Nutrient
#### NUTRIENT-DENSE EATING

#### UNREFINED SALT VS. REFINED IODIZED SALT

Unrefined salt is an excellent, traditional source of nearly 80 trace minerals. In fact, this natural bacteria-inhibiting preservative can be considered a mineral "supplement" that is essential to life. On the other hand, pristine white refined varieties are heated to excessive temperatures (some up to 1200 degrees F), stripped of all nutrients, and combined with a myriad of undesirable substances, such as aluminum, sugar and anti-caking agents. Replace these over-refined varieties with mineral-rich, properly harvested salts, such as Celtic, Himalayan, RealSalt and Lima. They offer an abundance of healing qualities and their high moisture and trace mineral content are evident by their subtle grey to pink mineral hues.<sup>15</sup> Most health food stores stock one or more of these selections.

#### ORGANIC PRODUCE VS. CHEMICAL DEPENDENT:

Buying organic is in vogue these days, and for good reason. With more nutrients and fewer chemicals, why not buy organic whenever possible? A study published in 2001 *The Journal of Alternative and Complementary Medicine* found after 1,240 comparisons of 35 vitamins and minerals in organic and conventional produce that the organic versions contained higher amounts of most vitamins and minerals—27 percent more vitamin C, 29 percent more magnesium, 86 percent more chromium and 375 percent more selenium. The chemical-free foods were also lower in cancer-causing nitrates and toxic heavy metals.<sup>16</sup>

Another powerful study published in 2003 *Environmental Health Perspectives* evaluated the levels of pesticide metabolites in the urine of two groups of children and found that children eating organic fruits and vegetables, consuming organic milk and drinking organic juices had levels of pesticide metabolites six to nine times lower than children eating conventionally grown food.<sup>17</sup> Bear in mind, pesticides are up to ten times more toxic to children than adults, due to their smaller body size and developing organ systems, so it is especially important to minimize their exposure whenever possible during the growing years.<sup>18</sup>

Purchasing organic doesn't have to be all or none; pick and choose, evaluate your budget, the price of items, and re-organize your meals to include more seasonable organic choices, which will be more reasonably priced. (See the side bar "Lower Your Pesticide Load," page 76, to use your organic dollars more wisely.)

RAW DAIRY PRODUCTS VS. CONVENTIONAL PROCESSED DAIRY PRODUCTS: Raw, unpasteurized, unhomogenized whole milk from pasture-fed cows is what has been and continues to be consumed in healthy traditional cultures throughout the world. The safety of this milk became a problem only when farmers began to grow too big too fast, with cows fed rations unnatural to their physiology and kept in overcrowded and dirty conditions. The result is that today we have created a dangerous pattern of milk production with these modern methods, which require pasteurization for ostensible protection from pathogens.

Raw milk has the perfect balance of the fat-soluble vitamins A, D, K, and E, minerals, and good "bugs," including Lactobacillus varieties. Also, the fat in dairy products is not only nourishing but is imperative for the absorption of the residing minerals, including calcium. This means those who drink skim milk for bone health are in fact doing very little to improve their calcium intake. Furthermore, the taste of raw milk is sensational; it is fresh, flavorful, and smooth. Sometimes people accustomed to reduced-fat milk milk will find full-fat raw milk too rich—simply water it down, although, more often than not, after your first sip of this heavenly nourishing food, you won't want to go back to commercial store-bought in any form—even a pasteurized organic variety.

The high temperatures of pasteurization denature the milk's proteins and destroy the inherent enzymes that aid in its digestion. Often synthetic nutrients are added to replace what was removed. Pasteurization is completely unnecessary when a dairy farmer raises his animals with integrity and respect for careful practices. Small raw milk dairies are popping up all over the country and those who consume raw milk are thriving! Even those with lactose intolerance can frequently consume raw milk because it is a live, enzyme-filled food. Go to www.realmilk.com to learn more about the safety of raw milk and the availability of raw milk in your state.

#### GRASS-FED BEEF AND BUFFALO VS. FEEDLOT RAISED:

Meats can offer nutrition only as good as the feed the animals consume. The meat of cows roaming on pasture, munching away on their natural diet of fresh grass have approximately four times the amounts vitamins A and E as their commercial grain-fed, feedlot cousins.<sup>19,20</sup> By design, cows are meant to eat fibrous grasses, plants, and shrubs, which give their meat a nutrient profile similar to healthful wild game, like antelope, deer, and elk. A leisurely life on pasture also keeps cows disease-free from such bacterial contamination as *E. coli* and Campylobacter, unlike their feedlot cousins who have a much higher risk of contamination.<sup>22</sup>

Sad feedlot cows are raised on genetically modified grain and soy because it speeds growth and bulk quickly.<sup>23</sup> To help further cut feed costs, producers include other "add-ins," such as municipal garbage, stale pastry, chicken manure and feathers, as well as candy.<sup>24</sup> This backward diet causes the animals to suffer various disorders such as bloat, liver abscesses<sup>25</sup> and acidosis.<sup>26</sup> Jo Robinson, author of *Pasture Perfect* and owner of the online resource www.eatwild.com, tells us that "Cattle with subacute acidosis kick at their bellies, go off their feed, and eat dirt." Poor things.

On top of an artificial diet and confinement, modern methods of raising cattle also involve considerable amounts of hormones, steroids, and other chemicals. Approximately twenty million pounds of antibiotics are given to animals each year—most to prevent disease and promote growth.<sup>27</sup> Antibacterials, topical antimicrobials, and insecticides are also used in the feed, living quarters, and directly on the animals themselves. Subjecting animals to this chemical abuse is terrible, and the ramifications to your family are also significant.

Non-therapeutic uses of antibiotics in agriculture have created what can be called "super-bugs," bacteria that have adapted to the overuse of antibiotics over the years and become stronger, more virulent. When researchers tested ground chicken, turkey, beef, and pork bought in supermarkets, they found that 20 percent of them contained Salmonella. Even worse, 84 percent of the contaminated samples were resistant to at least one antibiotic and more than half were resistant to at least three.<sup>28,29,30</sup>

Finally, hormone residues in meat and dairy products can disrupt our body's natural hormone balance. Many experts suspect that consumption of hormone-treated beef and dairy products may contribute to girls reaching puberty earlier, thus making them more susceptible to hormonal conditions later in life.<sup>31</sup> Interestingly, the European Union has banned the use of hormones in livestock for fear they pose a health risk, and refuses to import hormone-treated Canadian and U.S. meat.<sup>32</sup>

#### PASTURED CHICKENS AND EGGS VS. FEEDLOT RAISED:

Chickens allowed to forage for bugs and grass and soak up sunshine in the great outdoors produce eggs with greater amounts of vitamin E and vitamin A than their commercial, cooped up, pellet-fed counterparts. The extra nutrients available in the pasture-fed eggs are obvious by the color of the egg's yolk. The more yellow/orange the yolk, the higher the level of carotenoids.<sup>33</sup> Eggs from pastured hens also contain omega-3 and omega-6 fatty acids in the beneficial ratio of approximately 1:1, unlike commercial eggs, which average an unhealthy 1:19!<sup>34</sup> Similar to caged cows, battery chickens are squeezed into small cages or sheds, often windowless, and overrun with their own droppings. There is no room for them to do what chickens do—graze, root, dust themselves, or roost, let alone sit.

#### UNREFINED OILS AND BUTTER VS. REFINED OILS AND MARGARINE:

Weston A. Price found that butter was a staple for many vibrantly healthy native peoples.<sup>35</sup> The groups he studied particularly valued the deep yellow butter produced by cows feeding on rapidly growing green grass in the spring and fall. Butter began to lose favor in the early 1950s when margarine, the new kid on the block, took the spotlight. The food industry capitalized on its ability to turn cheap liquid vegetable oils into solid fats, with a process called partial hydrogenation, to supply cheap fats and oils to the budding fast food and snack food industries.

Partial hydrogenation turns liquid oils (like soy, corn, or cottonseed), into hardened fats for margarine and vegetable shortening, which are used in almost all processed and packaged foods. Not only is the original oil severely damaged through the process, but a worse side effect is the production of abnormally arranged molecules known as *trans* fatty acids. When *trans* fats are incorporated into cell membranes, they inhibit a wide range of biochemical reactions, such as enzymes and receptors.<sup>36</sup>

Mary Enig, PhD, Vice President of the Weston A. Price Foundation and expert in the chemistry of fats, first warned the public about the dangers of these fats more than twenty years ago. Yet her warnings fell on deaf ears in the scientific community—much to the public's misfortune—due mostly to the ties between the vegetable oil industry and big-money corporations with their government subsidies. See more on this fascinating topic in the article The Skinny on Fats by Dr. Enig and Sally Fallon Morell (http://www.westonaprice.org/The-Skinny-on-Fats.html). The article dispels the premise that saturated fat and cholesterol cause heart disease and sheds light on the positive research about saturated fat and why it is actually necessary and healthful to consume.

How a fat is processed helps determine whether it is a good choice to eat. Most commercial oils are processed by crushing the oil-bearing seeds and exposing them to extreme heat (often up to 450 degrees F). In addition to excessive temperatures, the oils are also exposed to high pressure, light, oxygen, and solvents (usually hexane). This creates an undesirable food that has been bruised and battered—especially so for the less-stable polyunsaturate-rich vegetable oils. This is why most commercial oils become rancid, full of harmful free radicals, before hitting the grocery store shelves,<sup>37</sup> including canola and soybean oils, which are often marketed as healthful. When the oils are heated for cooking, more rancid free radicals are formed.

The types of fats historically consumed by our ancestors were the most easily extractable—butter and other animal fats such as tallow and lard, coconut and palm oil, olive oil, sesame oil, small amounts of flaxseed oil and fish liver oils. Back in that day, extraction was achieved by slow-moving stone presses or rollers. Only a handful of today's companies maintain these traditional methods, referred to as "expeller expressed" or "cold pressed." These gentle approaches preserve the integrity of the fat molecules and the natural preservatives many oils contain, which preserve their stability.<sup>38</sup> These unrefined oils will remain fresh for quite some time if stored in the refrigerator. Finally, if accessible and affordable, organic sources are ideal, as they are free of pesticides and contaminants that ordinarily concentrate in fat. (See Three-Minute, Three-Step Salad Dressing on page 69.)

#### WHOLE VS. REFINED CARBOHYDRATES:

To understand why to choose whole food sweeteners over refined, a little background is needed. Natural, simple sugars are most abundant in fruits, raw honey, maple syrup, root vegetables, squash, and milk. Common sources of refined simple sugars that we should avoid are brown and white sugar, fructose, high fructose corn syrup, agave and yacon syrups. Naturally sweet foods are linked together with the vitamins, minerals, and enzymes needed for their digestion and assimilation by the body. In very moderate amounts in the context of a whole foods diet, these foods are healthful. But when the sugars in these foods are removed by refining, the sugars now exist separate from the nutrients. These "skeletonized" sugars work quite differently in the body, providing nothing but empty calories that drain the body's nutrient reserves.<sup>39</sup>

Dr. Weston Price noticed that once white flour and white sugar were introduced to unsuspecting cultures, tooth decay, physical degeneration, and disease set in over the period of a single generation.<sup>40</sup> Current evidence links excessive sugar and white flour consumption with the development of almost any health problem, including (but definitely not limited to) cancer,<sup>41</sup> osteoporosis,<sup>42</sup> heart disease,<sup>43</sup> hypoglycemia, adrenal exhaustion, and parasitic and yeast infections.<sup>44</sup> Sugar and refined flour also depress the immune system within minutes of consumption,<sup>45,46</sup> which means more sniffles, allergies and gloomy moods. Oh, yeah, and if you have an interest in slowing down the clock, sugar is counterproductive to your efforts, as this non-food "food" also promotes wrinkles!

To replace refined white or brown sugar cup for cup, dehydrated cane sugar juice or coconut sugar works well. But as you might suspect, cutting down on sugar in general is always a good idea. Nevertheless, from time to time, we all want a sweet treat. When you do indulge, instead of a packaged pastry or dessert, try reaching for a piece of fruit or a fresh date. For homemade desserts and sweet beverages, use the whole-food sweetener choices—raw, unfiltered (preferably local) honey, molasses, dehydrated cane juice, coconut sugar, fresh juice, and maple syrup. When making homemade goodies, be sure to always include healthful fats—butter, egg yolks, cream or nuts—to help maintain blood sugar balance and stave off the blood sugar roller-coaster.

Dense Eating, starting on page 73. Take on the choices that are most doable first and then progress.

#### 4. TAKE IT SLOW!

Revamp one meal at a time: First, if you and your family dine out regularly, opt for fresh produce, non-fried options, salad with olive oilbased dressing, or seafood sautéed in real butter. Skip the fillers—chips and breads—served early in the meal. Ultimately work towards eating out less frequently and making more meals at home. A happy side benefit is that as you revamp your meals, you will find more nourishing choices replacing the less desirable ones in your pantry—sodas, chips, sports bars, puffed cereals, and packaged items. When you embrace the traditional foods lifestyle, label reading becomes fairly moot. Your most nourishing choices are package-free whole foods: produce, meats, fish, bulk nuts, grains and seeds, fats, and oils.

Breakfast is a great place to start revamping. Refueling first thing in the morning with nutrient dense foods is critical for setting yourself up for hormonal balance and a clear mind. Your morning meal can be simple; soaked oatmeal topped with butter or coconut oil, chopped nuts and berries is hardy and filling (See Slow Cooker Porridge, page 72). Eggs (cooked any way you like) are quick and nourishing. Remember, choose pastured when possible. Smoothies are a nice way to start the day, especially during the warmer months of the year. For a satisfying, enzyme-filled breakfast smoothie, blend together two cups almond milk, kefir, yogurt, or coconut milk and add in a handful of berries (fresh or frozen), half a cucumber, half a chopped apple, and a pastured, raw egg yolk or two.

Take your time to rethink every meal of the day and eventually overhaul each one. That might mean scouring cookbooks to find those "go to" recipes, brown bagging it to work or school, or getting up a half an hour earlier each morning to toss a meal into the slow cooker before work. Slowly make these transitions; you want these changes to become lifelong habits. Healthy snack foods are particularly important if you have growing kiddos at home. Check out the Nutty Snack Bar recipe (www.westonaprice. org/Packing-the-Perfect-Lunch-Box.html). Another useful resource is Family Meal-Planning Strategies (www.westonaprice.org/Family-Meal-Planning-Strategies.html), which is chock-full of useful tidbits on ways to make the most of your time in the kitchen.

Before you know it, each meal you are serving or sending off with your family will be nourishing their bodies and brains.

Modernizing your new traditional food lifestyle can be summed up with two rules. Rule one: enjoy your food! No more fat-free, caloriecounting "diets." Relish the fact that the most nourishing foods are also the tastiest. Dig into a grass-fed buffalo roast (use the drippings to make gravy and enjoy with sauerkraut), spread a thick layer of real butter on your fresh sourdough bread to go with your homemade tomato soup, enjoy your salad with homemade olive oil-based dressing, and whip up some raw cream to top your organic berries for dessert. Whole, natural, real food is thoroughly satisfying on its own; don't ruin it by taking out the good parts or adding fake additives and ingredients.

Rule two: give yourself a big heaping dose of grace. No matter what you may have served your family in the past or the slip-ups you might encounter in the future, be gentle with yourself. To quote Ralph Waldo Emerson, "Life is a succession of lessons which must be lived to be understood." Our life lessons are all part of a bigger picture and it is through our unique experiences that we can grow and learn to better ourselves in our own time and style.

Jen Allbritton is a certified nutritionist and author. She lives with her family in Colorado and spends lots of time in her kitchen cooking up WAPF-friendly creations. Contact her if you'd like to learn more about subjects related to diet and children at jen@growingwisekids.com.

#### REFERENCES

- Bland, Jeffery, Ph.D. *Genetic Nutritioneering*. Keats. Lincolnwood, Illinois. 1999. Page 64-65.
- 2. Weston A Price, DDS, Price, *Nutrition and Physical Degeneration*. Keats Publishing 1997.
- Zac Goldsmith, Cancer: A Disease of Industrialization, *The Ecologist*, March/April 1998, 28:(2):93-99
- Healthnotes. Online, Inc. 1505 SE Gideon St., Suite 200, Portland, OR 97202, www.healthnotes.com. 1999. Author are Lininger, Skye, D.C., Wright, Jonathan, M.D., Austin, Steve, N.D., Brown, Donald, N.D. & Gaby, Alan, M.D. Vitamin A.
- 5. Apperly FL.The relation of solar radiation to cancer mortality in North America . *Cancer Res.* 1941;1:191-195
- Ansleigh HG. Beneficial effects of sun exposure on cancer mortality. Prev Med 1993;22:132-40.
- Rucker D, Allan Ja, Rich GH, et al. Vitamin D insufficiency in a population of healthy western Canadians. *Canadian Medical Association Journal*, 2002; 166:1517-1524.
- Tangpricha V, Pearce EN, Chen TC, et al. Vitamin D insufficiency among free-living healthy young adults. *American Journal of Medicine*, 2002; 112:659-662.
- 9. Fallon, Sally and Enig, Mary, PhD. Cod Liver Oil Basics and Recommendations. Feb 2009. Found at www.

#### LOWER YOUR PESTICIDE LOAD

The Environmental Working Group, a non-profit research organization, created the "Dirty Dozen," a list of the twelve fruits and twleve vegetables that consistently have the highest levels of pesticides. The findings are based on the results of nearly 43,000 tests for pesticides on produce by the U.S. Department of Agriculture and the Food and Drug Administration from 2000 through 2004. The Environmental Working Group discovered that one's pesticide exposure could be cut by almost 90 percent by just avoiding the Dirty Dozen and emphasizing the Clean Fifteen.<sup>48</sup> As a consumer, use this list to choose which items are most important to buy organic, or perhaps avoid if the price is too high.

DIRTY DOZEN 1. Peaches 7. Cherries

8. Kale

9. Lettuce

11. Carrots

12. Pears

10. Grapes (imported)

#### CLEAN FIFTEEN

Onion
 Avocado
 Sweet corn
 Pineapple
 Mango

6. Asparagus11. Pa7. Sweet peas12. W8. Kiwi13. B9. Cabbage14. Ta10. Eggplant15. Sv

Papaya
 Watermelon
 Broccoli
 Tomatoes
 Sweet potatoes

Other foods of concern:49

2. Apple

4. Celery

3. Bell pepper

5. Nectarines

6. Strawberries

CONVENTIONAL ANIMAL FOODS (beef, pork, poultry, milk, butter and cheese): The EPA reports that meat is contaminated with greater levels of pesticides than plant foods, as many chemicals are fat-soluble and accumulate in the fatty tissues of animals. Also the hormones and antibiotics in non-organically raised animals are passed on to the consumer. Still, if you can't obtain or can't afford pasture-raised animal foods, beef, lamb, butter and cheese are still good supermarket bets. They contain nutrients that help protect you against pesticides, antibiotics and hormones.

COFFEE AND TEA: Most coffee consumed in the U.S. is grown in countries with little to no regulatory standards on pesticide use. Non-organic tea is heavily sprayed.

76

westonaprice.org/Cod-Liver-Oil-Basics-and-Recommendations.html

- Shida K, Makino K, Morishita A, et al. Lactobacillus casei inhibits antigen-induced IgE secretion through regulation of cytokine production in murine splenocyte cultures. *Int Arch Allergy Immunol* 1998; 115: 278-87.
- Murosaki S, Yamamoto Y, Ito K, et al. Heat-killed Lactobacillus plantarum L-137 suppresses naturally fed antigen-specific IgE production by stimulation of IL-12 production. *J Allergy Clin Immunol* 1998; 102: 57-64.
- Campbell-McBride, Natasha, MD. Gut and Psychology Syndrome. Natural Treatment for Dyspraxia, Autism, ADD, Dyslexia, ADHD, Depression, Schizophrenia. Medinform Publishing. 2004. Pg 166.
- 13. Ibid. Pg 31-36.
- Fallon, Sally and Enig, Mary PhD. Lacto-Fermentation. Found on www.westonaprice.com on Dec 28th 2001.
- Fallon, Sally and Enig, Mary PhD. Nourishing Traditions NewTrends Publishing, 1999. p. 48-49.
- 16. The Journal of Alternative and Complementary Medicine 2001;7(2):161.
- Curl CL, Fenske RA, Elgethun K. Organophosphorus pesticide exposure of urban and suburban preschool children with organic and conventional diets. *Environ Health Perspect*. 2003 Mar;111(3):377-82.
- U.S. Government Facts: Children's Chemical and Pesticide Exposure via Food Products. Found at http:// organicconsumers.org/organic/wic-faq.pdf on June 25th 2009.
- Booth, A., M. Reid, et al. (1987). Hypovitaminosis A in feedlot cattle. *Am Vet Med Assoc* 190(10): 1305-8.
- Smith, G.C. Dietary supplementation of vitamin E to cattle to improve shelf life and case life of beef for domestic and international markets. Colorado State University, Fort Collins, Colorado 80523-1171.
- J. Miller, Lipids in Wild Ruminant Animals and Steers. J. of Food Quality, 9:331-343, 1986.
- 22. Study found at www.eatwild.com Bailey, G. D., B. A. Vanselow, et al. (2003). A study of the food borne pathogens: Campylobacter, Listeria and Yersinia, in faeces from slaughter-age cattle and sheep in Australia. *Commun Dis Intell* 27(2): 249-57.
- 23. Loerch, S. C. (1991). Efficacy of plastic pot scrubbers as a replacement for roughage in high-concentrate cattle diets. *J Anim Sci* 69(6): 2321-8.
- 24. Robinson, Jo. *Grass-fed Basics*. Found at http://www.eatwild.com/basics.html.
- 25. J Animal Science. 76:287-98. 1998. Liver abscesses in feedlot cattle: a review.
- 26. Owens, F.N.D. S. Secrist, et al Acidosis in cattle: a review. J Amin Sci 1998. 76:275-86.

