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Wise

Traditions



Volume 13 Number 4



LIFE-GIVING WATER

PASTURE-FED LIVESTOCK

CAMPAIGN FOR REAL MILK

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The Story of Zinc

A PUBLICATION OF THE WESTON A. PRICE FOUNDATION® Education Research Activism www.westonaprice.org

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> IN FOOD, FARMING AND THE HEALING ARTS Education • Research • Activism

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You teach, you teach, you teach!

Last words of Dr. Weston A. Price, June 23, 1948



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Volume

13 Number

TRUTH IN LABELING

SOY ALERT!

Winter 2012



Adjuncts to the Fat-Soluble Vitamins All-Natural Skin Care Diet in Prison Hospitals Homeopathic Zinc Soy Infant Formula Study

SCIENCE AS COUNSELOR

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NURTURING THERAPIES

WiseTraditions

IN FOOD, FARMING AND THE HEALING ARTS Volume 13 Number 4 Winter 2012

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Education • Research • Activism

The Weston A. Price Foundation is a nonprofit, tax-exempt charity founded in 1999 to disseminate the research of nutrition pioneer Weston A. Price, DDS, whose studies of isolated nonindustrialized peoples established the parameters of human health and determined the optimum characteristics of human diets. Dr. Price's research demonstrated that men and women achieve perfect physical form and perfect health, generation after generation, only when they consume nutrient-dense whole foods and the vital fat-soluble activators found exclusively in animal fats.

The Foundation is dedicated to restoring nutrientdense foods to the American diet through education, research and activism and supports a number of movements that contribute to this objective, including accurate nutrition instruction, organic and biodynamic farming, pasture-feeding of livestock, community supported farms, honest and informative labeling, prepared parenting and nurturing therapies. Specific goals include establishment of universal access to clean, certified raw milk and a ban on the use of soy-based infant formula.

The Foundation seeks to establish a laboratory to test nutrient content of foods, particularly butter produced under various conditions; to conduct research into the "X" Factor, discovered by Dr. Price; and to determine the effects of traditional preparation methods on nutrient content and availability in whole foods.

The board and membership of the Weston A. Price Foundation stand united in the belief that modern technology should be harnessed as a servant to the wise and nurturing traditions of our ancestors rather than used as a force destructive to the environment and human health: and that science and knowledge can validate those traditions.

The Weston A. Price Foundation is supported by membership dues and private donations and receives no funding from the meat or dairy industries.

Upcoming Events

Eeb 8-10	Long Beach, California: Fourfold Cowan, MD, and Sally Fallon Mc com or (304) 724-3006.
Mar 23-24	Ann Arbor, Michigan: Weston A Daniel, Sarah Pope, Sally Fallon <i>N</i> price.org or (304) 724-3006.
April 3-4	Abilene, TX: The Oiling of Amer Contact: slowpokefarm@hotmail.

- April 5-6 (304) 724-3006. April 21 Herbert Armstrong College. Contact: (405) 285-6000.
- **May 18** ing. **Contact:** maggiepalmer@wyoming.com or www.localfest.org.



2013

Path to Healing Conference featuring Jaimen McMillan, Tom orell. On the Queen Mary! **Contact:** newtrendspublishing.

A. Price Foundation Regional Conference, featuring Kaayla Aorell, Joette Calabrese and others. Contact: www.westona-

rica and Nourishing Traditional Diets by Sally Fallon Morell. .com.

Vancouver, BC, Canada: Raw Milk Symposium featuring Michael Schmidt, Ton Baars, Mark McAfee, Kimberly Hartke and Sally Fallon Morell. Contact: www.rawmilksymposium.com or

Edmond, OK: The Oiling of America and Nourishing Traditional Diet by Sally Fallon Morell at

Pinedale, WY: LocalFest 2013 featuring Sally Fallon Morell, plus workshops on gardening at high altitude, medicinal herbs, backyard chickens, cow share programs and hoophouse build-

Sept 21-22 Portland, Oregon: Weston A. Price Foundation Regional Conference, featuring Sally Fallon Morell and others. **Contact:** www.westonaprice.org or (304) 724-3006.

WiseTraditions 2013

CURING THE INCURABLE: HOLISTIC THERAPIES FOR CHRONIC DISEASE 14th Annual Conference of the Weston A. Price Foundation November 8-11, 2013 Atlanta, Georgia

Wise Traditions

IN FOOD, FARMING AND THE HEALING ARTS A PUBLICATION OF

THE WESTON A. PRICE FOUNDATION®

Volume 13 Number 4

Winter 2012

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Education • Research • Activism

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President's Message

Wow! It's been a wonderful year for the Weston A. Price Foundation. We have seen our membership grow, our influence expand, our message reach more and more people hungry for the truth.