- 27. American Medical News, FDA Pledges to Fight Overuse of Antibiotics in Animals, February 15, 1999.
- 28. White, D.G., et al. 2001. The isolation of antibiotic-resistant salmonella from retail ground meats. *New England Journal of Medicine* 345(Oct. 18):1147.
- McDonald, L.C., et al. 2001. Quinupristin-dalfopristin-resistant Enterococcus faecium on chicken and in human stool specimens. *New England Journal of Medicine* 345(Oct. 18):1155.
- Sorensen, T.L., D.L. Monnet, et al. 2001. Transient intestinal carriage after ingestion of antibiotic-resistant Enterococcus faecium from chicken and pork. *New England Journal* of Medicine 345(Oct. 18):1161.
- European Commissions' Scientific Committee on Veterinary Measures Relating To Public Health: Assessment of Potential Risks to Human Health from Hormone Residues in Bovine Meat and Meat Products (April 30, 1999), On the web at: http://www.europa. eu.int/comm/food/fs/sc/scv/out21\_en.pdf.
- The National Council for Science and the Environment. Charles E. Hanrahan. RS20142: The European Union's Ban on Hormone-Treated Meat. Found on http://www.csa.com/ hottopics/ern/01feb/ag-1.html on July 11 2002.
- Bornstein, S. and I. Bartov (1966). Studies on egg yolk pigmentation. I. A comparison between visual scoring of yolk color and colorimetric assay of yolk carotenoids. *Poult Sci* 45(2): 287-96.
- 34. Simopoulos, A P, and Norman Salem, Am J Clin Nutr, 1992, 55:411-4.
- 35. Price, Weston, DDS. *Nutrition and Physical Degeneration*, 1945, Price Pottenger Nutrition Foundation, Inc., La Mesa, California.
- Kabara, J J, *The Pharmacological Effects of Lipids*, The American Oil Chemists' Society, Champaign, IL, 1978, 1-14; Cohen, L A, et al, *J Natl Cancer Inst*, 1986, 77:43.
- 37. Enig, Mary, Ph.D. Know Your Fats. Bethesda Press, Silver Spring, MD. 2000.
- Enig, Mary Ph.D. and Fallon, Sally. The Skinny on Fats. Found at www.westonaprice. org. Published 1999. Found on Dec. 18th 2001.
- 39. Byrnes, Stephen, N.D. Digestion Made Simple. Wellspring Publishers. 1999.
- 40. Price, Weston. A. D.D.S. *Nutrition and Physical Degeneration*. Keats Publishing. New Canaan, CT. 1997.
- M. Bostick, J.D. Potter, L.H. Kushi, et al. Sugar, Meat, and Fat Intake, and Non-dietary Risk Factors for Colon Cancer Incidence in Iowa Women. *Cancer Causes and Controls* 5, 1994, pp. 38-52.
- Tjaderhane L and Larmas M. A High Sucrose Diet Decreases the Mechanical Strength of Bones in Growing Rats. *American Journal of Clinical Nutrition* 1998;128:1807-1810.
- 43. Katz RJ, Ratner RE, Cohen RM, Eisenhower E, Verme D Are insulin and proinsulin independent risk markers for premature coronary artery disease? Department of Medicine, Division of Cardiology, George Washington University School of Medicine, Washington, DC 20037, USA. *Diabetes* 1996 Jun;45(6):736-41.
- 44. Gittleman, Ann Louise, M.S. C.N.S. *Get the Sugar Out*. Three Rivers Press. New York. 1996.
- 45. A. Sanchez, et al. Role of Sugars in Human Neutrophilic Phagocytosis. *American Journal* of Clinical Nutrition, November 1973, pp. 1180-1184.
- 46. American Journal of Clinical Nutrition, 1973, vol. 26.
- 47. Wijga AH, Smit HA, Kerkhof M, de Jongste JC, Gerritsen J, Neijens HJ, Boshuizen HC, Brunekreef B; PIAMA. Association of consumption of products containing milk fat with reduced asthma risk in pre-school children: the PIAMA birth cohort study. *Thorax.* 2003 Jul; 58(7): 567-72.
- 48. Environmental Working Group. Washington DC. www.foodnews.org.
- 49. The Dirty-Dozen. Found at http://www.natures-health-foods.com/dirty-dozen.html.

#### WHOLE FOODS MARKET: SLOW TO LEARN

In spite of a torrent of emails generated by our Action Alert on Whole Foods Markets, (www.westonaprice.org/ WHOLE-FOODS-PROMOTES-MILITANT-VEGETARIAN-AGENDA.html), the high-end grocery store is still pushing a lowfat, plant-based diet on its nutrition page (www.wholefoodsmarket.com/nutrition/). The plan promotes the books and private business ventures of Joel Fuhrman, MD, and Rip Esselstyn, both of whom worked with Whole Foods to formulate the new guidelines. Customers now receive a pamphlet urging them to adopt a lowfat, plant-based diet and to cut back or completely eliminate animal foods.

If your health has been harmed by a lowfat, plant-based diet, Whole Foods needs to hear from you; if you have already emailed the store, contact them again and ask them why they haven't revised their agenda-driven, unscientific nutrition page. To submit a comment on Whole Foods' company policy, go to www.wholefoodsmarket.com/company/ contact\_submit.php.

### Soy Alert!

SOYFUL TALES by Kaayla T. Daniel, PhD



#### SOY MAY HELP MEN REMEMBER ANNIVERSARIES

Believe it or not, the soy industry is now promising new and improved men—men who not only have better "working memories," but men who might even remember anniversaries!

Led by Peter Howe at the University of South Australia and the University of Adelaide, researchers concluded in the November 2009 *British Journal of Nutrition* that "Isoflavone supplementation in healthy males may enhance cognitive processes which appear dependent on oestrogen activation." In other words, soyestrogenized men will think and act more like women!

The study involved thirty-four healthy men who participated in a twelve-week double-blind, placebo-controlled cross-over trial. The men were randomly assigned to receive a daily dose of 116 mg soy isoflavones or a placebo for six weeks. They were then crossed-over to the other intervention for the following six weeks.

Tests of memory, mental function and visual-spatial processing performed before and after the supplementation period showed that the isoflavone supplements were associated with improved spatial working memory, an area in which females consistently perform better than males. Indeed, the men feminized by the isoflavones required 18 percent fewer attempts to correctly complete the tasks, committed 23 percent fewer errors, and achieved the tasks in 17 percent less time than they did during the placebo phase.

The likely reason was circulating estrogens acting upon the estrogen beta receptors (ERbeta) prevalent in areas of the brain that mediate cognitive functions, including parts of the hippocampus, frontal lobe and cortex. The soy isoflavones, however, had no apparent effect on auditory or episodic memory, executive function, or visualspatial processing.

So how did this "good news" get translated into headlines about soy helping men remember anniversaries? Got me. It does, however, inspire me to propose three topics related to new and improved men for future research. One: Are men on soy isoflavones better at asking for directions? Two: Are men on soy isoflavones more likely to put the toilet seat down? And three: Are men on soy isoflavones more likely to be faithful to their wives because they lose their libido, their ability or both? Inquiring minds want to know!

#### SOY IN HAITI

A group called SoyFoods Haiti Alliance Relief Effort (SHARE) is coordinating the donation and delivery of soy foods, soy snacks and soy milk to Haiti. Solae, Whitewave, Alpro and Vitasoy have already donated products and more high-protein donations are sought through Feed the Children and other organizations. "High protein," of course, is delivered in the form of soy.

While relief efforts are clearly needed and this one seems benevolent, the industry's real motive is spelled out clearly in a trade newsletter. "In the longer term, donations could also include soybeans, soy protein ingredients and micronutrient supplements for value-added processing in Haiti." Over the long term, this means decreased reliance on local farmers and cottage industries, failure to build local, sustainable food sources, people forced to rely on unhealthy food products (as opposed to real food), and more profits for the global soy industry. Long term, that means the whole country will need to go into "soy recovery."

### Soyestrogenized men will think and act more like women!

#### CLUELESS

We have a major confession from the National Institutes of Health (NIH)! The agency actually admits it's been supporting research on soy and health for many years but is clueless about whether or not soy prevents or cures much of anything. Or has even been proven safe! After commissioning a thorough review of the literature (www.ahrq.gov/clinic/tp/soytp. htm), NIH found a "large but weak literature with equivocal findings" and "some troubling data about soy products used in research, which included confounding produced by unanticipated levels of phytoestrogens in animal feed" (Heindel et al. Environmental Health Perspectives 2008:116(3);389-393). In other words, to ascertain the benefits of soy, scientists compared its effects in animals to animals fed a control diet full of soy, a poor way to design any study but a great way to hide the negative effects caused by soy feeding.

The official conclusion of the review, written in the finest scientese: "Given the large amount of heterogeneity and inadequate reporting, particularly related to soy protein and isoflavone dose, many questions remain as to whether specific soy products in adequate doses may be of benefit in specific populations. Further, well-conducted studies are needed to clarify the effect of soy dose on lipid parameters and to determine whether soy components other than protein or isoflavones may be responsible for the lipid effects seen."

To help sort things out, the NIH plans a workshop for nutritionists, scientists, MDs, epidemiologists, biochemists and clinical trialists from academia, industry and government. Their job will be to figure out how to guide "the next generation of soy protein and isoflavone human research." A key task is to identify methodological issues relative to exposures and interventions that may confound study results and interpretation and to find ways to deal effectively with these issues in the design, completion, reporting and interpretation of studies. NIH also hopes this group will address issues related to exposure to soy and other phytoestrogens, factors influencing variability of response and negative consequences of exposure. Sounds to us like a belated admission that soy might have a "dark side." Interesting that I haven't been invited.

The agency actually admits it's been supporting research on soy and health for many years but is clueless about whether or not soy prevents or cures much of anything.

969

Visit Kaayla's soy recovery blog at http://www. westonaprice.org/blog/.

#### A GREEN OPPORTUNITY FOR YOU AND FOR WAPF

We are pleased to announce a new way to contribute financially to the Weston A. Price Foundation!

For members in Connecticut and Pennsylvania, we have associated with Viridian Responsible Energy, a green electricity provider.

Here's a way for you to go green, reduce your electric bill, and contribute \$1-2 per month to WAPF.

Log onto www.viridian.com/WAPF and sign up to make Viridian your energy provider. You will have lower electricity bills and a payment of one to two dollars goes to WAPF every month. The University of Connecticut receives \$10,000 per month from consumers who signed up for Viridian. WAPF can do the same—what a difference that would make for our budget!

Here's how it works: Viridian buys renewable energy from local wind and solar farms, and sells it directly to customers, through their utility company. There are no fees or contracts, and the customer still gets one bill, from his or her same current electricity provider. This switch is completely transparent to you—only you'll be paying less on your electricity bill every month. However, your reliability and emergency repair will remain the responsibility of your utility company, so are completely unaffected.

It takes five minutes to switch, and making the change is equivalent to planting 130 trees or not driving 2400 miles! Save money, help the environment, and help WAPF help you!

Coming soon: for members in New York, New Jersey, Maryland, Maine, New Hampshire, Delaware, Massachusetts, Rhode Island, Ohio, Michigan, Illinois, and Texas, Viridian will be expanding into your states, and you too will be able to switch to green energy, save money and support WAPF!

For more information, log onto: www.viridian.com/WAPF, or contact Beth Beisel, WAPF member, at bbeisel@com-cast.net.

### Legislative Vpdates

NAIS FIGHT OVER FOR THE MOMENT, FOOD SAFETY LEGISLATION FIGHT LOOMS By Judith McGeary, Esq.

> February 5th brought a surprising announcement from the USDA. Secretary Vilsack stated that the National Animal Identification System (NAIS) would be scrapped and replaced with a "new framework for animal diseases traceability." NAIS would have required every person who owned even one livestock or poultry animal to register their property with the state and federal government, tag each animal when it left its birthplace (in most cases using microchips or Radio Frequency Identification Devices), and report a long list of movements within twenty-four hours. In contrast, the new framework will cover only animals moved in interstate commerce and will encourage the use of lower-cost technology.

#### A SIGNIFICANT CHANGE

In the fact sheet that accompanied USDA's announcement, the agency acknowledged that "the vast majority of participants [at the listening sessions in 2009] were highly critical" of NAIS. The agency listed a wide range of objections to NAIS, and later referred to the "very legitimate concerns of the American public and those in Rural America." Given the agency's history of characterizing the opposition to NAIS as a lunatic fringe of naysayers, this admission alone represents a significant change.

We have stopped the train that was heading for us. But that doesn't end the fight. The train could re-start —what will the USDA develop as its new framework? And there are many, many spurs on the rail —what will the States develop for intrastate programs?

#### INTERSTATE COMMERCE

One of the key concerns with USDA's new framework is the scope of "interstate commerce." In the infamous Wickard v Filburn case in 1942, the Supreme Court held that a federal agency could regulate a farmer growing wheat for his own consumption, based on the theory that this local non-commercial activity could affect interstate commerce if one looked at the cumulative impact of everyone engaging in such activity. Wickard and similar cases led to a great expansion in the scope of federal regulation. Yet it does not mean that every use of the term "interstate commerce" covers intrastate activity.

This issue was raised in a conference call between Secretary Vilsack and the organizations that had participated in last year's roundtable in DC, including the Farm and Ranch Freedom Alliance. Secretary Vilsack stated that the new program would track animals that crossed state lines so as to trace them back to their state of origin, and that any intrastate tracking was the decision of the state. I followed up by asking whether the USDA would continue to use federal funding as a way to pressure the states to adopt NAIS-type premises registration or technology. The Secretary answered that he does not intend to use federal funding to penalize states for not adopting specific technology or implement NAIS through the "back door." He went on to say that NAIS had received a "failing grade." This direct response was a startling change from the circuitous double-talk that USDA officials have used throughout the NAIS program.

We cannot rest on these statements, however, and we must keep up the pressure at every step to ensure that USDA lives up to what it is now saying.

#### NAIS ON THE STATE LEVEL

Moving past USDA's new framework, we face many potential problems with state programs. Wisconsin, Michigan, and Indiana have already implemented portions of NAIS. In Wisconsin, in particular, the case against an Amish farmer, Emanuel Miller, who has objected on religious grounds, remains pending. Will other

Judith McGeary is an attorney and small farmer in Austin, Texas, and the Executive Director of the Farm and Ranch Freedom Alliance. She has a B.S. in **Biology** from Stanford University and a J.D. from the University of Texas at Austin. She and her husband run a small grass-based farm with sheep, cattle, horses, and heritage breed poultry. For more information about NAIS and what you can do to stop it, go to www.farmandranchfreedom.org or call 1-512-243-9404.

States continue to push NAIS-related technology? In another call with USDA, the participants were asked to come prepared to answer a set of questions, among them, "USDA is committed to utilizing systems and solutions that have been developed over the past few years . . . to support the new traceability approach. What are your thoughts and suggestions on this, including what can be used and what components need to be left behind?" Comments from representatives of industrial agriculture, such as the American Farm Bureau Federation, made it clear that they are eager to use the databases and systems that have been developed for NAIS, and they urged that state veterinarians be informed of the supposed value of these systems. The companies who had a monetary interest in NAIS-the meatpackers, microchip manufacturers, database managers, and industrial agriculture associations-will not simply abandon the potential of hundreds of millions of dollars in profits, and state programs could provide them with ample opportunity to make money at the expense of small farmers.

#### NAIS AND THE PRIVATE SECTOR

Along with state programs, there is the issue of the private sector. Given the control that a few companies have over agriculture, pressure to use NAIS-type technology could easily be imposed through market forces. While many farmers in the WAPF community are not part of the mainstream agricultural system, the impact on conventional small farmers could be devastating and ultimately impact us all. Moreover, even farmers who sell directly to consumers often use the mainstream sales barns and hatcheries to buy and sell live animals, leaving them vulnerable to market pressure by agribusiness.

### ETERNAL VIGILANCE

It is critical that farmers and consumers stay involved in this issue. Meet with your state vet to talk about the concerns of sustainable livestock producers and request a seat on the state's animal identification working group and any working groups on animal disease programs that would have an impact on your farm or ranch. If the agency only involves the industrial agriculture groups or if the recommendations of the working group reflect only those interests, then contact

#### NOT INEVITABLE

Agribusiness control and government overregulation of agriculture has developed over the course of several decades, and it will not be turned back overnight. But while we remain vigilant and cautious, let's take a moment to celebrate this grassroots victory. Back in 2005, many people said that it wasn't worth even fighting because NAIS was inevitable. But because people across the country refused to concede, the train has slowed and stopped. Whether it is the USDA's "new framework" for interstate regulations, state-level animal ID programs, or issues such as food safety, GMOs, and food processing, now is the time to renew our efforts to protect and grow the movement for local, nutrient-dense foods.

#### FOOD SAFETY BILL UPDATE

In the last issue of *Wise Traditions*, I discussed S. 510, the FDA Food Safety Modernization Act. As of mid-March, little has changed on the bill. It is still awaiting action by the full Senate, having been slowed down by the general confusion and discord in the Senate. But it could come to a vote at any time.

"The FDA Food Safety Modernization Act" (S. 510) purports to address concerns over the state of food safety in the U.S. but, as currently written, would actually make our food less safe. S. 510 would strengthen the forces that have led to unsafe, nutritionally compromised food by leaving loopholes for large, concentrated food manufacturers and undercutting small, local producers of safe, healthy foods.

#### YOUR ACTIVISM URGENTLY NEEDED

It is extremely important to contact your Senators *now* to urge them to amend or oppose the bill!

Big Ag and Big Food have distributed melamine-contaminated milk from China and salmonella-contaminated peppers from Mexico. Yet Congress hasn't gotten the message that they need to solve the real problems —the centralized food distribution system and imported foods —and not regulate our local food sources out of business. Instead, S. 510 is a "onesize-fits-all" approach that would unnecessarily burden both farmers and small-scale food processors, ultimately depriving consumers of the choice to buy from producers they know and trust. We will need tens of thousands of calls to every Senator to stop this bill, so please don't wait. Pick up the phone and make that important contact! For detailed instructions and talking points, see page 82.

#### AN APHORISM

Some men much fret their cars perform on special fuels, Ignoring swill they eat that makes them sluggish fools.

Richard M. Dell'Orfano

#### TAKE ACTION ON THE PROPOSED FOOD SAFETY BILL S 510

Call both of your Senators. You can find their contact information at www.Senate.gov, or call the Capitol switchboard at 202-224-3121 or toll-free at 877-210-5351. Ask to speak with the staffer who handles food safety issues.

Tell the staffer that you want the Senator to *amend or oppose* S. 510. Engage the staffer in a discussion about the importance of local, nutrient-dense foods to you and your family, and why your local food sources should not be subject to FDA regulation. If you get their voice mail instead of the staff, leave the following message:

"Hi, my name is \_\_\_\_\_\_ and I live in \_\_\_\_\_\_. I'm very concerned that S.510, the FDA Food Safety Modernization Act, would impose unfair and burdensome regulations on local food sources, which are very important to me. The Committee version of the bill does *not* address my concerns, and I urge the Senator to amend or oppose the bill. Please call me back at \_\_\_\_\_\_."

You can also send an email through the Western Organization of Resource Council's automated system http://org2.democracyinaction.org/o/5706/p/dia/action/public/?action\_KEY=1775

TALKING POINTS

- 1. The major foodborne illness outbreaks and recalls have all been caused by the large, industrial food system. Small, local food producers have not contributed to the highly publicized outbreaks. Yet S. 510 subjects the small, local food system to the same, broad federal regulatory oversight that would apply to the industrial food system.
- 2. FDA regulation of local food processors is counterproductive and unnecessary. FDA has not used its existing authority well. Instead of focusing its resources on the problems posed by imported foods and large processing facilities, FDA has chosen to target small processors. While approving unlabeled GMOs to enter our food supply, it has interfered with the free choice of informed adults who want access to this healthy food. Simply giving FDA increased authority and power will not improve the food supply unless Congress requires the agency to focus on agribusiness and not small, local producers.
- 3. Relying on HACCP would harm small processors. Increased regulations and record-keeping obligations could destroy small businesses that bring food to local communities. In particular, the reliance on HACCP (the Hazard Analysis and Critical Control Point system) would harm small food producers. Although the theory of preventative controls is a good one for large, complex facilities, the federal agencies' implementation of HACCP, with its requirements to develop and maintain extensive records, has already proven to be an overwhelming burden for a significant number of small, regional meat processors across the country. In the meat industry, HACCP has substituted paperwork review for independent inspections of large meatpacking plants, while punishing small processors for paperwork violations that posed no health threat. Applying a HACCP system to small, local foods processors could drive them out of business, reducing consumers' options for fresh, local foods.
- 4. FDA does not belong on the farm. S. 510 calls for FDA regulation of how farms grow and harvest produce. Given the agency's track record, it is likely that the regulations would discriminate against small, organic, and diversified farms. The House version of the bill directs FDA to consider the impact of its rulemaking on small-scale and diversified farms, but there are no enforceable limits or protections for small diversified and organic farms from inappropriate and burdensome federal rules.
- 5. S. 510 favors foreign farms and producers over domestic. The bill creates incentives for retailers to import more food from other countries, because it burdens family farms and small business and because it would be practically impossible to hold foreign food facilities to the same standards and inspections. The bill would create a considerable competitive disadvantage for *all* U.S. agriculture and food production (see analysis at http://ftcldf.org/news/ news-20Oct2009-2.html).
- 6. Food safety and security both come from a diversified, vibrant local food system. Local foods give consumers the choice to buy from producers they know, creating a transparent, accountable food system without federal government oversight. State and local laws, which are often size-specific rather than one-size-fits-all, are more than enough for local food producers.

#### FOOD FOR THOUGHT

In a November 1994 interview on the General Agreement on Trade and Tariff (GATT), which created the World Trade Organization, Sir James Goldsmith made the following comments:

The idea is to create what is known today as efficient agriculture and to impose it worldwide. Let me just give you one [impact] of GATT on the Third World. The idea of GATT is that the efficiency of agriculture throughout the world should produce the most amount of food for the least cost. But what does that really mean? What is cost?

When you produce the intensified agriculture and you reduce the number of people on the land, what happens to those people? They are chased into the towns. They lose their jobs on the land. If they go into the towns, there are no jobs, there is no infrastructure. The social costs of those people, the financial costs of the infrastructure has to be added to the cost of producing food.

On top of that, you are breaking families, you are uprooting them, you are throwing them into the slums. Do you realize that in Brazil, the *favelas* (slums) did not exist before the Green Revolution of intensifying agriculture?

In the world today there are 3.1 billion people still living in rural communities. If GATT succeeds and we are able to impose modern methods of agriculture worldwide, so as to bring them to the level of Canada or Australia, what will happen? 2.1 billion people will be uprooted from the land and chased into the towns throughout the world. It is the single greatest disaster [in our history], greater than any war.

We have to change priorities. Let's take agriculture. Instead of just trying to produce the maximum amount for the cheapest direct costs, let us try to take into account the other costs. Our purpose should not be just the one dimensional cost of food. We want the right amount of food, for the right quality for health and the right quality for the environment and employing enough people so as to maintain social stability in the rural areas.

If not, and we chase 2.1 billion people into the slums of the towns, we will create on a scale unheard of mass migration—what we saw in Rwanda with 2 million people will be nothing—so as to satisfy an economic doctrine. We would be creating 2 billion refuges. We would be creating mass waves of migration which none of us could control. We would be destroying the towns which are already largely destroyed. Look at Mexico, Rio, look at our own towns.

And we are doing this for economic dogma? What is this nonsense? Everything is based in our modern society on improving an economic index. The result is that we are destroying the stability of our societies, because we are worshipping the wrong god—the economic index.

The economy, like everything else, is a tool which should be submitted to, should be subject to, the true and fundamental requirements of society.

This is the establishment against the rest of society. I am for business, so long as it does not devour society. [But] we have a conflict of interest. Big business loves having access to an unlimited supply of give away labor.

You cannot enrich a country by destroying the health of its population. The health of a society cannot be measured by corporate profitability.

We have allowed the instruments that are supposed to serve us to become our masters.

#### RAW MILK RESOURCES FROM THE FARM-TO-CONSUMER LEGAL DEFENSE FUND

SAFE HANDLING - CONSUMERS' GUIDE: Preserving the Quality of Fresh, Unprocessed Whole Milk by Peggy Beals, RN: An invaluable guide for consumers, this booklet provides helpful advice on what to look for at the farm, how to prevent contamination of milk and how to preserve fresh unprocessed milk's wonderful taste and superb nutrition. \$5 each.

RAW MILK PRODUCTION HANDBOOK by Tim Wightman: This handbook will soon be a classic among raw milk farmers and their consumers. An easy, informative and interesting read, it covers the wide range of essentials to safe raw milk production. Tim Wightman is a farmer, consultant and one of the first cow-share operators in the USA. \$6 each.

DVD - FROM GRASS TO THE GLASS SERIES Chore Time by Tim Wightman: Invaluable information for new (and experienced) dairy farmers on milk house design, the milk parlor, milking, heifer training, processing milk, making cream and clean up. \$35 each.

DVD - MICHAEL SCHMIDT: ORGANIC HERO OR BIOTERRORIST: The Story of Raw Organic Milk in Canada and the Consumer's Right to Choose: On November 2006, twenty-five armed officers staged a raid at Michael Schmidt's farm. This film follows an activist farmer as he struggles to continue providing his "farm fresh milk" while battling authorities, preparing for his trial, and attempting to find a political solution to legally provide raw milk in Canada. \$25 each.

Prices do not include shipping and handling.

To order, visit https://www.farmtoconsumer.net/EducationalItems.asp or call (703) 208-FARM (3276).



A Campaign for Real Milk is a project of the Weston A. Price Foundation. To obtain some of our informative Real Milk brochures, contact the Foundation at (202)363-4394. Check out our website, www. RealMilk.com for additional information and sources of Real Milk products.

### A Campaign for *Real* Milk RAW MILK GETS A RAW DEAL by Tom McNaughton

A growing number of people who understand the benefits of eating real food want to buy raw milk, but can't—at least not legally in many states. Some manage to find it anyway. To get an idea of the effort this requires, check out this blog post:

"Just as promised, I found the milk in the fridge. 'Nelson' was printed neatly on the glass with indelible ink on an otherwise unlabeled jar. No one was around except for a dog, who surveyed my intentions and went back to guarding the cows. I left the money on the counter and departed with my contraband.

"This was actually the least secretive element in my quest to find raw milk. Getting here had required everything short of a secret handshake.

"After delicately putting the word out that I was looking, I was interviewed by a local gatekeeper who gave me the name of someone else who would send me in the right direction. In order to get that far, I had to prove my bona fides. The gatekeeper wanted to know my experience with raw milk, an attempt to ascertain whether I was a state health official operating a sting."

You'd almost think some of these state regulators have confused raw milk with heroin. In fact, it's probably easier to score heroin.

In Tennessee, raw milk seems to be semilegal. Some farmers sell it openly at the farmers' market, but the farmer we prefer can't—because his farm is forty miles away. But if we request it ahead of time by sending an email, he can legally sell it to us.

When I heard that explanation, I tried several times to make sense of it, then stopped when I thought my head was about to explode. Apparently, if the farmer drives a cooler full of rawmilk cheese forty miles and then sells it to just anybody who wanders buy, the cheese will feel slutty and throw a temper-tantrum that results in an explosion of salmonella bacteria. However, if I request the cheese ahead of time, the cheese views it as an arranged marriage and is happy.

Curious about which states have outlawed raw milk, I checked the state-by-state listings on a Weston A. Price site, The Campaign For Real Milk. Perusing the state laws confirmed one of my most deeply-held and cherished beliefs: governments are inherently stupid. Here are a few examples:

#### IDAHO

Even though state law permits the sale of raw milk if the farmer obtains a retail raw milk license, in practice the Idaho Dept. of Agriculture balks at giving a license to anyone to sell raw milk. Until very recently, there had not been a retail raw milk licensee in the state for fifteen years.

That's an interesting way of handling it. Maybe California could use that technique to reduce traffic congestion.

"Sure, it's legal to drive here, but you need a license."

"Okay, where do I get a license?"

"Sorry, we don't actually issue any."

"But. . . I need to drive!"

"Then you'd better get a license."

#### ILLINOIS

Raw milk sales are legal on the farm if the farmer complies with the following conditions:

- 1. No advertising the sale of raw milk.
- Customers must bring their own individual containers.
- 3. The customer *must* put the milk from your container into their container.

Okay, I see. . . the farmer has raw milk in a container. If I take it home in that container, the milk will be contaminated. But if the milk is poured from his container into a plastic milk jug that's been sitting in my "to be recycled" bin for the past three weeks, the contamination goes away and the milk is now safe... but only if I do the pouring, and only if I didn't find the farmer in the Yellow Pages.

#### KENTUCKY

Raw milk sales are illegal with one exception: An individual with a written recommendation from a physician may purchase raw goat milk.

"So why do I feel so terrible, doctor?"

"According to your labs, you have a rare

intestinal disorder. It's called capralactinecessitis."

"Oh my gosh! Can it be treated?"

"Yes, but only if you drink milk that would kill a healthy person. I'll write a prescription."

#### MAINE

Raw milk sales are legal on the farm and in retail stores. Raw milk and raw milk products must have a label on the product containing the words "not pasteurized." Farmers do not have to

obtain a permit to sell raw milk if their sales are only on the farm and they do not advertise.

No, that's not particularly stupid. I listed Maine because—Stephen King-style horrors! —raw milk is sold there, both on farms and in stores. If the stuff is as dangerous as the detractors say it is (assuming you don't neutralize the contaminants by pouring the milk into your own container), wouldn't the population of Maine be dwindling by now? Wouldn't we have heard about it on the news?

#### MICHIGAN

Raw milk sales are illegal. Michigan was the first state to pass mandatory pasteurization laws—the year was 1948—and has some of the strictest milk laws on the books. Farmers may not even sell raw milk from the farm. In 2002, at hearings on the revision of the Michigan State Dairy Code, the industry attempted to amend the code to make it illegal for dairy farmers, their family members, their farm workers, and even their farm animals to drink the farm's raw milk.

"Open the door! Police! I said *open the door*! Okay, guys, kick it in." *Boom! Crash!* 

"Drop the bottle, lady! I said drop it! Starsky, grab the kid; he's got a milk moustache!"

"So, what're you in for, kid?"

"Well, I was milking Daisy and I took a sip."

#### **MINNESOTA**

The Department of Agriculture prohibits the sale of raw dairy with the exception of "milk, cream, skim milk, goat milk, or sheep milk occasionally secured or purchased for personal use by any consumer at the



Novel, and as yet legal, arrangement for delivering fresh raw milk to children!

place or farm where the milk is produced." The farmer cannot advertise and customers must bring their own containers. The state interprets "occasionally secured or purchased for personal use" to mean that farmers cannot sell raw milk to regular customers on a routine basis.

So you can buy raw milk from a farm as long you don't decide you like it and go back on a regular ba-

sis. Great, we'll have people showing up at farms wearing

Groucho Marx glasses to avoid detection. See, here's the thing: if the raw milk makes you sick, you won't be going back. That's why I only tried vegetarian chili once.

#### NEVADA

Raw milk sales are legal but, in practice, there are no raw milk sales in the state. In order for a farmer to obtain a permit from the state dairy commission to produce and distribute raw milk, the county milk commission must first certify the farm for the production of raw milk or a raw milk product. There has never been a county milk commission in existence at any time, so to this point, there has been a *de facto* prohibition of raw milk sales.

Most of us who saw "Brazil" took it as a warning. Apparently some government folks took it as an inspiration.

#### NEW JERSEY

Wise Traditions

Raw milk sales are illegal. To obtain other unpasteurized dairy products, residents travel to Pennsylvania and New York, which both allow raw milk.

"Waddaya want me to do with this jamook, boss?"

"Bury him in Pennsylvania, but transfer him to your own duffel bag so he don't rot. And pick up a gallon of raw milk while you're out there."

#### PENNSYLVANIA

Raw milk sales are legal on the farm and in retail stores. Raw milk for retail producers must have a permit and can only sell to stores if they have their own packaging operation with labeling and bottling machines.

For Pete's sake, didn't the Pennsylvania regulators learn anything from the Great Raw Milk Massacre in Illinios?! You can't let the farmers bottle this stuff themselves! You've got to make the consumers pour the milk into their own jugs, or all hell will break loose.

#### RHODE ISLAND

Raw milk sales are illegal with one exception: An individual may purchase raw goat milk from a producer if that person has a written, signed prescription from a physician.

So that lady from Kentucky with capralactinecessitis can live in at least one other state and still receive treatment. Lucky break.

Tom McNaughton is a standup comic and the creator and producer of Fat Head; visit his blog at www.fathead-movie.com.

#### RAW MILK UPDATES by Pete Kennedy, Esq.

CANADA: No event in the raw milk movement is bigger or more important for freedom of food choice than the court's ruling in the case of Canadian dairy farmer Michael Schmidt. On January 21 in the Ontario Court of Justice in Newmarket, Justice of the Peace Paul Kowarsky found Michael Schmidt not guilty of all nineteen charges brought against him by the Crown for alleged violations of Ontario law. Charges dealt with offenses related to the Ontario Health Protection and Promotion Act (HPPA) and the Ontario Milk Act. The issues in the case boiled down to whether Schmidt's cow share program violated the broad prohibition against the sale of raw milk in the province. Under the cow share agreements with Schmidt's dairy, Glencolton Farms, investors would pay the farmer \$300 to purchase a quarter interest in a cow enabling the investors to obtain raw milk and raw milk products from the farm. Ontario law basically states that "no person shall sell, offer for sale, deliver or distribute milk or cream that has not been pasteurized…"; a similar statute exists for milk products.

In Justice Kowarsky's view, the only issue before him was this: "Is the defendant guilty of the offences with which he is charged or does the fact that he sells his milk and milk products only to paid-up members of his cow share Program exculpate him?" In providing an answer to this issue, the judge's opinion raised several other questions which get to the heart of the matter in the ongoing battle between regulators and consumers who are exercising their legal right to drink raw milk when its sale is illegal. As stated in the judge's decision:

- If the purpose of HPPA and the Milk Act is primarily public safety, does the legislation apply to a structured group
  of private people, such as members of the defendant's cow share program, who may wish to become involved in
  activity which in itself is not unlawful, so that public protection of such people is not required, and therefore the
  legislation concerned is not applicable to them?
- Are the cow share members bound to accept the protection offered to the general public in the legislation or are they permitted to reject the protection offered, and assume any risks which may be involved?
- If the ultimate purpose of regulatory legislation is to protect those who are unable to protect themselves, especially
  those who are particularly vulnerable, do those members of society who expressly waive the need for protection,
  still need the protection? Relating to this case at bar, if, in consuming raw milk per se the cow share members are
  not committing an unlawful act, and they wish to continue to do that within the parameters of the essentially
  private cow share program, why should they be forced to be bound by legislation which is intrinsically aimed at
  the vulnerable—those who need the protection?

In finding for Schmidt, the court held that the cow share program is a private enterprise not subject to the public health laws and that individuals have the right to waive the protection of public health laws. The factors leading the judge to rule that Ontario's prohibition on the distribution of raw milk not applying to Schmidt's cow-share program were that the farmer did not advertise; he did not solicit shareholders; the investors were warned that they would be consuming the raw milk at their own risk; Schmidt provided the investors with information explaining his farm practices and the respective responsibilities of Glencolton Farms and the cow-share owners; the investors purchased shares in the cows of their own free will; the milk was not available to the general public; there was no evidence that anyone ever became ill from consuming the milk from Glencolton Farms; there was "no evidence that members of the public were placed at risk by being in contact with or in the company of cow share owners who were consuming raw milk products"; and the evidence was that Schmidt's products and operation were clean and hygienic. In light of these facts, the judge held that Schmidt's cow share program did not circumvent public health laws but rather enabled him to function within the parameters set by the legislation.

Faced with a loss of control over the food the people of Ontario can consume, the Crown filed an appeal of the decision on February 11. In its appeal the Crown made the claim that Justice Kowarsky was in error for finding "there was no evidence that anyone had become ill as a result of the consumption of the defendant's milk products, despite the evidence of Ontario's expert witnesses that many cases of milkborne illness go unreported and undiagnosed." The Crown also made the claim in its appeal that Justice Kowarsky "failed to take into account the Precautionary Principle which provides that whether there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation."

In the appeal the Crown is also contesting the right of the citizens of Ontario to opt out of the protection of the public health laws through private contractual arrangements such as cow shares. With the proliferation of GMOs and other toxic additives and ingredients in the food supply, the question is: what protection? In finding that there is a distinction between public and private in the distribution of food and that people do have the right to waive the protection of the public health laws, Justice Kowarsky has set a benchmark that judges in this country need to follow.

Since the January 21 hearing, many Ontario dairy farmers have shown interest in starting up cow share programs. The hope is that dozens of them will get underway. Michael Schmidt has been courageously fighting the Province of Ontario for sixteen years now to secure the right to distribute raw milk legally. He needs more help from both producers and consumers. Schmidt's message is this: "People need to basically take charge of and responsibility for their own food. You have to break down the difference between consumer and producer – the consumer is always passive, but consumers need to get involved in food production so that we don't end up with total corporate control of our food supply. Reconnect with where your food is coming from; reconnect with how your food is produced; and reconnect with the people who actually grow the food" (Eyeweekly.com, March 2, 2010).

FDA LAWSUIT: On February 20, the Farm-to-Consumer Legal Defense Fund, on behalf of itself and individual plaintiffs, filed a lawsuit seeking a court declaration that two federal regulations banning raw dairy products for human consumption in interstate commerce are unconstitutional as applied to the plaintiff. The parties sued are the United States Department of Health and Human Services (HHS), Kathleen Sebelius (HHS Secretary), and Margaret Hamburg (Commissioner of the United States Food and Drug Administration, FDA); the suit also asks for the court to rule that FDA exceeded its statutory authority in issuing the regulations. The suit was filed in federal court in the Northern District of Iowa. The main federal regulation in question, 21 CFR 1240.61, is extremely broad and provides, in part, that "no person shall cause to be delivered into interstate commerce or shall sell or otherwise distribute" any milk or milk product "in final package form for direct human consumption" unless the milk or milk product has first been "pasteurized or is made from dairy ingredients (milk or milk products) that have all been pasteurized." The other regulation at issue, 21 CFR 131.110, is the "standard of identity" regulation for milk in interstate commerce, which provides, in part, that all milk "that is in final package form for beverage use shall have been pasteurized or ultrapasteurized."

The plaintiffs in the lawsuit consist of six consumers, an agent for raw milk consumers, and a farmer producing raw milk. All consumer plaintiffs purchase raw milk in states where its sale is legal and travel into states in which the sale of raw milk is illegal where the milk is consumed. The agent, Eric Wagoner, was forced to dump over one hundred gallons of milk last fall at the order of FDA and the Georgia Department of Agriculture. Having picked up the milk at a dairy farm in South Carolina licensed to sell raw milk, Wagoner was attempting to deliver it to consumers in Georgia when he was stopped by officials from the state department of agriculture; the sale of raw milk for human consumption is illegal in Georgia. The farmer plaintiff, dairyman Mike Buck, is licensed to sell retail raw milk in South Carolina. Buck regularly sells raw milk to customers from North Carolina and Georgia who go to his farm to obtain the product.

The federal ban on raw milk for human consumption in interstate commerce prohibits a product that is currently legal to sell in at least twenty-eight states and is legal to consume in all fifty states. FDA's power to issue 21 CFR 1240.61 was derived from the Public Health Service Act (PHSA); under the PHSA, FDA is authorized to make and enforce regulations that are "necessary to prevent the introduction, transmission, or spread of communicable diseases . . . from one State or possession into any other State or possession" [42 USC 264]. In issuing the interstate ban, what FDA has done in effect is to characterize all raw milk for human consumption as a "communicable disease" and "adulterated" just because it is not pasteurized. So, a product that is legal to sell under the laws of two neighboring states becomes a "communicable disease" and illegal under federal law when it crosses from one neighboring state into the other.

The purpose of a "standard of identity" regulation is to "promote honesty and fair dealing in the interest of consumers;" with respect to 21 CFR 131.110, the complaint alleges that the pasteurization requirement in the regulation is not in line with this purpose, which is to enable consumers to know what product they are getting. It is not necessary to ban a product when warning labels would suffice to meet "standard of identity" requirements; federal law currently allows the interstate commerce of unpasteurized juice as long as the label contains required warnings. A key cause of action in the case is the constitutional right to privacy, which is protected by the Fifth Amendment's substantive due process clause. The U.S. Supreme Court has held that under the right to privacy, there is a fundamental right to raise a family and be responsible for custody and care of one's children; the Supreme Court has also held that the right to privacy includes the right to be free from government interference with one's body and physical health. The lawsuit seeks to expand on these rulings and get a holding that the constitutional right to privacy includes the right to obtain and consume the foods of choice. What is more fundamental to parents providing for the care of their children than feeding them the foods they believe best for their health? It is taken for granted that we have the constitutional right to eat the foods of our choice but there is nothing in the Constitution or any Supreme Court decision to date that specifically guarantees that right.

If FDA accomplishes what it wants, that right will be denied to everybody desiring to consume raw milk. FDA is at the center of opposition against raw milk; the agency's goal is to eliminate raw milk sales state by state. The agency has received a significant increase in its budget and will now be able to step up its enforcement actions against raw milk. FDA recently sent two agents to the farm of Pennsylvania farmer Dan Allgyer to conduct a warrantless inspection. Allgyer refused to let the agents inspect nor would he answer their questions, sending the agents away empty-handed.

The federal regulations at issue in the lawsuit are the biggest obstacles to exercising the right to consume raw milk and the right to sell it. Without the regulations, FDA would not be able to pressure states as it currently does to ban the sale of raw milk. Once the regulations are overturned, raw milk producers will have access to markets they have unjustly been denied; and consumers will be able to obtain raw milk without having to worry about being in violation of the law. If crossing state lines to obtain raw milk is in fact a violation of the law, thousands of acts of civil disobedience are committed in this country every week

WISCONSIN: Wisconsin remains at the center of the battle over raw milk. The Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) has continued enforcement actions against raw milk producers with an order on January 26 to the Siegmann farm of Rubicon, prohibiting the farm from selling or distributing raw milk. That same day, DATCP initiated official investigations of three other farms suspected of selling raw milk and raw milk products; the investigation of Midvalleyvu Farm was eventually dropped.