Wise Traditions 2012 was our best conference ever, with a capacity crowd of sixteen hundred, over forty highly qualified speakers and delicious food at every meal. A big thanks to all our volunteers and staff, and especially to Paul and Misty Frank, for pulling off such a complicated event.

And what about those wonderful chapter leaders? Weston A. Price Foundation chapter leaders and members contributed an estimated three thousand volunteer hours at a record one hundred ninety-three exhibits in 2012. We only have room to report on a few of them in the Local Chapter section of *Wise Traditions*.

Exhibits helped to expand membership in the U.S. with a recordbreaking twenty-five new memberships from the Integrative Healthcare Conference in New York, twenty-two from the Nourishing Women Through Life, Stress, and Hormones hosted by the Southern Middle Tennessee chapter, and twenty from the National Association of Nutrition Professionals Conference.

Outreach went down under with the seven-city New Zealand tour my husband Geoffrey and I carried out this spring. New Zealand has the highest membership and chapter leader count per person of all the countries of the world.

This year WAPF partnered with new organizations by sponsoring the WAPF Real Food Stage at the popular Mother Earth News Fair, delivering fifteen hours of WAPF content, cooking demonstrations and tastings to over one-third of the fifteen thousand fair participants.

WAPF spread its message into many audiences: sustainable ag, autism, cancer, gluten-free, herbal, holistic health, chiropractic, integrative medicine and dental audiences. WAPF exhibited at two Paleo-oriented conferences this year, even recruiting key leaders to membership! WAPF chapter leaders were involved in GMO labeling efforts in several states, as well as vaccination awareness and improvement of school lunches.

In addition, WAPF was able to launch its research efforts this year by sponsoring Chris Masterjohn, PhD, for his post-doctorate at the University of Illinois. Thanks to WAPF funding, Chris will be working on the interactions of vitamins A, D and K2 as they influence or prevent soft tissue calcification—Weston Price would be so proud to know that we were carrying on his research in the laboratory.

There's still a lot to be fixed in our world; nevertheless, we have much progress to be thankful for. We wish you many blessings for the holidays and in the new year.



I would like to take the opportunity to thank all who work at the Weston A. Price Foundation for all the hard work you do in communicating vital and well hidden (as in absent from the mainstream) information about nutrition.

My first experience with your work was seeing an interview about your work in Tom Naughton's film "Fat Head."

I am constantly amazed by all the information I have learned from the Weston A. Price Foundation. Before I ran across "Fat Head," I had no idea that the mainstream dietary advice pushed by the established authorities was so flawed. I had no idea how essential animal foods are for our health and how harmful processed foods can be. I have begun eating and living according to much of your advice. Thanks to the Foundation website. I now use coconut oil on a daily basis, I take cod liver oil, I frequently eat calf's liver, and I have experienced raw milk. I have lost twenty pounds effortlessly and am enjoying the "problem" of reaching the tightest loop on my belt.

It took a few months of gentle coaxing, but I talked my wife into adopting these principles as well. Over the course of her entire pregnancy my wife only gained ten pounds, which was fine because she started out overweight. She also experienced no negative effects or discomfort from the pregnancy and had a very smooth and easy delivery. We now have a beautiful baby girl.

We are both enjoying life a lot more now than we were when we were attempting to restrict calories (and feeling hungry), eating pasta, minimizing fat, and slaving away at the gym for five hours a week, all with extremely minimal results. We both feel great, sleep well, and have plenty of energy. We attribute these positive changes to



our new eating habits.

We thank you once again for all your efforts to educate others. I shudder to think of how I would be feeding my child in a few months if I had not discovered such eye-opening information from the Weston A. Price Foundation.

Bret from Arkansas

TARGET ON RAW MILK

I just learned something from a landlord in Mendocino County regarding a case of virulent *E.coli* that occurred in November 2011. One of her tenants accused our dairy's raw butter of causing illness in her child. It was in the news and our brand was dragged through the gutters. The two-year-old was air-lifted to UCSF from Fort Bragg for treatment.

I have learned from the landlord that the mother of this child lives in filth and has been diagnosed with Munchausen by Proxy Syndrome. MBPS is a type of child abuse where the caretaker inflicts illness on the person that is cared for. Earlier, this mother had nearly lost her older eight-year-old daughter.

It is now discovered that the child never ate raw butter and that the story was actually a lie and insurance scam. The mother shared this information openly on a local Yahoo chat group. She said she was going to get free representation from an "*E. coli* lawyer" and get a five million dollar check in settlement from Organic Pastures Dairy. She revealed that the kid ate deer poop.