DATCP was also on the receiving end of two lawsuits. On December 16, Grassway Organics Farm Store, LLC of New Holstein and Grassway Organics Association filed suit against DATCP asking for a court ruling confirming that the farm store could legally sell raw milk to the members of the association; the association invested in the LLC [see *Wise Traditions,* Fall 2009 issue for more information]. The suit also is seeking a ruling confirming that the Craigs do not need a food establishment permit to operate the on-farm store since it is not open to the general public. Under state law anyone with that permit can sell only pasteurized milk in the establishment.

On February 25, Mark and Petra Zinniker of Zinniker Farm, Inc. in Elkhorn, along with Nourished By Nature, LLC filed a lawsuit seeking a court ruling confirming that the Zinnikers could enter into a boarding agreement with Nourished By Nature, LLC to board and care for cows owned by the LLC and to distribute raw milk to the LLC members. Earlier, Zinniker Farm Inc. had signed a consent order with DATCP and the Woolworth County District Attorney, agreeing not to sell or distribute raw milk in violation of the Wisconsin dairy code. The question for the judge is whether the boarding agreement is in compliance with the dairy code.

In addition to its actions against farmers, DATCP has continued its investigation of Belle's Lunchbox operated by Max Kane. In June 2009, Kane had refused to turnover business records requested by DATCP on the grounds that the agency did not have jurisdiction over his operation and that he would be waiving his right not to incriminate himself. DATCP responded to Kane's refusal by filing a petition with the Vernon County Circuit Court in Viroqua to get an order that the agency had the jurisdiction to subpoen the records. A hearing on DATCP's petition was held on December 21, Judge Michael Roseborough ruled in favor of the agency.

Kane has filed notice with the Vernon County Court that he will appeal the decision. DATCP was not deterred by the notice of appeal and set a March 18 hearing for Kane to turn over the records. Kane has made it clear to the agency that he will not surrender the records and that any further proceedings should be stayed pending his appeal. Before Kane's hearing on December 21, a rally was held outside the courthouse in Viroqua. Among the speakers were Michael Schmidt, Mark McAfee, David Gumpert, Scott Trautman, Kathryn Pirtle and 2004 Libertarian Party presidential candidate Michael Bednarik. Bednarik summed up the struggle for food freedom when he told the crowd, "This is what it's all about; either you own your own body and you are a free person or the government owns your body and you are a slave." In Schmidt's words, "What we saw here was a galvanizing of a movement" (http://www.thecompletepatient. com, December 22, 2009).

Shortly after the rally, Alliances for Raw Milk (ARMs) were formed in the U.S. and Canada to promote alliances at the state, national and international level to support consumer freedom of food choice and the right of farmers to mar-

ket products they produce. Formed through Facebook, ARMs have been established in at least thirty states and seven countries.

With DATCP's continued enforcement actions, passage of raw milk legislation is more important than ever. A joint hearing on the General Assembly bill (AB 628) and the Senate bill (SB 434) was scheduled for March 10 in Eau Claire (see *Wise Traditions* Winter 2009 issue for more information about the bills). In the weeks before the hearing, media attention on the bills was increasing. Wayne and Janet Brunner of Midvalleyvu Farm gave a number of interviews on their ten-year struggle to sell raw milk legally in Wisconsin and the importance of the bills' passage for the survival of small dairy farms in the state. State Representative Chris Danou (D-Trempeauleau), sponsor of the Assembly bill, also gave a number of interviews publicly criticizing DATCP for its treatment of small dairy farms like Midvalleyvu.

One response of DATCP to criticisms of its raw milk enforcement policy was for Secretary Rod Nilsestuen to convene in January a twenty-person committee to study the legalization of raw milk sales in Wisconsin. The committee is comprised of farmers, representatives of the dairy industry, government officials and academia; the first meeting was to take place on March 15 with monthly meetings to continue until July. One farmer estimated that fifteen of the committee members were against legalizing the sale of raw milk. Many suspect that the committee was formed to give legislators an excuse not to vote for any raw milk bill until they receive the committee's final report sometime this summer; the current legislative session ends April 22.

SOUTH DAKOTA: Last fall the South Dakota Department of Agriculture (SDDA) issued proposed regulations that would have made it much more difficult to sell raw milk in the state (see *Wise Traditions,* Winter 2009 issue). Due to public outcry, State Secretary of Agriculture Bill Even withdrew the proposed rules. Instead, the department introduced a bill (HB 1057) through the House Committee on Agriculture and Natural Resources at the start of the legislative session in January. While the bill is not as bad for raw milk producers as the proposed regulations were, it would still be more onerous than the current law. Under HB 1057 producers selling raw milk would need to get a Grade B permit (current statute requires no permit) and would no longer be allowed to sell raw cream. Under the bill any producer wanting to obtain a Grade B permit would need an enclosed facility with separate rooms for milking and bottling (handcapping is allowed). The permit would cost \$100 per year, which would cover the cost of an annual inspection; and in addition, there would be a \$15 monthly milk testing fee. The bill also decriminalizes violations of the milk statute; however, the civil penalties could be as high as \$5,000 per violation.

The biggest concern with the bill is the cost of building a facility that would be in compliance with the Grade B requirements. Lila Streff, a goat milk producer in Custer, sent written testimony to the House committee stating that she spent \$85,000 to put up a facility that met Grade B standards. An official with SDDA said that those dairies that would not be able to meet the Grade B requirements would be able to distribute milk legally through a herd share program which would not be regulated by the department. HB 1057 has passed the full House and was awaiting a vote by the full Senate in March.

IOWA: On January 25 Charles Freitag and Mindy Slippy, individuals who had purchased a cow from a Riverside dairy farmer and who had arranged to board their respective cow with the farmer, filed suit against Bill Northey, Secretary of the Iowa Department of Agriculture and Land Stewardship (IDALS), to obtain a declaratory judgment. The plaintiffs are seeking four declarations from the court that they are entitled to: (1) own personal property in the form of a cow; (2) consume the unpasteurized milk and other unpasteurized dairy products from their own personal cow; (3) enter into a boarding contract with a farmer to have the farmer tend to, manage and take care of their personal cow for them; and (4) enter into a service contract to have the farmer convert some of the milk from their own cow into unpasteurized dairy products such as butter, kefir and yogurt.

On February 2, 2009, IDALS sent a letter to the farmer taking care of the plaintiffs' cows, informing him that he was "selling" raw milk to consumers in violation of Iowa law. The lawsuit claims that IDALS's interpretation of the law prohibits plaintiffs from exercising "their Constitutional rights (1) own, possess and use their private property, (2) to privacy and to consume the foods of their choice for themselves and their families, (3) and to enter into boarding and service contracts with an Iowa farmer." No hearing date has been set for the suit.

For the latest developments on raw milk issues, go to www.thecompletepatient.com.

Those who have not joined the Farm-to-Consumer Legal Defense Fund are encouraged to do so. Membership applications are available online at www.farmtoconsumer.org or by calling (703) 208-FARM (3276); the mailing address is 8116 Arlington Blvd., Suite 263, Falls Church, VA 22042.

#### NIH LACTOSE INTOLERANCE CONCENSUS CONFERENCE By Sylvia P. Onusic, PhD and Kimberly Hartke, Weston A. Price Foundation Publicist

"Experts" participating at the NIH Concensus Conference on Lactose Intolerance argued for including more pasteurized and homogenized dairy in the American diet, even for those who experience adverse physical symptoms called "lactose intolerance." The Weston A. Price Foundation had a booth at the conference, held at the National Institutes of Health in Bethesda, Maryland, February 22-24.

The experts presenting at the conference built a case for the vital importance of dairy in the human diet, and stressed the idea that those who avoid dairy are setting themselves up for major nutrient deficiencies, particularly of vitamin D and calcium. They also noted that African Americans and Asians are more likely to avoid conventional dairy milk they suffer from higher levels of lactose intolerance than the general population, and as a result are likely to be deficient in these nutrients. Lactose intolerance, the inability to digest the milk sugar called lactose, often causes digestive symptoms such as bloating, cramps, excessive gas and discomfort.

The conference was a great opportunity for us to educate dieticians, physicians, and academic experts about the benefits of raw milk and whole foods. We explained that over 80 percent of those who experience lactose intolerance find that they can drink raw milk with no problem, because it contains beneficial bacteria that produce the enzyme lactase. We also explained that many whose ancestors drank fermented milks (in which lactose is pre-digested by pro-biotic bacteria,) such as kefir or clabber, will do best to seek out these traditional forms of milk for themselves. As expected, none of the panelists presented information on studies, personal observations or interviews with patients regarding this simple yet effective solution to lactose intolerance.

The WAPF booth was very effective in filling that gap in the conference program. Nearly everyone attending the conference took our Campaign for Real Milk brochure, which we offered it to them on their way in and out of the conference. Many others visited our booth and took our membership brochure and other materials. Interestingly, the lactose intolerant individuals were the most open to our message, and were hungry for answers. A number expressed interest in securing access to raw milk. One angry woman did confront us, as well as the NIH staff, about our presence there. She felt it was inappropriate for us to promote raw milk in a state where it is illegal to sell it. Fortunately, NIH staff were very firm about our free speech rights and defended their decision to invite us to exhibit. (See a reply to the "angry lady" at http://hartkeisonline.com.)

Speakers talked about "perceived lactose intolerance" in the patient and claimed that patients don't have lactose intolerance unless diagnosed by a physician. But common sense tells us that if the milk hurts, people will avoid it, whether they have gotten an official diagnosis or not. Expert participants in the audience noted that the test that confirms this "diagnosis" can easily give false negatives if the patient had recently been on antibiotics or had a varying strain of bacteria in the colon. Some may have an allergy or intolerance to the altered protein in processed dairy, not the lactose, but this was not discussed, only in a passing comment.

The panelist-speakers, primarily academicians with ties to pharmaceutical companies or food manufacturers and trade associations, made no distinction between types of milk, pasteurized, homogenized, or powdered. Nor did any speaker explore the effect of homogenized milk on lactose intolerance. A physician expert even promoted strawberry and chocolate milks, high in sugars and containing artificial additives, as a way to get more dairy into children. Cheese and yogurt were also mentioned several times as options for getting the nutrients of concern.

The raw milk movement continues to grow as consumers discover the health benefits of fresh milk which comes from cows treated humanely and fed appropriately. We felt privileged to be at this conference to carry this message to health professionals and academic researchers. We hope we put farm fresh dairy on the table for future discussions.

To see the final statement issued by the consensus conference, visit this link: http://consensus.nih.gov/2010/images/lactose/lactose draftstatement.pdf.

Sylvia P. Onusic (pictured left) holds a PhD in Health Education and Nutrition. She has completed all coursework to qualify for Registered Dietician. She is also a certified nutrition teacher in Pennsylvania and has taught nutrition in local high schools and on the university level. She is a member of the American Society for Nutrition. Sylvia will be speaking at the upcoming Raw Milk Symposium, to be held in Wisconsin April 2010, on Raw Milk Perspectives in Europe; Kimberly Hartke (pictured right) is the publicist for Weston A. Price Foundation, a nutrition education non-profit, and their Campaign for Real Milk, an effort to educate the public about the health advantages of unprocessed milk from traditional, pasture-based dairy farms. Visit realmilk.com for more information.



SPRING 2010

### Healthy Baby Gallery



Twins Nicholas and Charlie Grannis grew from four pounds at birth to twenty pounds at six months on our homemade raw milk formula. Healthy and happy, the unsuspecting pediatrician even commented on how amazing their skin looked during the winter. Three-year-old Fatmata came to the U.S. with her Mom and two older sisters in July of 2008 from Liberia. Note Fatmata's amazing straight and white teeth. According to her mother, in Liberia they ate fresh foods from their gardens and local farms, including corn, chicken, and rice and drank clean water. Unfortunately, many refugees turn to sodas and processed foods once they reach the U.S.





Hope Angelina Peterson, sixth child of Christy Peterson, our Belvair, Washington chapter leader, is pictured here at six weeks. During her pregnancy, Christy consumed pastured raw milk and egg yolks, fermented cod liver oil, grass fed liver, lots of sauerkraut, and some of Dr Christopher's herbal supplements. She weighed over nine pounds at birth and slept five hours a night when she was only a few days old. She is happy, alert and strong! Christy heard the discharge pediatrician at the hospital twice mutter incredulously under his breath, "This is a new born?" She really wanted to tell him how everyone could have newborns like that!



Mary Grace Sodergren, pictured here at three months, was welcomed into the world by her parents and two brothers after a very quick, smooth and wellnourished labor. From birth, she has been extremely calm and easy going, which is a great help with all the "loving" she receives from her big brothers!



Phoebe Li, adopted child of Jacqueline Carroll, Newburyport, Massachusetts chapter leader, is a healthy girl thanks to the meat, vegetable soup, egg yolks and cod liver oil she received in the orphanage in Guangdong Province. "When we heard what her diet was like, we were so excited!" says Jacqueline. People still know what is healthy for babies in some parts of the world.

Please submit your baby and raw milk granny photos to Liz Pitfield at liz@westonaprice.org. Be sure to label photographs with the full name of the baby.

### Healthy Baby Gallery



Julius Isaiah Gilbert weighed over eight pounds at birth. His mom consumed lots of raw milk, cheese and kefir, grass fed beef and lamb, liver, cod liver oil and fish roe throughout her pregnancy. Julius is a happy, content and alert breastfed baby and will enjoy his first egg yolk from his family's own pastured chickens.



One-year old Rio Miller has been strong and bright since day one. His mom and dad are big milk drinkers and egg eaters. "He is one of the most beautiful babies I have ever seen," says chapter leader Cynthia Calisch, Sarasota, Florida chapter leader.



Proper nutrition during pregnancy ensured that baby Jackson Reese Novak "was born absolutely perfect in every way!" says mom Elena Novak. Jackson was exclusively breasfed until twelve months and now, at fourteen months, he is breastfeeding and eating raw milk, wild bison patties, organic produce, butter, high quality cod liver oil, colostrum and many more nourishing, nutritionally dense foods. Jackson is a perfectly happy baby with a sunny personality. "We are thankful for all the guidance we have been receiving from the WAPF!" say his parents.



Evan Tisdale enjoys wonderful health at age three months. His mother consumed a WAPF diet—raw milk, cod liver oil, coconut oil, butter oil, eggs and pastured meat—for over two years prior to his arrival; Evan is now breastfeeding and getting our raw milk formula as a supplement. He was smiling at four weeks, rolling over at seven weeks and "more alert than we could have possibly imagined." He was holding his head up on the day he was born. We feel so lucky to have found WAPF," says mom Sandee Tisdale. The name Evan means "young warrior."

- AK Matanuska Valley: Aubrey and Kirby Spangler (907) 746-3733, aubreyknapp@gmail.com
- AL Auburn: Michael Klein & Susan Ledbetter (334) 821-8063, gnomons@bellsouth.net & kleinmj@bellsouth.net
   Estillfork: John Langlois (256) 776-1499, john.langlois@foggybottomfarms.com, http://health.groups.yahoo.com/group/AL\_WAPF/
   Gulf Shores/Eastern Shore/Mobile: E. Ann Morris (251) 928-6520, eannmorris4@aol.com
- AZ Bisbee: Nancy McBroom (520) 432-2546, nutrientdensefoods@gmail.com
   Flagstaff: Ann Marie de Wees (928) 853-7627, deweesa@yahoo.com, wapf-flagstaff.ning.com
   Kingman: Dianne Ronnow (928) 279-2736, sageblossom1@gmail.com
   Snowflake: Codi Stinnett (928) 536-6049, foodwise3@hotmail.com
   Southeast Valley: April Amber Jolly (480) 577-3307, maridap@jollymail.net, wapfsevalleyaz@yahoogroups.com
   Tucson: Vanessa Van Dalsem (520) 498-9919, vandalsem@comcast.net, http://wapftucson.ning.com/
   Verde Valley/Sedona: Anne Greenwood (928) 567-3007, naturalists@sedona.net
- AR Fayetteville: Calvin & Doris Bey (479) 527-6951, CFBey1936@cox.net

Antelope Valley: Irene Musiol (661) 722-9317, avwapf@roadrunner.com CA Arcata: Linda Redfield, CCWFN (707) 834-2501, Lindaredfield@gmail.com Arroyo Grande/Central Coast: Lynn Parks (805) 574-0078, wapf@notprocessed.com Bakersfield: Caroline Culliton (661) 747-5934, c.ps23.culliton@sbcglobal.net Berkeley/Oakland: Dave Rana (510) 841-1112, waprice@niwas.net Burbank: Becky Bell (323) 899-4020, rebeccamay\_bell@hotmail.com Cal Neva TerRAWtory: Kelly Reuss DC, (530) 582-5639, kellyreuss@gmail.com Calaveras County: Sage Gregory (209) 609-7093, sierrafarmz@yahoo.com Chico/Butte Valley: Carol Albrecht and Kim Port (530) 533-1676, ccakfa@aol.com Concord/Clayton/Pleasant Hill: Samantha Stith (925) 683-8947, samanthaallyn@yahoo.com Creston: Cindi Small (805) 238-5719, cindismall@earthlink.net Conejo Valley: Daniel Fish (818) 253-5519, daniel.fish@yahoo.com CREMA- California Raw Milk Association: Christine Chessen (415) 505-4965, crema@comcast.net, www.californiarawmilk.org Davis: see Yolo County Dublin/Pleasanton/Livermore: Judith Phillips (800) 257-3315, judy@magneticclay.com, http://wapfeastbay.ning.com El Dorado County: Kelly Hodgkin (530) 306-8739, khodgkin@comcast.net Fresno/Madera County: Hillori Hansen (559) 243-6476, blissful\_chef@yahoo.com & Megan Dickey (559) 355-1872, hiddenpathways@gmail.com Grass Valley/Nevada City: Shan Kendall (530) 478-5628, daveshanken@juno.com & Cathe' Fish (530) 478-1852, sunshine.works@gmail.com Lake County: Sequoia Lyn-James & Vanessa Hajje (707) 987-9108, denmother@wildwomynessentials.com Los Angeles, West/Santa Monica: Victoria Bloch (310) 479-6143, victoria@blochcoulter.com, & Ann Marie Michaels annmarie@realfoodmedia.com, http://www.meetup/Los-Angeles-Whole-Food-Nutrition-Meetup-Group/http://wapflosangeles.ning.com Marin County: Sarah Bearden (415) 461-7429, esbearden@aol.com Merced County: Marie Meredith (209) 384-7598, mariemeredith@hotmail.com Oakland: Indu Kline (510) 846-4793, indukline@yahoo.com Orange County, South: Marsha Youde (949) 425-1575, healthylifestyle101@yahoo.com Pasadena: Karen Voelkening-Behegan (626) 836-5053, gaia@toad.net Redding: Trudi Pratt, DC (530) 244-7873, drtrudi@charterinternet.com, www.drtrudipratt.com Redondo Beach: Angela Karlan (310) 540-6542, akarlan@yahoo.com & S. Jeff Jennewein, DC, jjennewein@teacher.tusd.org Sacramento: http://health.groups.yahoo.com/group/WAPF-Sacramento/ San Bernardino/Riverside Counties: Peymon Mottahedeh (760) 868-4271, peymon@livefreenow.org San Diego/East County: Victoria & Robert Bradley (760) 536-6789, Victoria@ramonafamilynaturals.com San Diego/Encinitas: Kim Schuette, CN (858) 259-6000, kim@biodynamicwellness.com San Jose & South Bay: Pamela Laine (408) 718-9036, wapfsouthbay@gmail.com, http://health.groups.yahoo.com/group/WAPF-SouthBay/ San Juan Ridge: Gaetane Courchesne (530) 292-3704, gcourchesne@wildblue.net San Mateo County: Holly Bourne (650) 851-2180, wapfsanmateo@gmail.com San Ramon/Danville/Walnut Creek: Sarah Powers (925) 820-0838, sarahbpowers@hotmail.com Santa Cruz County: Jean Harrah (831) 761-3765, jalysonh@yahoo.com San Francisco: Holly Valerio Kuttner (510) 926-1997, hollykuttner@gmail.com Santa Monica: see Los Angeles Santa Rosa: Anne Fischer-Silva (707) 849-3569, afischersilva@comcast.net Siskiyou County: Diane McGonigal, (530) 467-5356, mcgfam@sisqtel.net, & Shawna Byers (530) 468-2800, byers@sisqtel.net Stockton & San Joaquin County: Martha E Zetter, Holistic RN, CRM (209) 478-7630, martha@zetter.com Three Rivers: Teriz Mosley (559) 561-3637 terizmosley@hotmail.com & Anore Jones (559) 561-3161, anore@earthlink.net Ventura City: Jean Pedersen (805) 640-3706, jeancarolp@gmail.com & Laurie Warner (805) 487-0055, hearthcraft46@yahoo.com Yolo County/Davis: Laura Bealer (530) 753-7651, Imbealer@yahoo.com, http://wapfyolo.ning.com

CO Aspen: Dione De l Monica (970) 544-5301, dione100@aol.com
Boulder: Stephanie Small (617) 312-2017, Stephanie@threesistersnutrition.com
Colorado Springs: Megan Quinones (719) 684-5782 & Adrienne Ferguson, 719-641-7646, springswapf@yahoo.com
Denver: Blair McMorran (303) 465-3883, baburn1@comcast.net&Dianne Koehler (303) 423-5736,
Dianne.Koehler@gmail.com, nourishingconnections.org
Durango: Jonathan & Heather Drake (970) 403-5386, drakefamily@neworganiclifestyle.com
Eastern Plains: Maria Atwood, CNHP (719) 346-0300, easternplainswapf@yahoo.com, www.traditionalcook.com
Erie: Carl G DelTufo LAc & Anne Harper (303) 776-3491, anne@erieoasis.com
Fort Collins: Nancy Eason (970) 493-7588, neeason@gmail.com
Grand Junction: Dawn Donalson (970) 241-0529, alexgabbysamm/@yahoo.com
Northern Colorado: Meg Cattell, DVM, (970) 481-1536, meg@windsordairy.com, www.windsordairy.com
Pagosa Springs: Jason & Corrie Stuck (970) 731-9982, rootsandwings@hotmail.com
Pueblo/Rye/Wet Mountain/Lower Arkansas Valley: Kim Wiley (719) 947-0982, kimmymcintyre@hotmail.com
Western Slope: Evette Lee (970) 256-0617, evenmike@acsol.net
Westminster: Delicia Beaty (303) 456-5009, westminsterwapf@gmail.com

- CT Fairfield County: Selina Rifkin (203) 209-7680, gelfling23@att.net New London County: Tamar Stearns (860) 859-1554, tamarstearns@gmail.com & Kellene Limpert (860) 535-4307, millhouse06359@juno.com NW Corner: Stephanie Shearer (860) 824-4425, stephacow@sbcglobal.net Watertown: Dr. Ron Schmid (860) 945-7444, drron@drrons.com
- DC Ressa Charter (406) 794-4891, ressacharter@gmail.com, wapf-dc.ning.com
- DE Northern Delaware: Bob Kleszics (610) 255-1691, harvestbob@juno.com
- FL Altamonte Springs/Longwood: Steve Moreau kmt205@gmail.com
  Bradenton: Nancy Hausman (941) 720-2623, info@nancyhausman.com
  Ft. Lauderdale/Broward County: Dr. Paola Weber & Charles Weber (954) 330-3561, drweber@bmorganics.com
  Gainesville: Beth Michelson (352) 376-5908, bmichelson@bellsouth.net
  Jacksonville: Diane Royal (904) 396-6881, droyal@cxp.com
  Miami/Miami-Dade County: Cary Roush (305) 221-1740, garyaroush@aol.com
  Miramar: Angie Aller (954) 662-5003, angiecaller@yahoo.com
  Orlando: Diana Coughlin (407) 739-3446, dianajack@ccomcast.net
  Panama City: Cecelia DeSonia (850) 248-6619, ceceliadesonia@hotmail.com
  Sarasota: Cynthia Calisch & Preston Larus (941) 914-0299, wapfsarasota@gmail.com
  Tampa/St. Petersburg: Sarah Pope sarah.pope@austus.com, http://health.groups.yahoo.com/group/WAPFTampaBay/
  Vero Beach: Jody & Randy Old (772) 539-0220, jold@rbold.com, rbold@rbold.com
  West Palm Beach: Gloria & Joe Cosmano (772) 489-7905, SeaBreezeOF@aol.com
- GA Atlanta, East: Lynn Razaitis (404) 294-6686, razaitis\_lynn@yahoo.com, http://groups.yahoo.com/group.GA\_WPF/ Atlanta, West: Jessica Lara (678) 458-3654, jess426@gmail.com Lawrenceville/Athens: Mary Marlowe ((770) 962-9618, marlowe@onlynatural.info Marietta: Debby Smith (770) 980-0921, dsatlanta@comcast.net North Fulton County: Celeste Skousen (770) 623-4190, celestems@gmail.com & Cathy Payne (706) 416-6611, ournaturallife@gmail.com Snellville/Stone Mountain: Heather (770) 367-5298, trulyhealthybaby@yahoo.com Warner Robins: Lori Freeman (478) 953-8421, lorifreeman1@cox.net
- HI Big Island: Lisa Romero (808) 985-9885, ohiarain@yahoo.com
   Kapaa, Kauai: Sumi Niimi-Burch (808) 822-4675, suminumi@hotmail.com
   Oahu Island (Honolulu County): W. Ken Koike (808) 275-7007, wkenkoike@hotmail.com
- ID Boise: Juliana Benner (208) 850-8075, julianabenner@hotmail.com Ketchum/Sun Valley: Leslie Bradshaw (208) 622-7724, leslie.bradshaw@mac.com & Veronica Rheinhart, LAc (208) 450-9026, veronica@wellness101.org Latah County/Moscow: Eliza Fletcher (208) 883-2686, eliza28@cpcinternet.com Northern ID: Barbara Geatches (208) 457-1757, bgeatches@yahoo.com
- IL Central Illinois: Kate Potter (309) 362-2117, potter\_kate@hotmail.com
   Chicago: Jill Cruz (773) 944-9134, loverealfood@gmail.com
   NW Chicago Suburbs: Susan Wanga (847) 630-5296, wapfnwchicagosuburbs@gmail.com
   Northern Dupage County: Kathryne Pirtle & Olive Kaiser (630) 543-5938, kathypirtle@sbcglobal.net
   Oak Park: Gina Orlando (708) 524-9103, gorlandoma@aol.com
   Rockford/Freeport area: Dale & Eileen Kelsey (815) 239-1466
   Wauconda: Linda DeFever (847) 526-6452, ocfever01@yahoo.com

- IN Avon: Bob Ridenour (317) 272-0726, Jessica\_ridenour@hotmail.com Bloomington: Larry Howard (812) 876-5023, info-wapf@betterlocalfood.org Fort Wayne: Lauren Andrews (260) 482-1073, laurensenac@hotmail.com Indianapolis: Leslie Gray (317) 842-3757, leslie.gray@comcast.net, www.indywapf.org Lafayette/West Lafayette: Ben Leonard (812) 239-7073, compbody@gmail.com, http://lafayette-wapf.com South Bend: Misty Sorchevich (574) 772-6996, msorchevich@centurylink.net
- IA Council Bluffs: Luana & Glenn Harman (712) 587-0472, glennandluana@wiaw.net Des Moines: Steve & Teresa Colyn (515) 961-6448, roostersunrise@gmail.com Holstein: Elaine Rolfs (712) 368-2391
- KS Central Kansas: Connie Newcome (620) 585-2556, cnewcome@gmail.com Lawrence: Tamara Fairbanks-Ishmael (785) 691-5914, tsfairish@sbcglobal.net Merriam: Jody Drake & Sandra Stoner (913) 722-4343, jody@mutrux.com, sandraanddale@aol.com
- KY Elizabethtown: Serena Erizer (270) 763-9743, heartlandwholelifeorders@yahoo.com Louisville: John William Moody & Jessica E. Moody (502) 291-2119, louisvillewapf@yahoo.com
- LA Greater New Orleans: Kathia Duran & George Caraccioli (504) 333-3611, kathia@latinofarmerscoop.org,
- ME Auburn/Lewiston: C. Andi Locke Mears (207) 784-7282, calmhealth@roadrunner.com Casco Bay: Suze Fisher, Kate Mockus & Jane Greenleaf (207) 725-0832, suzefisher@gwi.net
   Denmark: Donna Dodge (207) 452-2644, eatsmart@fairpoint.net
   North Berwick & Sanford: David Plante (207) 676-7946, dplant@maine.rr.com & Amy Vezina (207) 636-7626, amyvezina@comcast.net
   Penobscot Bay Area: Emily & Adam Rawn (207) 691-9327, adam2emily@yahoo.com
   Searsport: (207) 299-0041, Livingston\_laura@hotmail.com
   Whitefield: Susanne Meidel (207) 549-5716, meidel@earthlink.net
- MD Anne Arundel County: Jessica Earle (410) 268-0197, Jessica@essencephotography.net & Cara Bergman (410) 647-2884, cslbergman@comcast.net, http://health.groups.yahoo.com/group/WAPF-Anne-Arundel-County, http://www.nourishingyouandyourchildren.blogspot.com/
   Baltimore: Hillary Little (443) 912-4688, hlittle@comcast.net, Louise Mitchell (410) 426-4213, lmitc001@son.umaryland.edu Bowie: Liz Reitzig (301) 860-0535, liz.reitzig@verizon.net, Deneice Knauss (301) 352-7024, knauss20@excite.com

Chestertown: Rebecca Pitre & Bill Schindler, PhD (410) 648-5511, rebeccapitre2003@yahoo.com & wschindler@washcoll.edu Cumberland: Bill Johnston & Stacey Webster (301) 722-4555, wcjohnston@verizon.net or stacyjj@gmail.com

#### LOCAL CHAPTER BASIC REQUIREMENTS

- 1. Provide information on sources of organic or biodynamic produce, milk products from pasture-fed livestock (preferably raw), pasture-fed eggs and livestock and properly produced whole foods in your area.
- 2. Provide a contact phone number to be listed on the website and in our quarterly magazine.
- 3. Provide Weston A. Price Foundation materials to inquirers, and make available as appropriate in local health food stores, libraries and service organizations and to health care practitioners.
- 4. Provide a yearly report of your local chapter activities.
- 5. Be a member in good standing of the Weston A. Price Foundation.
- 6. Sign a contract on the use of the Weston A. Price Foundation name and trademark.

#### **OPTIONAL ACTIVITIES**

- 1. Maintain a list of local health care practitioners who support the Foundation's teachings regarding diet and health.
- 2. Represent the Foundation at local conferences and fairs.
- 3. Organize social gatherings, such as support groups and pot luck dinners, to present the Weston A. Price Foundation philosophy and materials.
- 4. Present seminars, workshops and/or cooking classes featuring speakers from the Weston A. Price Foundation, or local speakers who support the Foundation's goals and philosophy.
- 5. Represent the Weston A. Price Foundation philosophy and goals to local media, governments and lawmakers.
- 6. Lobby for the elimination of laws that restrict access to locally produced and processed food (such as pasteurization laws) or that limit health freedoms in any way.
- 7. Publish a simple newsletter containing information and announcements for local chapter members.
- 8. Work with schools to provide curriculum materials and training for classes in physical education, human development and home economics.
- 9. Help the Foundation find outlets for the sale of its quarterly magazine.

Frederick: See Harpers Ferry WV Gaithersburg: Cyndi Greene (301) 216-0375, cyngreenemd@yahoo.com Jarrettsville: Janet & Paul G. Baer (410) 692-2820, jbaer@starband.net Kent Island: Dr Kristin Mowry, PT, DPT, CHHC (410) 643-8744, drkristin@mac.com & Diane Bedlin (410) 643-3283, dianebedlin@gmail.com Millersville: Suzy Provine (410) 733-3767, suzy@abloomingbasket.com Rockville: Linda Browne (301) 325-3591, brownelinda@yahoo.com Silver Spring: Kathy Conley-Aydin (301) 622-0907, Kathy.WAPF@comcast.net Westminster: Amy Conaway (410) 848-3141, hysenthlaydew@yahoo.com, http://health.groups.yahoo.com/group/WestminsterWAPF/ MA Andover: Liz Anderson (978) 474-9283, wapandover@comcast.net Berkshire: Mary Elizabeth Merritt (413) 528-4262, fourwindsfarmgb@aol.com Brookline: Jill Ebbott (617) 232-3706, jill.ebbott@gmail.com Burlington: Karen Potter (781) 799-5329, kpotter4health@gmail.com Cape Cod, Lower/Outer: Ellen Petry Whalen (508) 255-4929, tewhalen@verizon.net Cape Cod, Mid-Cape: Rebecca Ryan & Kathy Hansel Ponte (508) 237-3302, Rebecca@bodyessentialsofchatham.com Concord: Kristin Canty (978) 369-5042, kristincanty@aol.com Central: Sharon Barrett (508) 845-6985, sharon.barrett@verizon.net Hadley: Karlina Mottern (213) 804-6695, karlina@tmail.com Hopkinton: Kathleen Mosher (508) 435-3250, jkmosher@verizon.net Martha's Vineyard: Dodie Anderson (858) 526-0844, dodie@metaboliced.com Newburyport: Jacqueline Carroll (978) 462-4982, Jackie@amazonpromise.org Northampton: Jennifer Herman (413) 586-0279, jennifernherman@gmail.com North Shore: Cyndy Gray (978) 767-0472, justdairy@comcast.net Pelham: Julie Rypysc (413) 253-7339, snowyowl@crocker.com Pepperell: Renee Cyr (978) 433-9732, rmcyr@charter.net Wachusetts: Dawn Desilets Sulmasy (978) 464-5587, newdawnnutrition@yahoo.com Winchendon Springs: Beth Ingham (978) 297-1148, noondayfarm@hotmail.com Ann Arbor: Jessica Feeman (810) 225-2789, info@aawapf.org, http://www.aawapf.org MI Big Rapids: Bonnie Miesel (231) 823-8002, jmiesel869@gmail.com & Atlee Yoder Coral: Abagale Kuncaitis & Angela Kuncaitis (616) 566-8481, angela@maplevalleyfarms.net Detroit: Birgit McQuiston (248) 828-8494, info@htnetwork.org Eastern Upper Peninsula: Greg Krause (Engadine) (906) 477-6537, gakrause1234@hotmail.com, and Cynthia Dutcher (Goetzville) (906) 297-2120, dutchfarm@sault.com Gaylord/Johannesburg: Cindy Current (989) 786-4595, puddingstonefarm@yahoo.com Genesse/Lapeer/N. Oakland: Kim Lockard (810) 667-1707, Kim Lockard@gmail.com & Lorna Chambers (810) 664-4372, chambersbl@charter.net Grand Rapids: Gil Witt (616) 309-9147, gilwitt@gmail.com, nourishingways.org Howard City: Lela McGuire (231) 937-5911 Livonia: Danielle Piergentili (734) 762-1662, wapf Livonia@yahoo.com Mount Pleasant: Kathryn Doran-Fisher (989) 486-5782, purelightnht@hotmail.com Northeast Michigan: Dr Bob & Lisa Turek (989) 724-7383, gerininamo@yahoo.com Oakland County: Archie Welch (248) 620-8969, aewelch@msn.com Oakland, North/Genesse/Livingston Counties: Diane & John Franklin (248) 634-2291, diane@rockygardens.com South Central: Peggy Beals, RN (734) 475-0406, pegbeals@msn.com South East: Maurine R. Sharp, RN (734) 755-4213, herbsandmore@sbcglobal.net Tri-City MBS: Grace Cummings (989) 687-5425, gracecummings@charter.net MN Albert Lea/SE Minnesota: Al & Shari Wagner (507) 256-7569, alw@dmbroadband.com Ely: Sonja Jewell, CMT (218) 365-2288, evergreencottage@frontiernet.net

Ely: Sonja Jewell, CMT (218) 365-2288, evergreencottage@frontiernet.net Fargo/Moorhead (Minndak): Skip Wood (701) 239-7622, wood@cableone.net Minneapolis/St. Paul: Will Winter & Rebekah Leonhart (612) 827-1549, holistic@visi.com Minneapolis/East-side: Edward Watson (612) 845-9817, ed@physiologics.org North Branch: Klaus Mitterhauser (651) 237-0342, mitterhauserklaus839@gmail.com & Stanley Jakubowski (651) 277-2600, stan@izoom.net

#### CHAPTER RESOURCES

Resources for chapter leaders can be accessed at www.westonaprice.org/chapters, including our new trifold brochure in Word format and PowerPoint presentations.

#### LOCAL CHAPTER LIST SERVE

Thank you to Suze Fisher of our Maine chapter for setting up a local chapter chat group. New chapter leaders can sign up at http://groups.yahoo.com/group/wapfchapterleaders/

Park Rapids Area: Tanja Larson (218) 732-9402, schmupsi@q.com St. Cloud: Jane Frieler (320) 597-3139, letfoodbym@clearwire.net

- MS Pearl River County: James & Mary McPherson (601) 795-0379, mcphersonmuses@hotmail.com
- MO Cape Girardeau: Rachel Fasnacht (573) 335-1622, info@familyfriendlyfarm.com & Jeri Glover (573) 243-9098, clankiska@charter.net Columbia: Shayna Fasken DC, (636) 295-0930, shaynafaskendc@gmail.com
   Eastern Missouri: David J. Henderson (573) 242-3449, quality@big-river.net Kansas City area/Lee's Summit: Donna Schwenk (816) 554-9929, donnasch@kcweb.net, http://culturedfoodlife.com/ St. Louis: Josephine Lee (636) 226-5228, wapfstl@yahoo.com
   Springfield: Carey Raymond (417) 581-7676, luvbnmome@yahoo.com & Katie Bettendorf (417) 559-3724,katiebettendorf@yahoo.com
- MT Billings: Diane Gallardo (406) 259-7585, info@bodyawarenesslearningcenter.com
   Helena: Barb Halver, RN, CWS (406) 227-7529
   Missoula: Kristen Lee Charlson (406) 541-3999, ediblemissoula@gmail.com & Hollie Greenwood (406) 493-0779, hollie@realcooking.net
- NE Lincoln: Elanor Sodergren (402) 328-8063, esodergren@catholic.org Norfolk Area: Shawn Davis & Mari Davis (402) 675-5185, wapf@genesisnaturals.com North Nebraska: David & Barbara Wetzel (402) 858-4825, dave.gpp@frontier.com Omaha: Dr. Jon & Jessica Lozier, (402) 502-6726, Jessica@lozierwellness.com
- NV Southern Nevada: Rosemary Duma & Ken Hardy (702) 897-3730, panacea1@peoplepc.com
- NH Amherst/Nashua: Susan Stefanec (603) 673-0890, thinkglobal@comcast.net & Judi Letourneau (603) 472-2152, pjletourneau@comcast.net Keene Area: Sandra Littell (603) 313-6432, sandrateena@gmail.com New London: Linda Howes (603) 526-8162, nourishingwellness@myfairpoint.net Portsmouth/Seacoast: Suzanne Drysdale (603) 828-6619, healingfoodsnutrition@gmail.com & Kendall Montouri, a.k.montouri@comcast.net Upper Valley: Louise Turner (603) 272-4305, journeytowholeness2000@yahoo.com
- NJ Jersey Shore: Lori "Minnky" Radcliffe, RN (732) 361-6779, minky@hotminky.com Matawan: Doreen McCafferty (732) 970-3132, dcfitness@hotmail.com North East Carol Rice (201) 444-4007, carolrice@optonline.net Palmyra: Kevin & Tracy Brown (856) 786-4875, visionarytrainers@hotmail.com Passaic/Montclair: Diane Rosenblatt & Lily Hodge (973) 471-2966, wapfpassaic@gmail.com Princeton: Sandeep & Nalini Agarwal (609) 750-0960, sandeep@wapfnj.org, www.wapfnj.org Southampton: Judith Mudrak (609) 859-3828, reversemydisease@yahoo.com
- NM Albuquerque: Dr. Thomas Earnest DOM (505) 899-2949, tcearnest@comcast.net Edgewood (East Mtn): Jennifer Gresham (505) 604-2919, jennandles@msn.com Santa Fe: Sol Lederman (505) 988-2888, sol.lederman@gmail.com

#### WAPF AT NOFA-NJ CONFERENCE

Southampton, New Jersey chapter leaders Mike and Judith Mudrak speak to attendees at the Northeast Organic Farming Association-New Jersey conference. Reports Judith: People were very interested in hearing about real milk and only one passerby defended soy. We sold lots of our raw milk buttons and informational materials. "We both felt, that people want to get back to real food, they are searching! If we had had it for sale it, they would have bought milk from us!! We were glad to answer their questions!"