The *E. coli* detected in the child did not match anything found in the Department of Public Health's investigation at our dairy.

I thought I might share this with all of you because raw milk dairies wear a target, and it is essential to be critically fair when consumers accuse a raw milk farmer of causing illness. Press releases should not be conclusive of guilt nor suggest a definitive origin of anything until the investigations are complete.

Mark McAfee, CEO Organic Pastures Dairy Corporation Fresno, California

GINGIVITIS HEALED

I had serious gum disease about eight years ago. The dentist used deep ultrasound cleaning; however, I was later referred to a specialist for gum surgery. I had the gum surgery, but it did not solve the problem.

I had read about the research that Dr. Weston Price did on gum disease. He found that if patients consumed highvitamin butter oil and high-vitamin cod liver oil, their gums healed. The butter oil is made from butter from cows eating fast-growing green grass.

I consumed the high-vitamin butter oil with regular cod liver oil. However, my gums did not improve. I did not realize that most cod liver is deodorized, and that process destroys most of the vitamins.

My gums were recessed up to twelve millimeters, so the dentist referred me to another specialist, who removed two molars at the very back of my mouth. The dentist warned me that if I did not have those two teeth removed, then I could lose more teeth in the long run. It appeared to me that my gum disease would never heal.

I then read an article from the WAPF website about cod liver oil pointing out that all cod liver oil is not the same, and that most is deodorized. This deodorizing process destroys most vitamins.

I then started taking the butter oil along with the high-vitamin cod liver oil. Wow! When I went back to the dentist, they said that my gums were completely healed.

Just to confirm, a co-worker came to me one day and said that she had gum disease and that her front teeth were very loose. Her dentist recommended that she consider removal of those teeth. I gave Tula a jar of the high-vitamin butter oil and a bottle of the high-vitamin cod liver oil. Six weeks later she went to the dentist who proclaimed that her gums were completely healed and the teeth were no longer loose! I wish they taught this therapy to dentists, since they seem very skeptical about these results.

Another employee at our company found that the high-vitamin butter oil and high-vitamin cod liver oil cleared up his skin problem.

> Paul Rainosek Huntsville, Alabama

MIRACLE OF SOAKED GRAIN

I have a brother who has had mental disabilities, which set in around his nineteenth year. He has gotten progressively worse and had to move in with me about six years ago. He suffers from anxiety and fear; he was introverted, seldom talking, only saying "yes" or "no" or "I don't know." He could not remember to bathe and would sleep fifteen hours a day. In the late afternoon, he would shuffle downstairs, not acknowledging anyone, eating only what was prepared, wide-eyed and running his hands through his hair with fear.

If I asked for help around the house or to simply clear his room, he would panic. I had been working with him for months to get him to sweep the kitchen. Along with another brother, we would try many new things. In our search we found the information of the Weston A. Price Foundation.

I had always made our own bread, of good whole wheat, freshly ground, but never considered soaking it. I decided to try soaking the flour first. It took me a while to figure out a way to make it simple and palatable. On the third day after starting the soaking, he came down stairs early, walked in the kitchen and said, "Hi, Beth," looked around and asked to sweep the floor. After sweeping the floor, he volunteered for two more jobs and then went out for a walk.

Three days later, as this new behavior continued, I asked whether he realized that he had never done those things during the five years he was living with me. He was surprised. His new behavior seemed so natural to him. He still had the anxiety but now he could communicate and notice others.

After about a week we also noticed that his fear had changed into humor. He would now laugh, about every fifteen minutes or so. "What was so funny?" I would ask him. "I don't know," he would say, "it just is."

I have also noticed that when the children have had their soaked grains, they seem to get along better. And when I have a room full of three-year-olds, I can handle them better when I have had the soaked grains. When I don't have them, it's harder to handle them. I must say that I would have never noticed this change in myself if I had not thought to look for it. The change has been natural and subtle. And I believe that my brother was really a good person in his heart, but he just could not express it until he got soaked grains.

It has been a year and a half since that experiment and he has moved out and has a place of his own now for three months. I am not making bread anymore for him. So far his health has maintained. Did something heal? Time will tell.

Name withheld

INCREASE IN BONE DENSITY

I have experienced headaches since childhood. In the 1990s I was diagnosed with degenerative disc disease. By 2006

my diagnosis also included severe osteoarthritis and fibromyalgia.

Since I found westonaprice.org, I began making and cooking with bone broths, taking vitamin B_{12} and fermented cod liver oil, and eating raw milk products when available. We began raising our own chickens for meat and eggs this year. We have eaten five of our own pastured chickens, lots of pastured eggs and pastured meat. I have always loved organ meat and shell fish.