NY Adirondacks, Northern: Cathy Hohmeyer (518) 891-1489 adkalps@yahoo.com, Lynn Cameron (518) 327-347 Binghamton Area: Stuart McCarty & Lynn Thor (607) 693-3378, wsgcsa@tds.net Brooklyn: Angela Davis (646) 522-9540, brooklyn\_wapf@yahoo.com. & Hannah Springer (718) 490-2839, Hannah@EarthBodyBalance.com Buffalo: Jill Tiebor-Franz (716) 655-5133, jatf62@roadrunner.com Finger Lakes Region/CNY: Dr. Anthony Alphonso, DC & Melissa Alphonso (315) 689-6140, back2wellness@gmail.com Franklin Square/Elmont/part of Nassau County (see also Suffolk County): Caroline Barringer (877) 773-9229, milk-it@immunitrition.com Great South Bay: Jill Tieman (631) 563-8708, spinedoc55@optonline.net Greater Niagara Region: Jennifer Bole (716) 982-4860, jenerin78@gmail.com Locust Valley, Long Island: Liz Kaplan Kaplan liz@yahoo.com Lower Dutchess: Alice Castellano (877) 227-8527, abcinfo@frontiernet.net New York City Chapter: Claudia Keel, info@wprice-nyc.org, & Brigitta Jansen (917) 779-8444, brigitta@wprice-nyc.org , www.wprice-nyc.org, Oceanside/Lynbrook: Juliana Mazzeo (516) 593-5167, giulia07@verizon.net, www.nymedicalnutrition.com Queens: Inga Bylinkina, (646) 342-7656, inigo2ilias@yahoo.com Riverhead: Ashley Lewin & Chris Nelson (631) 727-1025, sales@desertherbals.net Rochester Metro: Laura Villanti (585) 624-9813, laurav@rochester.rr.com & Elizabeth Benner (585) 490-4710, elizabethmerzbenner@yahoo.com, http://health.groups.yahoo.com/group/rochesterNYwestonaprice/ Rockland County: Linda Vinecour (845) 480-5380, wapfrockland@gmail.com & Laura & Jeffrey Rose (845) 358-4048, managementgal@hotmail.com Schoharie County: Caroline Foote (518) 234-4858, mhfarmvcrb@wildblue.net Staten Island: Gaetano Marasa (718) 227-3258, marasa75@aol.com Suffolk County: Betty Moore (631) 987-9792, bmoore4718@aol.com Ulster County-Hudson Valley: Dina Falconi & Charles Blumstein (845) 687-8938, waverider75@earthlink.net Upper Westchester County: Beth Rordam-Tse (914) 864-2123, beth.rordam.tse@gmail.com West Southern Tier: Timothy Koegel (607) 587-9684, chapter@wapf-stwny.org, www.wapf-stwny.org Westchester County (Lower): Karen Betten & Mary McCleary (914) 375-9890, mmccleary@earthlink.net Asheville: Maria Parrino (877) 819-5976, health4u@ureach.com NC Charlotte: Catherine Atwood (704) 277-8166, catherine@nourishingwellnessnow.com Durham/Raleigh: Alice Hall (919) 419-0201, tigrclause@mindspring.com & Laura Combs laura combs@bellsouth.net Greensboro: Ruth Ann Foster (336) 286-3088, eatreal@gmail.com Wake Forest: Laura Bowen (919) 569-0308, laurabowen@nc.rr.com ND Fargo/Moorhead (Minndak): Skip Wood (701) 239-7622, wood@cableone.net Minot: Farrah Faulkner (701) 448-9210, farrahfaulkner@yahoo.com Amelia: Michael Taylor (513) 553-9868, realfoodremedies@gmail.com OH Canal Fulton: Betsy Clay (330) 854-6249, betsyclay@sbcglobal.net Canton: Kathryn B Stockdale (330) 756-0162 Cincinnati: Richard & Vicki Braun (513) 921-1577, victoriabraun@hotmail.com & Anita Sorkin (513) 559-0112, cincinnatiwapf@mac.com Cleveland: Nadine Macasek (440) 526-5867, nadmac@sbcglobal.net Columbus: John Meadows (614) 418-0244, jmeadows4@columbus.rr.com Dayton: Linda Woods (937) 293-4984, Iwoods@woh.rr.com & Julie Cunningham, (937) 867-1361, alanandjulie@gmail.com Defiance: Ralph & Sheila Schlatter (419) 399-2350, rschlat@bright.net Fulton County/Wauseon: Brian Bowman RN & Debra Bowman RN (419) 335-6569, RN@arrowpeakhealingfarm.com Hardin County: Sandi Shepherd, CNHP & Starla Rene (419) 674-4470, deererun@dbscorp.net Lima: Laurie Smith (419) 568-3951, Ims@signsohio.com New Hampshire: Marita Whitaker (419) 568-2855 Rawson: Wayne Feister (419) 963-2200, wayne@feiway.com Sidney/Shelby County: Pam Carter (419) 628-2276, gpcarter@watchtv.net Toledo: Kris Johnson (419) 836-7637, kris.Johnson@ecunet.org & Lisa Bowe (419) 340-1606, lisabowe@adelphia.net, www.WAPFtoledo.org, www.mercyviewmeadow.org West Liberty/Champaign County: Debbie & Jeff Dill (937) 597-5080, dnjdil90@yahoo.com Yorkshire: Dan Kremer (419) 336-5433, Dan@eatfoodforlife.com OK Oklahoma City: Kathy Gibb (405) 602-2696, gibbkathy@hotmail.com South Central/Texoma Area: Mary Friedlein (580) 795-9776, mary@myrhinomail.com Tulsa: Joy Remington (918) 770-7908, joyremington@yahoo.com Ashland (Rogue Valley, Southern OR): Summer Waters, LAc, NTP, (541) 865-3351, summer@summerwaters.com, OR health.groups.yahoo.com/group/RogueValley-WAPF Aurora: Elaine Fawcett (971) 327-8509, dandelion@wavecable.com Bend: Nicolle Timm, RN (541) 633-0674, soulpilot@earthlink.net

Central Oregon: Rebecca & Walt Wagner (541) 447-4899, justwagner@msn.com Eugene: Lisa Bianco-Davis info@krautpounder.com & Victoria Schneider, CNT, (541) 954-4939, www.krautpounder.com Grants Pass/Medford: Carl & Monna Norgauer (541) 846-0571, cnorgauer@oigp.net , www.NotProcessed.com Klamath Falls: Shannon Nash (541) 798-5600, sclnash@gmail.com Portland: Krista Arias (503) 750-1415, info@folklorefoods.nu St. Paul: Bernard Smith (925) 876-6720, info@fulloflifefarm.com or Rachael Smith (503) 633-4043, Rachael.smith@fulloflifefarm.com South Lane County: Yaakov Levine, NTP (541) 895-2427, nutritionallyspeaking@gmail.com, wapfsouthlanecounty@yahoogroups.com

PA Bucks County: Grace Rollins (215) 933-9676, gracerollins@gmail.com Centre County: Elmer Z. & Martha B. King, (814) 349-4890 Chester County: Annmarie Cantrell (215) 499-8105, ambutera@verizon.net, Dan Wright (610) 933-1776, danw59@yahoo.com Clarion: Elise W. Deitz (814) 764-5497, elise1@atlanticbb.net Erie: Tasmin Cordie, DC, (814) 866-3366, cordiechivo@yahoo.com Gettysburg Area/Franklin County: Maureen Diaz (717) 253-0529, motherhenof9@comcast.net Huntingdon Valley: Angela Rose (215) 435-3713, river rose23@yahoo.com Lancaster County: Janna Weil (717) 291-5741, jgweil@earthlink.net Lebanon County: Kevin Kahler (717) 628-1539, cafeorganic@gmail.com Lehigh Valley (Allentown): Dr. Alan J Stangl & Dr Martin Boksenbaum (610) 434-7562 wapf-lv@wapf.org Monroe County: Dr. Bogazot, DC, ND (570) 629-3312, bogazot@bogazot.com & Susan Jensen sjensen7@verizon.net Newport/Greater Harrisburg area: Anna Santini & Brooks Miller (717) 567-9931, anna.santini@gmail.com North Hills Area: Janet Stuck ND (724) 935-0665, janet7x70@aol.com Northern Bedford County: Ella McElwee (814) 766-2273, ellamcelwee@cove.net & Kathleen Brumbaugh (814) 928-5135 Pittsburgh: Carrie Hahn (412) 531-4485, bchahn@verizon.net, www.groups.yahoo.com/pghwapf Reading/Berks County: Dane Miller (484) 269-6687, dane@garagestrength.com Scranton Area: Mark & Suzanne Lichtenstein (570) 937-9296, markalilchtenstein@gmail.com or pianoteachersuzanne@gmail.com Upper Delaware Chapter: Lucia Ruedenberg-Wright (570) 224-4653, lucia@lrw.net Winfield/Tri County: Eldore Hanni (570) 524-9693, healthmr@aol.com

- SC Aiken: Kim Rodriguez, RD, (803) 349-5588, aikennutrition@bellsouth.net & John & Rebecca Winans (803) 642-8898, 1280rebecca@bellsouth.net Charleston: Dr. Stephanie Latter, DC, (843) 402-0310, drstephanie@bellsouth.net Columbia: Bill Fairchild (803) 252-2359, wpf@fairchild.ws Greenville/Easley: Dr Joe Carrano, (864) 644-8278, yourdrjoe@charter.net Saluda: Mike & Patrice Buck (864) 445-7399, butterpatchjerseys@netscape.com Sumter: Robby Elmore (803) 469-0824, robby\_elmore@msn.com Winnsboro: Becky McGinnis (803) 718-3623, a22d99@yahoo.com
- SD Mitchell: Jon Neugebauer (605) 227-4663, joneugebauer@yahoo.com Selby: Julie & Bill Rosin (605) 649-7224, sdsavvygal@yahoo.com Yankton: Mary Walkes & Cindy Konopasek (605) 286-3634, mwalkes@gmail.com
- Chattanooga/NWGA: Denise Burns (706) 375-1377, burnsberries@yahoo.com,http://health.groups.yahoo.com/group/westonaprice\_chattanooga/ Giles County: Nancy Webster (931) 527-3703, creativemess10@yahoo.com
   Knoxville: Marty McWhirter (865) 637-4029, easttnfinfan@yahoo.com & Michael Vaughn (865) 686-1803,michaelwapf@yahoo.com
   Memphis: Pamela Godwin (901) 217-5349 & Suzanne Waldron (901) 761-2039, wapfmemphis@yahoo.com
   http://health.groups.yahoo.com/group/wapfmemphis/
   Nashville/Brentwood/Franklin: Shawn Dady (615) 336-2286, shawndady@me.com
   Tri-cities (northeast TN): Karen West (423) 282-6929, karenwest1954@gmail.com

ТΧ Abilene/Eastland: Kerry & Joy Hedges (254) 725-4084, slowpokefarm@hotmail.com Austin: Bryan Lambeth oz4caster@yahoo.com, Judith McGeary, jmcgeary@pvco.net Bay Area: Imelda Donaldson (713) 305-3023, info@imeldadonaldson.net Brazos Valley: Brad & Jennifer Stufflebeam (979) 251-9922, info@homesweetfarm.com, www.homesweetfarm.com/WAPF.htm Dallas: Dr. Ken Taylor & Bill Green (972) 233-2346, drtaylor5159@yahoo.com, www.traditionaltx.us Denton: Michelle Eshbaugh-Soha (940) 565-0517, ravensphere@gmail.com & Gail Wesson, (940) 382-5120, roonkin@wans.net East Texas: Cindy Burson (903) 576-0086, countryharvest@gmail.com Houston-Galveston: Carolyn & Brice Biggerstaff (281) 486-0633, realfoodhouston@yahoo.com, realfoodhouston.org Longview/Tyler: Jerica Cadman (903) 241-2775, jericacadman@truefields.com McKinney: Kathy Harris & Carolyn Barth, (972) 548-7646, mckinneywapf@sbcglobal.net Midland: Annette Presley, RD, LD (432) 599-9355, Annette@findyourweigh.com North East Texas: Eric & Nancy Wesson (903) 450-0917, wp@goodgut.com, gg4gsus@genesischristianchurch.org Seguin: Gina Tillman (830) 491-8557, gg4gsus@genesischurch.org Williamson County & Surrounding Areas: Dawn Campbell (936) 697-0020, dawn.luttrall@gmail.com Wise County: Pamela Klein Johnson (940) 427-2609, wapf@rosecreekfarms.com Wood County/Piney Woods: Nancy Gail & Karl Falster (903) 629-3034, chef@southerngrace.biz

- UT Layton: Russ & Norma Silver (801) 774-6218, rsilver@xmission.com Salt Lake City: Anji Sandage (801) 842-8756, anji\_s3@yahoo.com Sevier County: Kari Carlisle (435) 633-0260, karicarlisle@yahoo.com Utah County: Betty Pearson (801) 766-8777 betty@ourldsfamily.com
- VT Capitol Region (Montpelier, Barre, Plainfield, Orange) Emily Wheeler (802) 476-4927, sow2seeds@gmail.com, www.wapftvt.blogspot.com Cedar City/Southern Utah: Sarah Braun (435) 559-4098, godusjourney@yahoo.com
   Northeast Kingdom Area: Rob & Sharon Baum (802) 277-4960, sales@baumfarm.com, baumfarm.com
   Northwest Vermont: Doug Flack (802) 933-7752, www.flackfamilyfarm.com
   The Greater Randolph Area: Stuart & Margaret Osha (802) 728-7064, turkeyhillfarmvt@gmail.com, www.turkeyhillfarmvt.com
   Thetford Center: Didi Pershouse (802) 785-2503, sustainablemedicine@gmail.com
   Westfield: Sandy Snyder & Molly Johnston (802) 749-2891

V/AAlexandria: Janice Curtin (703) 751-5505, janicecurtin@gmail.com & Alana Sugar (703) 566-9682, alanasugar@comcast.net Ashburn: Susan Clark, DC, (703) 858-3575, susan@back-n-action.com Blacksburg: Estill Putney (540) 951-2398, estillp@juno.com Botetourt/Rockbridge Area: Kirsten Griffiths Moeckel (540) 254-3247 Chesterfield: Ana Mahoney (804) 560-7222, ana.p.Mahoney@gmail.com Earlysville: Susie Vance (434) 973-3753, wpearlysville@yahoo.com Falls Church: Susan Blasko (703) 204-0283, blaskos@cox.net Fauquier: Harvey & Ellen Ussery (540) 364-1877, ellen@themodernhomestead.us, & harvey@themodernhomestead.us Floyd County: William Munzing (540) 929-4455, wapfoundation@verizon.net Front Royal/Strasburg: John & Maria O'Brien & Dave & Regina Farinholt (540) 635-3007, eireitalia@gmail.com Gloucester County (Middle Peninsula): Ann George, (804) 693-0226, mikegeorge@copper.net Goochland County: Linda Hosay (804) 457-3714, awealpha@juno.com Great Falls: Kate Vickers Deriso (703) 728-3421, kate@bountifullivingwellness.com Hampton Roads, South: Ron Wilson (757) 636-8124, bookman3@cox.net, www.wapfshr.com Hardy/Franklin County: Judi Harrington (540) 427-4112, judistar22@gmail.com & Tamea Franco Woodward (540) 597-3787, tfranco@eastwestdve.com Leesburg: Dr Peter Hilgartner & Dr Lolin Hilgartner (703) 777-8891, drshilgartner@gmail.com Lovettsville: See Brunswick, MD Manassas/Prince William County: Sally Holdener (703) 753-6492, sallyholdener@gmail.com & Laura Gossin, laugoss@verizon.net Purcellville: Valerie Cury Joyner (540) 338-9702, fotoner2@aol.com Rappahannock: Heidi Eastham (540) 675-9996, ruckerfarm@gmail.com & Deverell Pedersen (540) 675-2138, wapfrappland@gmail.com Reston: Kimberly Hartke (703) 860-2711, kimberly@hartkeonline.com & Sara Tung saratung@gmail.com, http://wholefood.meetup.com/WholeNutrition/ Rice (Farmville): Gwen & Barry Martin (434) 392-6049, stillwatersfarm@earthlink.net Roanoke: Eva Jo & Frank Wu (540) 989-1617, fej@virginiarolfers.com Rockingham County: Joan Hulvey (540) 896-1483, joanhulvey@yahoo.com & Darlene Spitler (540) 896-6040, miracleacres@hughes.net, http://health.groups.yahoo.com/group/wapf-rockingham/ Sedalia/Bedford County: Ben & Carly Coleman (434) 299-5193, mtnrunfarm@ntelos.net

#### WAPF PARTICIPATES IN THE VIRGINIA BIOLOGICAL FARMING CONFERENCE



Smith Mountain Lake: Renee Brodin (540) 297-4219, smlwapf@gmail.com Virginia Peninsula: Gennifer Johnson (804) 513-8093, wapfglj@yahoo.com

> Hardy/Franklin County chapter leader Judi Harrington and volunteer Sally Nichols speak to a conference participant about the work of the Weston A. Price Foundation and the Farm-to-Consumer Legal Defense Fund.



Wise Traditions

SPRING 2010

100

WA Arlington: Sierra Mencucci (360) 435-1603 Ballard/Phinney: Linda Harkness (206) 782-4446, linda.harkness@gmail.com Belfair: Christy Peterson (360) 689-5099 or (360) 275-9978, historical nutrition@yahoo.com Bellingham: Carla Witham (360) 671-2668, ccwitham@gmail.com Bremerton: Mark T. Goodman, DC (360) 377-1626, drgoodman@goodmanchiropractic.net Columbia Gorge: Andrea Jones (509) 281-0755, ajones@gorge.net Conway/Mount Vernon: Jodi Fitzpatrick-Thomas & Louise Kennedy (425) 327-2342, jodi@synergyfit.us & louannkennedy@hotmail.com Edmonds: Jennifer Lenel (206) 235-1020, Jennifer@jenniferlenel.com, http://groups.yahoo.com/group/greaterseattlewapf Orcas Island: Learner Limbach (360) 376-4048, mbiramaker@gmail.com Port Townsend: Lisa Biskup (360) 385-9657, Imbiskup@gmail.com Redmond: Shonagh Home (206) 409-1536, shonagh@rawgorgeous.com SeaTac: Nancy Jerominski (206) 852-4768, nljfitnessconsulting@comcast.net Shaw Island: Gigi Allaway (360) 739-7163, gigimberardi@msn.com Skagit: Carol Osterman (360) 466-2058, carol@akylafarms.com Snohomish/Darrington: Mary Stankey (360) 436-1010, mstankey@gmail.com Snolsle: Chrissie Hasenohrl (360) 629-6025, wapfsnoisle@gmail.com Spokane: SaraEllen Hutchison saraellen hutchison@gmail.com, (509) 990-0797, http://groups.google.com/group/wapf-spokane Vancouver: Monique Dupre moniquedupre@gmail.com Whidbey Island: Roy Ozanne, MD (360) 321-4116, royozanne@whidbey.net & Lynn Parr (360) 221-2334, wholehealth@whidbey.net Yakima: Darcy Hemstad, RN, BSN (509) 972-2915, darcy@familink.com

WV Charleston: L. G. Sturgill, PhD (304) 347-1000, LGSturgill@verizon.net Harpers Ferry/Charles Town/Frederick MD: Alissa Harris (304) 535-3009, drharris@harpersferry-chiropractic.com

WI Burlington: William Neu (262) 763-9952, chirho3@pngusa.net Central WI/Vesper: Cindy & Pat Bice (715) 424-5159, bgcr44@hotmail.com Eastern WI: Emily & Laura Matthews (920) 273-1849, meg11851@yahoo.com Elkhart Lake: David & Annika Turba (920) 894-1757, westonpricenutrition@yahoo.com Eau Claire: Lisa Ornstein & Scott Westphal (715) 410-9275, chippewavalleywisetraditions@yahoo.com Fremont: Ruth Sawall (920) 446-3551 Green Bay: Marian Schmitz & Vashni Seitzer (920) 865-7479, lehrermf@greenbaynet.com Hartland: Rebecca Steiner & Kathleen Gillman (262) 369-8999, hlmkt@sbcglobal.net Hayward: John & Susan Bauer (715) 634-6895, jb cmt@hotmail.com Janesville: Stephanie Rivers (608) 373-0963, stephabrewer@yahoo.com Jefferson/Waukesha: James Christensen & Andrew Mastrocola (262) 593-2563, realmilkwisconsin@yahoo.com La Cross/Coulee Region: Janice Blair (608) 637-6727, bellasol.organics@yahoo.com Madison: Carolyn Graff (608) 221-8696, zgraff@charter.net, & Dr. Martha Reilly (608) 848-7225, drmartha@earthlink.net, http://my.madison.com/Groups/Madison\_WAPF, http://health.groups.yahoo.com/group/wapfmadisonchapter Milwaukee: Muriel Plichta (414) 383-2121, mplichta@milwpc.com New Holstein: Kay & Wayne Craig (920) 894-4201, info@grasswayorganics.com, www.grasswayorganics.com South Eastern: Dan & Paula Siegmann (920) 625-2185, bttbcs@charter.net, www.bestnutrition.org Southwest Wisconsin: Jim & Sandy Kammes (608) 794-2638 Two Rivers & Manitowoc: Roy Ozanne (920) 755-4013, royozanne@whidbey.net and Lynne Manthey Prucha (920) 973-0320, lynne.a.prucha@gmail.com Viroqua: Therese Laurdan (608) 625-2425, info@homegreenhome.biz Waukesha: Elizabeth Schuetze (262) 542-6295, e713521036@aol.com Wausau Area: Abraham & Rebecca Bauman (715) 574-0035 West Central: Wayne & Janet Brunner (877) 228-1449, info@midvalleyvu.com, www.midvalleyvu.com

WY Buffalo: Susan Pearce (307) 751-8505, spearce@vcn.com Cheyenne: Ellen Davis (307) 638-8278, ellen.davis@att.net, http://wapfcheyenne.home.att.net Sheridan: Susan Callison (307) 655-0123, susancalli@fiberpipe.net

# International Chapters

AUSTRALIA

NSW	Byron Bay: Joanne Hay & Wes Davis (02) 6699 3442 joanne@nourishedmagazine.com.au,, www.nourishedmagazine.com.au Lismore: Emily Stokes (02) 6622 3139, thewordgarden@hotmail.com Stuart Town: Hal & Sally Harris (02) 6846 8261, merrimount@hotmail.com
QLD	Sydney: Gemma Davies 0410 373 318, sydneychapter@gmail.com Bribie Island: Dr. Herbert H. Nehrlich (07) 3410-7999, drhhnehrlich@westnet.com.au Brisbane: Julie Phillips (07) 3841-5999, foods@ihug.com.au Gold Coast: Filippa Araki (07) 5598 7282, filippa91@yahoo.com.au, http://health.groups.yahoo.com/group/westonapriceaus/ Ipswich: Jennifer Christine Payrits 0430 027411, freedomorganics@gmail.com Oxenford/Miami: Kyle Grimshaw-Jones 61 7 4948 1180, kyle@winshop.com.au
SA	Sunshine Coast/Connondale/Mary River Valley: Sven & Karen Tonisson (07) 5435 0041, gaia@ozemail.com.au Sunshine Coast: James Cutcliffe (07) 5478 6489, jc_wapf@yahoo.com.au Toowoomba: Bronwyn Money 4615 5009, Bronwyn.money@gmail.com Adelaide, Eastern & Northeast: John Patchett 61 8 8365 1960, naturalelthy@picknowl.com.au
VIC	Bendigo: Joy Stone 03 5433 3731, jdhoneypatch@yahoo.com.au Castlemain: Cathy Mifsud (03) 5411 2946 cathymifsud@bigpond.com Fish Creek: Victorian Organic Dairy Farmers Association (Bev Smith) (03) 5683-2340, orana@dcsi.net.au Melbourne: Arabella Forge wapfmelbourne@gmail.com
wa tasmania	Wyndham: Sarah Nicholson 03 9742 3536, sarah@nicho.id.au Albany: Mike & Barbara Shipley & Justin & Susan Shipley (08) 9847 4362, Shipleysorganics@bigpond.com Christopher & Peppa Ann Tolley 613 6327 1735, chris_tolley80@hotmail.com
BRAZIL	Southwest: Alberto Machado 24 9956 9798, amachado@ism.com.br
CANADA AB	Calgary: Riva Mackie rivamackie@gmail.com (403) 245-2462, http://health.groups.yahoo.com/group/westonapricecalgary/ Castor: Kathleen Charpentier & Richard Griebel (403) 882-3835, grebe6@telus.net Edmonton: Lori Clapp (780) 417-3952, lifeworthwhile@gmail.com Land of the Lakes: Tim & Maighread Axe (780) 853-6046, tandmaxe@telus.net
BC	Peace Country: Mary Lundgard (780) 338-2934, plundgard@telus.net or Levke Eggers (780) 568-3805, levke@telusplanet.net Stettler: Gayle Thoun (403) 740-6637, mc_5thou@xplornet.com Enderby: Naomi Fournier (250) 838-0235, enderbywap@hotmail.com Interior of British Columbia: Jasmin Schellenberg Redstone (250) 394-4410, Demeter@pasture-to-plate.com and Karen Alphonse (250) 392-2600, k_alphonse@ymail.com
	Kamloops: Caroline Cooper (250) 374-4646, info@eatkamloops.org, www.eatkamlopps.org Nelson: Lorraine Carlstrom (250) 352-3860, lorrainer61@gmail.com Powell River: Dirk & Ingrid De Villiers (604) 489-0046, dirkdevilliers@shaw.ca Vancouver: Barbara Schellenberg (604) 988-6280, grassfedmeats@pasture-to-plate.com
NS	Annapolis Valley: Shirley Scharfe (902) 847-1736, glscharfe@eastlink.ca
ONT	Cumberland & Colchester Counties: Silvana Castillo (902) 257-2428, silvanacastillo@ns.sympatico.ca Barrie: Paul Ericson (705) 728-8748, barriewapf@yahoo.ca Cambridge & Kitchener-Waterloo: Christine Kennedy (519) 653-2396, cakennedy@rogers.com Greater Toronto Area – West: Corey Evans, (905) 608-9314, info@healthisfreedom.net, www.healthisfreedom.net Hamilton: Miranda Riley & Laura Margaritis ND (905) 317-2737, info@nourishinghamilton.ca, http://nourishinghamilton.blogspot.com/ Huron Shores: Marcus Koenig & Jessie Koenig-Liang (519) 294-0599, makoenig@porchlight.ca Ottawa: Gail Davis (613) 238-2782, gdavis@ncf.ca, Pascal Desjardins (613) 728-0662, slo2burn@hotmail.com, http://wapfottawa.com Toronto (Downtown): Patricia Meyer Watt (416) 653-7112, b-healthy@rogers.com Toronto (East): Joseph Ouimet (416) 439-4753, joseph67x@yahoo.com Regina: Sandra Brandt (306) 359-1732, brandt.s@sasktel.net
CHILE Coyha	aique: Dr. Ann Oldham Michael & Ema Morales 56 67 245288 or 56 09 812 4987, oldie@charter.net

Turrialba & Central Valley: Gina Baker & Reinhold Muschler (506) 2556-8021, waldorfcostarica@yahoo.com

#### FINLAND

Tammisaari: Henrik Nyberg 358 (0)19-204 456, henrik.nyberg@makrobios.fi

GERMANY Grosslangenfeld: Anita Reusch & Douglas Mitchell, 0049-(0)6555-242, anita@roylt.com Northeast Bavaria: Elvira Uschold (0049)-(0)9234-974714, euschold@yahoo.de

#### 102

## International Chapters

#### ISRAEL

Milka Feldman Ramat Bet Shemesh: Milka Feldman 972-77-320-0742

#### MALAYSIA

Selangor: Cherie Barton-Brown 603 7722 1268, cheriegordonbrown@gmail.com

#### NEW ZEALAND

Auckland: Alison Ellett, (09) 420-8548, Alison@nzflavour.com Christchurch/Canterbury: Dermot Kieran Whelan 0064 3 3519733 sundara12003@yahoo.com.au Dunedin: Liselle Wood 03 478 0604, organicearth@hotmail.com Invercargill: Sherry Elton (64) 3213 1156, sherry@sherryelton.co.nz, www.sherryelton.co.nz Lower North Island: Susan Galea (64) 6356 5186, susangalea@hotmail.com, www.realmilk.co.nz Nelson: Shari Lawson 00 64 3 541 8054, sharis@clear.net.nz Northland: Godfrey Waterhouse (09) 402 7506, northwapf@yahoo.co.nz South Canterbury: Ingrid Weihmann 03 686 6613, onlynatural@paradise.net.nz Taranaki: Ian Haldane & Warena Nikor (64) 67 59 7478, ian@zenian.co.nz Wellington: Ian Gregson 64 04 934 6366, wapf@frot.co.nz, www.wapfwellington.org.nz NZ Resource List: Deb Gully, deb@frot.co.nz, www.diet.net.nz

#### NORWAY

Ames: Bjorn Solberg bjorn.solberg@gmail.com

#### PAKISTAN

Dr. Shagufta Feroz & Feroz Sharfuddin92-321-8439362, drsferoz@gmail.com

#### RUSSIA

Moscow: Anna Yekhanina & Elena Lukicheva 916-145-20-03, elenalu@list.ru, http://www.westonaprice.org/localchapters/index.html#rus

#### SWEDEN

Vastra Gotaland: Elvira Kristensson 46 76 716 55 51, Elvira@all-natural.se

#### SWITZERLAND

Bern: Diana Boskma food.diana@gmail.com

#### UNITED KINGDOM

Bournemouth & Poole: Kelvin Snaith & Sarah Turner 07 71989 5015, kelvinsnaith@hotmail.com, sarah\_alice\_turner@hotmail.com London & South East England: Phil Ridley 02 07682 1093, philridley@hotmail.com, meetup.com/westonaprice-london South West England: Ben Pratt 07952 555811, ben@nutritions-playground.com, www.naturalfoodfinder.co.uk UK resource list: www.naturalfoodfinder.co.uk

#### EXHIBIT IN PATAGONIA

Dr. Ann Oldham Michael and Ema Morales of our Coyhaique, Chile chapter participated in a health expo in Patagonia, Chile. Our gutsy chapter leaders posted signs saying "Cholesterol is for Lovers," "Know Your Food," "Good Fats Don't Make You Fat," and "Children who do not eat good fats have trouble with depression, weight gain and cognitive skills." Participants were very curious about the statements, asked a lot of questions and took our dietary guidelines in Spanish. One important outcome: they met many providers of healthy foods including cheese, fermented salami, raw milk and raw butter.



Wise Traditions

Dedicated to Helping the Consumer Obtain Nutrient-Dense Foods and Accurate Nutrition Information

#### FARM PRODUCTS BY STATE

#### AK

Family/farmer needed to take over already established cowshare business in the Matanuska-Susitna Valley, Alaska. Fifteen cows, 5 breeding age heifers, 5 younger heifers, 250 laying hens, brooder house, and 2 mobile chicken houses. Great growth potential. \$75,000. (907) 376-0634. \*11/3

#### DC

CSA: Hi-Brix, nutritionally dense, biodynamically grown kitchen vegetables, grass-finished beef, pastured pork, broilers and eggs. Openings for 2009 season in DC Metro area. Contact Allan Balliett, info@freshandlocalcsa. com (304) 876-3382, www.freshandlocalcsa. com. \*10/4

#### IA

At Thistles & Clover, we produce grassfed beef, pastured poultry and farm-fresh eggs. Our products are nutrient-dense and delicious! Delivery and shipment options available. Check out www.thistlesandclover. com. Adam & Lucy Cameron. Danbury (712) 371-9861. 11/3

#### IL

Come to our farm! Healthy, FAT, beef & pork, born and raised certified organic - no nitrates. Sides or cuts (as available) plus many other healthy foods. Chapter Leaders Dale Kelsey - sustainable producer receiving no government funds, no grants, no subsidies, & Eileen Kelsey, CHom. incorporating WAPF Nutrition with Classical Homeopathy (815) 239-1466. 11/3

#### IN

Raw milk cheeses, grass-fed beef, veal, wheyfed pork. Also, a variety of fresh raw dairy products available as pet food. 100% pasture fed cows. NO hormones, pesticides, antibiotics used. Available from the Yegerlehner's The Swiss Connection. (812) 939-2813, www.swissconnectioncheese.com, Clay City, IN. 11/4 We encourage our readers to obtain as much of their food as possible from small farms and independent businesses.

#### MA

Misty Brook Farm offers certified organic raw cow's milk, beef, veal, pork, and eggs. Raw milk is available year-round from 100% grass-fed Jersey cows. Come visit our traditional mixed farm! Contact Katia Holmes at (413) 477-8234 or mistybrookorganicfarm@yahoo.com, Hardwick, MA. 11/2

Robinson Farm: A diversified organic farm selling grass-based raw cow's milk, eggs, hay, seedlings, vegetables, perennials, flowers, grass-fed beef, humanely raised veal, local cheese, yogurt and maple syrup. Farm tours by appointment. Visit our farm stand store open every day. Contact Pam Robinson: www. robinsonfarm.org, info@robinsonfarm.org or (413) 477-6988. 11/1

#### MD

Organically raised grass-fed beef, free-range eggs, and pastured chicken. Pick up from Potomac, Buckeystown or Emmitsburg (beef only). No hormones, antibiotics, or animal parts are fed. Beef never fed grain. Nick's Organic Farm, Quality Organic Products since 1979, Nick Maravell, (301) 983-2167, nickmaravell@comcast.net. 11/4

Windmill Meadows Farm, Washington County, Grass-based sustainable family farm. Our focus: healthy, well-balanced soil produces healthy livestock on healthy grass for healthy, good-tasting food products. Grass-fed dairy, beef, goats, pasture-based poultry: (broilers & layers). Availability to Washington DC markets, (301) 739-5258. 11/4

#### MI

Creswick Farms. Dedicated to raising healthy,

#### FARM PRODUCTS BY STATE

happy animals—lovingly cared for just as Mother Nature intended—which provide high-energy, nutritious and delicious food sources for health-conscious individuals. No antibiotics, steroids or GMOs ever fed to our animals! (616) 837-9226, www. CreswickFarms. com. 11/4

#### ΜN

Farm on Wheels offers animals raised on green grass & certified organic by MOSA. Nutrientdense cuts of beef, lamb, chicken, turkey, goose, duck, pork, lard, butter & eggs. No corn or soy. Farmers Market year round in St. Paul, Prior Lake, Northfield, Linda (507) 789-6679, www.farmonwheels.net. 11/1

#### NJ

Fresh Food from fertile soil. River Birch Micro Farm Member. Farm-to-Consumer Legal Defense Fund. Eggs from chickens on grass pasture. Fruits, nuts and vegetables. Farmer/ Soil Scientist Joseph Heckman, Ph.D. 19 Forman Ave Monroe Township, New Jersey 08831 (732) 605-0444. 11/3

#### NY

Pure maple syrup and a wide variety of maple products from Maple Hill Farm Enterprises, LLC. 5th Generation family farm, WAPF members and Certified Naturally Grown(naturallygrown. org). Shipping anywhere, call 800-543-5379 or visit maplehillfarms.biz. 11/3

Raw milk from dutch belted cows organic certified farm-grass fed. Call us for other products. Ana Lups, Pleroma Farm, Hudson, NY (518) 828-1966. 11/3

New York Buyers Club. Certified organic grass-fed dairy products from Jersey cows. Eggs from pastured chickens. Grass-fed beef, pork and chicken. Fermented foods, Green Pasture Products, soaked and dried nuts and raw honey. Will ship (717) 768-3437. Pleasant Pastures 11/3

#### WARRANTY AND INDEMNITY

Advertisers upon and by lodging material with the Weston A. Price Foundation for publication or authorizing or approving of the publication of any material INDEMNIFY the Weston A. Price Foundation and its servants and agents against all liability claims of proceedings whatsoever arising from the publication and without limiting the generality of the foregoing to indemnify each of them in relation to defamation, slander of title, breach of copyright, infringement of trademarks or names of publication titles, unfair competition or trade practices, royalties or violation of rights or privacy AND WAR-RANT that the material complies with all relevant laws and regulations and that its publication will not give rise to any rights against or liabilities against the Weston A. Price Foundation, its servants or agents and in particular that nothing therein is capable of being misleading or deceptive or otherwise in breach of Part V of the Trade Practices Act of 1974.

DISCLAIMER

The Weston A. Price Foundation reserves the right to refuse advertising space to anyone.

Dedicated to Helping the Consumer Obtain Nutrient-Dense Foods and Accurate Nutrition Information

#### FARM PRODUCTS BY STATE

#### OH

Ber-Gust Farm - pastured, miniature Jersey dairy cows. All natural beef, pork, poultry and produce. Also jams, jellies, honey and apple butter. Waynesfield Ohio. (419) 230-2195, (419) 230-2194 www.ber-gustfarms.net. 11/1

#### PA

Bareville Creamery. 100% Grass-fed offers Raw cultured butter from our grass-fed cows. **We will ship to you**. \$8.00/ lb plus shipping, or visit our farm to pickup. Daniel & Katie Zook, Leola PA, (717) 656-4422. 11/4

Certified organic grass-fed dairy. Raw milk cheeses, cottage cheese, yogurt, sour cream from Jersey cows. Eggs from pastured chickens. Grass-fed beef, pork, chicken, rabbit & turkey. Call for information. **We ship**. (717) 768-3437 Pleasant Pasture Organic Acres 11/1

Fourteen varieties of cheese made on our farm, with raw milk from our no-grain Jersey Cows. Also selling raw milk, free-range eggs, raw honey, allergen-free soap, and whole grains for cooking and baking, Hope Springs Farm, 1543 Union Grove Rd., East Earl PA, 17519, (717)445-0281 11/4

Grass-fed organic raw milk and dairy food: 100% grass-finished beef and lamb, pastured pork, chicken and turkey, wild Alaskan salmon, fermented vegetables, raw honey, maple syrup and more, Long Island drop, Paradise Pastures, Paradise, PA (717) 687-6346. 13/3 Green Ridge Acres offers pasture-raised chicken, turkey, eggs. Raw milk and dairy foods from grass-fed jersey cows on our farm. Farm fresh produce in season. Currently delivering weekly to Philadelphia. Visit our booth at the Broadstreet Market in Harrisburg for natural bulk foods, grassfed meat and dairy. Green Ridge Acres, David & Ruthey Lapp (717) 354-7082. 11/1

New location for an attractive variety of quality grass-fed and free-range products, located near the Lancaster and Chester County Line. For more information and/or questions, please call (717) 768-3263, Elam & Linda Stoltzfus, Narvon Natural Acres, Narvon, PA. 11/4

Nittany Valley Organics is offering certified organic grass-fed raw milk cheeses. Cheddar, Smoked Cheddar, Monterey Jack, Yogurt Jack, Pepper Jack, Colby, and Himalayan salted Baby

#### FARM PRODUCTS BY STATE

Swiss. Looking for retail distributors, reasonable prices, **Ship Mondays only**, Place your order by Saturday noon please. Customers for IN,IL, & MI please call 574-825-1596 ext 1. CT, MA, ME, RI, NY, & VT call (585) 765-9845 Cheesemaker: Mark Stoltzfus Jr. (570) 726-7799 ext.3 11/3

Owens Farm, Sunbury, PA, grass-fed lamb, pastured Tamworth pork (fed soy-free grain), pastured meat chickens, soy-free heritage chickens, raw honey, sheep camp, Farm tour, Adopt-A-Sheep and more. Visit Owens Farm www.owensfarm.com (570) 286-5309. info@ owensfarm.com. 11/3

Raw milk from 100% grass-fed cows, yogurt, eggs from free-range chickens, 100% grass-fed beef and raw milk cheese. Ira & Mary Beiler. (570) 278-5881. 11/4

Raw Dairy Products from our 100% grass-fed Jerseys. Free-range, grass-fed, chicken, turkeys. Suckling veal, whey-fed pork, and lard. We do not use hormones or antibiotics. Shady Acres, Glenn Wise, 8514 Elizabethtown Rd. Elizabethtown, PA, 17022, Shipping Available. (717) 361-1640. 11/3

Raw milk cheese from our grass-fed Jerseys, made on our family farm with Celtic sea salt. No grain feed. Also grass-fed beef and lamb and pastured chickens, turkeys and eggs. No hormones or synthetics. On-farm sales. Wil-Ar Farm, Newville, PA. (717) 776-6552. 13/4

Raw milk cheeses from organically managed, 100% grassfed Jersey cows. Retail and wholesale. Prices start at 4.75/pound, we do mail order cheese. Raw milk and organic eggs available. Eastern PA, 15 minutes N of I78, 153 Martins Rd.Pine Grove, PA17963 (570)345-3305 11/4

Try our aged raw milk Cheeses from our small herd of Jersey cows. Baby Swiss, Jack, Herbal and Hot Pepper, Cheddar-Sharp & Garlic, Havarti and more. Wholesale and retail. Raw milk and pastured eggs,(717) 656-2261. 11/2 VA

Salatin family's Polyface Farm has salad bar beef, pigaerator pork, pastured chickens, turkeys and eggs, and forage-based rabbits. Near Staunton. Some delivery available. Call (540) 885-3590 or (540) 887-8194. 11/3

#### FARM PRODUCTS BY STATE

Western View Farm has Jersey herd boarding project. For, Member in Local Kine (M.I.L.K.) Project In Catlett, VA (Fauquier County) For information call, 540-788-9663. 11/2

Virginia Buyers Club. Certified organic grassfed dairy products from Jersey cows. Eggs from pastured chickens. Grass-fed beef, pork and chicken. Fermented foods, Green Pasture Products, soaked and dried nuts and raw honey. Will ship (717) 768-3437. Pleasant Pastures 11/3

#### VA/WV

Church View Farm has pasture raised chicken and lamb, free range eggs, raw honey and a wide variety of fruit and vegetable crops. See www.churchviewfarm.info Near Romney, WV, just west of Winchester, VA, **Some delivery available.** (304)822-3878 or churchviewfarm@ frontiernet.net 11/4

#### WI

Certified, Organic, soy-free dairy, raw milk cheese, cultured butter, cream, yogurt, cottage cheese, colostrum. Also full line of grass-fed beef, pastured chicken, turkey and free-range eggs. Raw honey, maple syrup, and extra virgin organic coconut oil also available. **Will Ship**. Grazin Acres LLC (608) 727-2632 located 1 hr NW of Madison. 11/3

Pasture raised, whey and corn fed hogs in southwest Wisconsin to be ready for January. \$2.95/lb hanging weight for hogs reserved before November, \$3.25/lb after that. \$50 reservation downpayment. Customer responsible for butcher costs. Email drzimmerman1@ yahoo.com or phone 608-874-4144. Coulee View Family Farm www.couleeviewfarm. com. 11/2

#### CANADA

Nittany Valley Organics offers certified organic grass-fed raw milk cheeses. Cheddar, Smoked Cheddar, Monterey Jack, Yogurt Jack, Pepper Jack, Colby, & Himalayan salted Baby Swiss. **Shipping**, www.HealthyBeloved.com 888-510-2669. Cheesemaker: Mark Stoltzfus Jr 11/3

Dedicated to Helping the Consumer Obtain Nutrient-Dense Foods and Accurate Nutrition Information

#### HEALING ARTS

CONFUSED about nutrition? Don't know where to start? I offer one-on-one nutrition counseling. I will get you started on the basics of nutrition based on the teachings and principles of Dr. Weston Price. Monica Fischer (763)807-7887. 11/3

HOLISTIC ACTUALIZATION COACHING and High Tech Meditation CDs. Accelerate personal growth, move stuck energy, and create lasting positive change. Free Consultation, appointments by phone, skype, email. Visit www. holisticdynamic.com for more details or email Ginger at holisticdynamicinfo@mac.com 11/4

HOLISTIC HEALTH COUNSELING for women & families. Discover vibrant health with an integrative approach to wellness. Get inspired to: make an easy transition to traditional foods, heal naturally, & make gradual changes to improve your health & your children's health. At last, find the way of eating & living that really works for your body & your life! Try a FREE phone session or sign up for our free monthly e-newsletter. Hannah Springer, MS, CHHC (718) 490-2839, Hannah@EarthBodyBalance.com. 11/1

HOMEOPATHIC Care for Babies and Children. Join the Kairos Network Homeopathic Study Group. Member of WAPF, NCH, HEAR, and the Catskill Medicine Wheel. Low cost, effective, very useful for self-care and home prescribing. Tutoring by mail for Study Group members only. Beginners welcome. Make this part of your prepared parenting program. Send SASE to: Liz Potter, 321 Wahl Road, Livingston Manor, NY 12758. 11/1

LIVE BLOOD CELL ANALYSIS is a handy and valuable window on the state of health or disease. This procedure has a powerful motivating effect to help others improve their diets emphasizing the principles of Weston Price. Have microscope, will travel. Contact Karen Myer, ND, at (262) 522-9993. 11/1

OSTEOARTHRITIS? Effective all natural relief of Osteoarthritis. Try risk free for 60 days. Made from natural ingredients with no side effects. Helps rebuild joint cartilage. Eases pain of Osteoarthritis. Visit www.arthritisCure.nd or call (888) 848-8994. 13/4

#### HEALTHY FOODS

BUTTER and cheese. Nutrient rich summer gold butter and cheese from PastureLand Cooperative. Our products are made from the milk of 100% grass-fed cows grazing certified organic pastures in southeastern Minnesota. Shipping available. Call (888) 331.9115 for more information. www.pastureland.coop. 11/4

LACTO-FERMENTED VEGETABLES, raw, certified organic, locally grown. Dill pickles, sauerkraut, kimchi, ginger carrots. Sold/Shipped within Northeast only. See website for store list and mail order info. Contact: Real Pickles, PO Box 40, Montague, MA 01351, (413) 863-9063, www. realpickles.com, info@realpickles.com. 11/1

LACTO-FERMENTED VEGETABLES, cultured, 100% organic, by Immunitrition. Three delicious, raw blends – Garden, Sea & Sunshine. Ships throughout USA via UPS. Available in 32 oz. jars or try our Cultured Veggie Taste Tester with bonus pumpkin oil & sea salt. (877) 773-9229, www.culturednutrition.com. 11/3

MAPLE Syrup, maple products and maple gifts, Certified Naturally Grown (naturallygrown.org). Fifth generation farm that takes pride in quality products. Located in the Northern Catskills of NY. Visit maplehillfarms.biz or call 800-543-5379. We look forward to meeting your sweet needs! 11/3

SAUERKRAUT, RAW ORGANIC. Fresh, Raw, & Alive! Gold Mine's Fresh Organic Sauerkraut is abundant in friendly, living micro-organisms, powerful aids to digestion and assimilation. Independent lab tests show 7.8 million CFU's of live lactobacillus and bifidobacterium species per gram! Aged in special ceramic crocks that allow the growth of friendly flora in a safe environment, Gold Mine's sauerkraut is, according to the most discriminating "kraut connoisseurs," absolutely delicious! Featured at the annual conference of the Weston A. Price Foundation 2004-2007. (800) 475-3663 or go to www.goldminenaturalfoods.com. 11/1

SPELT. Organically grown. Traditional Oberkulmer Variety. Our spelt is grown by a certified organic farmer. We ship anywhere in the US. We sell by the pound. Contact the Plain Grain Co. LLC for details: www.carasmaternalconnections.com, cara@carasmaternalconnections. com (248) 628-8646 (paypal accepted). 11/2

#### HEALTHY FOODS

SPROUTED RICE/SPROUTED RICE FLOUR, we soak, germinate, dry and roast the finest organic California brown rice for the ultimate in whole-grain nutrition. Tested gluten-free, use it in your favorite dishes or baked goods. Makes great sushi! Sold in 25 lb. bags only, we ship anywhere via FedEx. Save over retail, (505) 984-3140 or order@kgflour.com. Find local stores/ distributors at www.kgflour.com. 11/4

THE FARMER'S GARDEN is the place where everyone can get access to food grown close to his or her home. Visit us at www.thefarmersgarden.com to search or place a free classified to buy, sell or trade your surplus backyard produce. Maureen The Farmer's Garden www. thefarmersgarden.com. \*11/2

#### HEALTHY PRODUCTS

ARTICLES NEEDED. NATIONAL DIRECTORY of organic food sources and other natural health products needs articles, new releases, recipes, and information about your products and services for future issues. Advertising available. Sample \$3. Buffalo Creek Publications, PO Box 397, Buffalo Lake, MN 55314. \*10/3

NATURAL PRODUCTS. Life Energy Store: Nourish your body, heart & spirit. Delicious nutritious foods: pure chocolates, coconut, mesquite, agave, salts. Additive-free supplements. Natural soaps. More nourishing, earth honoring, healing products to vitalize your vibrant health and well-being! www.LifeEnergyStore. com (888) 846-6412 magic@lifeenergystore. com. 11/2

NEEDAK<sup>®</sup> Soft-Bounce Rebounders. Jump your way to better health! Tone and detoxify while building strength, flexibility & balance. Expertrated as the most comprehensive workout for all ages and abilities. Solid warranty and value: \$269 + S/H Liz: (928)767-4796. 11/1

ORGANIC FARMER/blacksmith, 34 wants friends and a wife. Must be willing to stand for truth. Wide range of interests centered on healthy, sustainable lifestyle and true religion. Not enamored with the electronic age. Timothy Martin, 156 Newton Rd., Potsdam NY 13676, 315-265-0026 evenings. 11/4

Dedicated to Helping the Consumer Obtain Nutrient-Dense Foods and Accurate Nutrition Information

#### PERSONAL

WHAT'S YOUR DREAM? SWM, 54, 5'9", athletic, sailing, silent sports, yoga, organic farm, cats, eclectic, political consultant, left, social/farm/ food activist, sustainable lifestyle, passionate, romantic, intellectual. ISO fit woman (mid-40s-early 50s), mutually affirming relationship, Wisconsin: farm.wi@gmail.com . 11/3

#### SERVICES

FINE INTERIOR PAINTING. Quality residential repaint work for the discriminating home owner. Historical restoration a specialty. Outstanding interior enamel trim work. Fine Interior Painting is a Fine Paints of Europe certified painting contractor. Call for a contractor/client consultation. Remember, there is more to painting than what is in the can! Serving Western Massachusetts but will travel to any geographic location. The on line home of Fine Interior Painting: PAINT8. com JOHN DELMOLINO, Hadley, MA., (413)549-8776 Cell (413)210-4445. 12/3

REMODELING. Michael's Remodeling, kitchen and bath design, basements, kitchens, decks. Serving Northern Virginia for 17 years. Michael Meredith (703) 764-956, Michaelsremodeling. com meredith848@yahoo.com. 11/3

#### WAPF LIFESTYLE/FARMING

EDUCATION/LODGING - McNutt FARM II SCHOOL, 6120 Cutler Lake Road, Blue Rock, Ohio, 43720, (740) 674-4555 We welcome you by reservation and deposit, on-Farm lodging, over night, weekend or week. Private quarters/ equipped kitchen. 11/4

ORGANIC, LOCAL FOOD BASED CAFé for lease in Carlisle PA. Great opportunity for a skilled Weston Price oriented team. Complete green facility, turn key operation. Large network of local producers provide beef, chicken, dairy and eggs. take a look www.thegoodlifecafe. com Call David at (717) 243 4968. \*11/4

SAWSOMME (SAW-SOM-ME): Sunshine - Air -Water - Soil - Ocean - Minerals - Microbes - Energies. Properly balances life's precious benefits. All are needed in agriculture to start, nurture and sustain life's requirements. email: ehhsawsomme@yahoo.com (847) 464-5987. 11/4

TN BED & BREAKFAST. Spend your next vacation on a working farm, LaBelle Acres in Jamestown, TN. Guests are welcome to fish in the ponds,

#### WAPF LIFESTYLE/FARMING

fight chickens for eggs, or just sit on the porch rocker. Breakfast foods are supplied, guests are welcome to prepare them when they desire. For more information, call (931) 863-5594 or labelleacres@yahoo.com or http://www. bedandbreakfast.com/tennessee-jamestownlabelle-acres. html. 11/1

#### WORK/INVESTMENT

APPRENTICESHIP WANTED: in cooking, preparing, and foraging traditional foods. Especially—basic culinary techniques, fer-

mentation, head to tail processing/cooking, traditional techniques for optimal nutrition, gastronomy, emphasis on principles of Weston Price. Please contact Carly.Leusner@gmail.com if you have an opportunity. \*11/2

APPRENTICESHIPS - VERMONT Farm seeks 2010 apprentices. We integrate American Milking Devon cattle, pigs and chickens with growing and fermenting six tons of vegetables. Our grain-free cows support raw milk sales plus butter and cheese making. We focus on selling nutrient-dense foods while eating well ourselves! Learning opportunities include milking, biodynamics, natural livestock care. Positions available April to November, short and long term. Cabins, food, laundry, Internet access and lots of education. Call Doug Flack, (802) 933-7752, Flack Family Farm, www.flackfamilyfarm.com. Snailmail please. 11/4

INVESTORS NEEDED. Next Level Productions is seeking investors to complete its documentary film "Body Armor." The film follows the journey of individuals with chronic illnesses as they explore natural medicine and alternative therapies. Contact Gabe Golden. (310) 779-2816, Gabegolden310@yahoo.com. \*11/4

> The greatest fine art of the future will be the making of a comfortable living from a small piece of land. *Abraham Lincoln*

#### PASTURE-RAISED PRODUCTS

#### **Green Acres Farm**

Soy-free certified organic grass-fed raw dairy products Pastured chicken, veal, eggs 100% grass-finished beef Beef & chicken stock certified organic produce in season Amos K. Lapp & Family Shipping Available 717-661-5293



Green Pastures Dairy, Inc. 100% grass-fed dairy featuring: \* Raw Milk Cheeses \* Nitrite-free Beef Summer Sausage \* Beef \* Whey-fed / Pastured Pork \* Pastured Turkeys & Chickens All completely hormone & antibiotic free. We ship nationwide every week. www.greenpasturesdairy.com (218)384-4513 Carlton, Minnesota 11/2

Artesanal Nutrient Balanced All Natural-Grass Finished Beef for the consumer who recognizes the value of all grass fed beef No hormones, antibiotics, grain or Ethanol byproducts Taking

for 20lbs whole beef Campbell Trinity C Ranch, New Meadows Idaho Steve and Debra Campbell • (208)347-2467 trinityc3@frontiernet.net 11/2

orders now

Dedicated to Helping the Consumer Obtain Nutrient-Dense Foods and Accurate Nutrition Information



PASTURE-RAISED PRODUCTS

Wise Traditions

SPRING 2010
Dedicated to Helping the Consumer Obtain Nutrient-Dense Foods and Accurate Nutrition Information



Dedicated to Helping the Consumer Obtain Nutrient-Dense Foods and Accurate Nutrition Information



Wise Traditions

SPRING 2010

110

Dedicated to Helping the Consumer Obtain Nutrient-Dense Foods and Accurate Nutrition Information





Wise Traditions





Dedicated to Helping the Consumer Obtain Nutrient-Dense Foods and Accurate Nutrition Information



Wise Traditions

# The Shop Heard 'Round the World Dedicated to Helping the Consumer Obtain Nutrient-Dense Foods and Accurate Nutrition Information



Wise Traditions

www.holisticnova.com 202-309-2446 --- vicky@holisticnova.com

Dedicated to Helping the Consumer Obtain Nutrient-Dense Foods and Accurate Nutrition Information



#### Helping you to Detox your Since time immemorial, healthy generations built their nutrition around Body & our World essential natural fats, never brushed, and had perfect teeth and gums. The past few generations were sold fake foods, chemical-laden toothpaste Small changes can make a huge difference. and routinely suffered gum disease and cavities. Back on a traditional diet, we can restore our health cell by cell and generation by generation. www.ActualOrganics.com Brushing with chemical-free Good-Gums powder with vitamin-C & natural herbs gives a local boost to help keep teeth clean and gums infection-free while we rebuild our bodies. Available at some WAPF buying clubs and at www.Good-Gums.com 11/4A Gift With Many Happy Actual Organics (and Healthy) Returns... Joanna Runciman Membership in Wellness Coach WESTON A. PRICE FOUNDATION® Independent Rep Miessence organic skin care For gift memberships contact Tel: +1.360.450.5655 info@westonaprice.org or call 202-363-4394 11/3

Wise Traditions



Wise Traditions

Dedicated to Helping the Consumer Obtain Nutrient-Dense Foods and Accurate Nutrition Information







Wise Traditions

Dedicated to Helping the Consumer Obtain Nutrient-Dense Foods and Accurate Nutrition Information

#### **INFORMATION** Acres is Enough Finally, a diet that speaks the truth! "Recently we have seen a great back-to-the-land The Wheel of Health movement, with many young professional people returning to small scale farming; thus it is great fun to read about someone who did exactly the same thing in by Dr. Guy T. Wrench The 1864. In that year, Mr. Edmund Morris gave up his business and city life for a farm of ten acres, made a go of mixed farming and then wrote a book about it. Mr. Morris proves Putnam's Vegetable Book by Mae Savell Liberatio Abraham Lincoln's prediction: 'The greatest fine art of the future will be the making of a comfortable living from a small piece of land.' Kudos to Osiran Press for resurrecting this fascinating treasure." – Sally Fallon Morell, President, The Weston A. Price Foundation. Croy (orig. pub. 1917) l)ief Setting America Free ISBN 978-0980297638 214 pages US\$12.99 UK£8.99 from the Bondage of PDF versions available Health Mis-information! for download Kevin Brown CPT. NC Annette Presley RD, LD, CPT DentalConfessions.co **Healthy Weight Loss** LEARN ABOUT DENTISTRY'S BEST-KEPT SECRETS... the Weston Price Way Order Today Gingival Sulcus | Fluoride Fraud | Mercury Deception www.LiberationDiet.com Jim Maxey D.D.S. www.LiberationWellness.com 11/2Cure Tooth Decay by Ramiel Nagel Gut & Psychology Syndrome Cure Remineralize your cavities now by Dr. Natasha Campbell-McBride Set the book, learn how Useay Thumbs up review in Wise Traditions, Fall 2009 -Gut & Psychology Syndrome -Put Your Heart in Your Mouth www.curetoothdecay.com -Bio-kult probiotic -Betaine HCl with Pepsin Healing Our Children by Ramiel Nagel (no fillers!) Learn Weston Price's message for -Fermented Cod Liver Oils parents-to-be with sacred foods for preconception, pregnancy, and birth. -Saccharomyces Boulardii & many more Feel support with your primal parenting instincts. www.NuTriVene.com Forward by Sally Fallon Morell \*11/4 800-899-3413 www.healingourchildren.net Wholesale inquiries welcome 11/3 Why Choose Grass-fed Meat? ou are What are Cultured Vegetables? Which Fats Are Healthy to Eat? Non-Gr Articles on Nutrition **Recipes & Resources** ODDING Building Healthy Bodies with Good Nutrition http://www.nongmoshoppingguide.com/SG/Home///an.gao Institute for Responsible Technology 2641-209-170 **641-209-1765** www.ntptalk.com \*11/4

Wise Traditions





Dedicated to Helping the Consumer Obtain Nutrient-Dense Foods and Accurate Nutrition Information



Dedicated to Helping the Consumer Obtain Nutrient-Dense Foods and Accurate Nutrition Information

#### Kaayla T. Daniel, PhD, CCN THE WHOLE NUTRITIONIST<sup>®</sup>

Certified Clinical Nutritionist (CCN) Loomis Digestive Health Specialist PhD in Nutritional Sciences & Anti-Aging

It's not only what you eat! It's what you are able to digest, assimilate, utilize and eliminate! State-of-the-art laboratory testing to identify nutritional deficiencies, imbalances and related stresses on your body.

- Whole food-based diet, enzyme and supplement plans that have been clinically proven to work - and work for you.
- Whole solutions for digestive disorders, women's health problems, fatigue, depression, premature aging, disease prevention and reversal. Recovery from soy and vegetarian diets. Slow, safe detoxification
- Phone or in-office consultations.

wholenutritionist@earthlink.net 505-266-3252 \*11/1

Here, by either in-person or phone consultation, you will receive the best, most accurate blood DETERMINATION - and the most effective ultimate OPTIMIZATION of your nutritional, metabolic, medical and neuropsychiatric status that you will find virtually ANYWHERE, and possibly AT ANY COST.



Nutritional, Metabolic & Psychiatric Medicine, PLLC John Vlok Dommisse, MD (US & Canada), MBChB (CapeTown), FRCP(C) (Toronto) Phone 577-1940 Fax -1743 www.JohnDommisseMD.com 1840 E River Rd (at Campbell) #210, Tucson 85718

126

#### PRACTITIONERS

#### DR. THOMAS COWAN

Board member of the Weston A. Price Foundation and author of the "Ask the Doctor" column in Wise Traditions.

Consultations by phone from San Francisco, California.

#### • • • • • • • • • • • • • • •

Dr. Cowan uses nutrition, herbs, anthroposophic and other natural remedies to treat a wide variety of acute and chronic illnesses, including cancer, diabetes, arthritis and chronic fatigue.

Call (415) 334-1010 for an appointment \*11/4

#### CRANIOSACRAL THERAPY INJURY AND TRAUMA RESOLUTION POSTURAL ALIGNMENT

Craniosacral Therapy is a non-invasive subtle therapeutic modality which works to alleviate unresolved physical, emotional and chemical trauma while activating and enhancing the body's own self-regulation, oxygenation and healing. Craniosacral Therapy assists with a wide range of health issues, including:

- · Chronic Back & Neck Pain
- Emotional Trauma
- Sciatica & Scoliosis
- Insomnia & Depression
- Stroke, & Brain Injury
- TMJ dysfunction
- Tinnitus & Migraines
- Post-Surgical & Post-Dental Healing
- · Repetitive Stress Injuries

MARIKA WERTHEIMER Berkeley, California 510-528-3694 11/3

#### How can I apply the principles Weston Price discovered to reach radiant health?

The answer is different for every person. My clinical experience can enable you to discover the exact foods, proportions and supplemental nutrients that are right for you.

-Phone Consultations; Office Visits-

Blood Chemistry and Nutritional Analysis— (through participating laboratories)

**Ron Schmid, ND** NATUROPATHIC PHYSICIAN Offices at Grassfed Farm Watertown, Connecticut

(860) 945-7444 www.DrRons.com 11/4



Phone Consultations 716-941-1045 homeopathyworks.net

Wise Traditions

SPRING 2010

\*11/1

# The Shop Heard 'Round the World Dedicated to Helping the Consumer Obtain Nutrient-Dense Foods and Accurate Nutrition Information

Name of Farm of	or Company:					
Contact Person:						
Address:						
City:				State:	Zip:	
Phone:	ne:Fax:			Email:		
Website:						
DEADLINES Spring issue: February 20th Fall issue: August 20th			Summer issue: May 20th Winter issue: November 20th			
Payment method:Check (I		(Payable to WAPF)	Visa	Mastercard		
Credit Card: Vis	sa/MC			Expiration: (/)	\$	
The Weston A. Price		MEDIUM COLUMN 2" tall by 2.5" wide \$120 per year		advertising space to anyone. Please submit classified advertisement copy or column advertisement graphics to: Liz@WestonAPrice.org Phone: 301-943-9990 If the file is very large, please send it from www. yousendit.com. Alternately, you may mail art- work directly to the Foundation and we will scan it for you. Digital files should be grayscale "tiff" or press quality "pdf/eps"at 300 dpi. CLASSIFIED ADVERTISEMENTS TEXT ONLY, BY STATE & CATEGORY \$32 per year for 40 words		
TALL COLUN 2.25" wide \$240 per y	<b>N</b> by 4" tall ear	WIDE C 2" tall by 4.5 \$240 per yea	<b>OLUMN</b> ″ wide ır			

#### **ADVERTISING IN WISE TRADITIONS**

# Membership

Yes!	I would like to join the Weston	I would like to join the Weston A. Price Foundation and benefit from the timely information in							
	<b>Wise Iraditions</b> , the Foundation	on's quarterly magazine!	Canadian ma	nala a vala i va	¢ FO				
	Regular membership	\$40 ¢25	Canadian me	nbersnip dit card payment (	5 0 ¢ مماريا (م				
	Senior membership	\$25 \$25 (62 and over)	Overseas (cre	uit card payment o	oniy) \$ 50				
		+ ( , , , , , , , , , , , , ,							
Ves!	I would like to help the Weston A. Price Foundation by becoming a member at a higher level of support.								
	Special membership \$100	Benetad	ctor membership \$1,00	0					
	Sponsor membership \$25	0Millenn	Millennium membership \$10,000						
	Patron membership \$500	Other \$	Other \$						
Ves!	Count me in! I would like to	help spread the word!							
	Please send mecopies of the Weston A. Price Foundation informational brochure at \$1.00 each, so I can pass them along to my family, friends and colleagues, and be true to Dr. Price's dying words:								
	"You teach, you teach!"								
	(Health professionals are encouraged to provide this brochure to their patients.)								
Vest	I would like to provide my famil	I would like to provide my family and friends with the gift of membership in the Weston. A Price Foundation							
	(Pleas	e attach information on s	vift memberships )	Weston. At thee t	oundation.				
	Regular gift membership(s	) \$40	site membersinps.)						
	Student/Senior gift member	rship(s) \$25							
	Canadian and overseas git	Canadian and overseas gift membershin(s) \$50							
		te membership (5) ¢50							
Ves!	Please send me details ab	out starting a Weston A.	Price Foundation local of	chapter in my com	munity.				
l'm en	closing \$for brochures and	\$forannual	membership(s), a total (	of \$					
Payme	ent method:Check or mone	ey order (Please do not se	end cash)Maste	ercardVis	Sa				
Card N	Number:		Expiration D	ate:					
N.I.									
Name	(Mr)(Mrs)(Mr&Mrs)(Ms)(Miss)(Dr):								
Signatu	ure:								
Addres	ss:								
City:			State:	Zip:					
Phone	:	Email							
	DID	ase conv or remove this r	have and fax or mail to						
		The Weston A Pric	e Foundation						
	PMB #106-3	80 4200 Wisconsin Aven	ue. NW Washington	C 20016					
		FAX: 202-36	3-4396						
128		Afra Tur	< : 4 :						

Wise Traditions