I have had three bone density tests in 2008, 2010 and last week in 2012. The first two bone density tests showed improvements. The latest one showed a 7 percent increase in bone density. My doctor said, "Keep doing whatever you are doing." My headaches are also much better.

I have been so eager to share this news with my fellow nutrient-dense-food fans.

Name withheld

COLLOIDAL SILVER FOR MRSA

It was around October 2007 when my friend, Sherry, had a MRSA infection. The MRSA started out as what she thought was a pimple on her knee. She picked at it with a pin and it appeared to get infected and swelled up like a balloon. The doctors put her on fluoroquinolone antibiotics. They first gave her Cipro and she went into anaphylactic shock. They put her on many different antibiotics for months. I finally saw her and brought her to the ER where they lanced it.

She was so thin and emaciated from not eating due to the antibiotics. I gave her some MesoSilver colloidal silver to spray in her mouth and on the wound, which looked like a bullseye. Within three days, it healed and the swelling started going down. She was spraying it constantly and it eventually disappeared.

I didn't see her for a couple of years after this until 2010. She said she got the infection again, but no longer had any of the colloidal silver. It seemed to resolve on its own.

However, shortly after she contacted me in 2010, her baby niece got the same type of pimple on her bottom. Sherry immediately knew it was MRSA, but the mother wouldn't take her to the doctor. After a few days, it had spread all over the little girl's crotch areas and buttocks. She was in the hospital, on many bad antibiotics. I immediately mailed Sherry the colloidal silver and she sprayed her niece from top to bottom with it and by the next day, it was healing. Her niece went home to heal two days later after being in the hospital for a week.

Speaking of the side effects of antibiotics, my mom took the Levoquin antibiotic, and her Achille's tendon started to rupture. She couldn't walk on it and it kept getting worse. I sprayed it with colloidal silver and put some on a rag and let it sit on the ankle.

After just thirty minutes, it started to feel better and by the next day the pain was nearly gone.

I originally thought it might have been caused by a spider bite, but at that time I read the package insert with the FDA's huge letter warning of ruptured tendon problems and figured out that the antibiotic caused the Achilles tendon to rupture.

The bacteria used in these fluoro-

quinonlones must be genetically changing our DNA or proteins because they cause some pretty horrible problems in some people, especially those that are immune compromised.

> Blake Labarbera Greenfield, Wisconsin

A DOCTOR WHO KNEW

I am an RN and wanted to share something with you. Back in New Hampshire where I was born, when I was thirteen, we had a doctor who then was in his early eighties. I remember him talking to my grandmother and this is what he said almost verbatim!

"You know, Mrs. Phinney, I never saw heart disease until they started to homogenize milk. I never have treated so many sore throats, step throats and stomach ailments until they pasteurized milk. We all would be in better health if this madness would stop and we had good raw milk, butter and cream. This nonsense about oleo being better than butter is being shoved down our throats and it is wrong. Dead wrong. What God made is good. Man-made is not!"

This was in October of 1964! I have never forgotten this conversation! I asked him why as I was always curious and always wanted to be a nurse. He said he believed that homogenization breaks the fat globules down so small that they cling to the blood vessels. He said there are good bacteria and enzymes in the milk that take care of what few bad germs are in the milk, but they are killed when it is heated for pasteurization. Wow! A doctor before his time!

By the way, the same is true for honey. We are beekeepers and we know that honey should never be heated above

one hundred fifty degrees, as this destroys all the natural enzymes.

> Diane Sanor Beloit, Ohio

RAW MILK IN AFGHANISTAN

I was on the phone with a woman who was my tech support person walking me through programming the remote for motorized window shades. We got to chatting, and she said that her son just returned from Afghanistan but couldn't wait to go back because the milk there was so good. Of course, my first thought was that it was unpasteurized and she confirmed that was the case. I asked her where she lived and it turns out it was in Pennsylvania, a short walk from Amish farms, but she didn't know much about their offerings. I filled her in on the

raw milk scene but had to write to you about one soldier's reason for wanting to return to the war zone.

> Harvey Gardner Oro Valley, Arizona

EGGS, BACON, BUTTER AND CREAM

I have been a dedicated follower of the WAPF lifestyle for several years and have tried to pass on this wisdom to my family. I am ninety-three years old and was born and raised on a farm where much of everything we ate came from our farm. We butchered beef, pork and chickens. We also rendered lard, milked cows, grew our own vegetables, and made butter. My parents lived until they were eighty-seven and eighty-nine years of age. They never had a cholesterol check in their lives! Every evening for supper they had eggs, bacon, and potatoes fried in butter. They poured cream over



The handsome, healthy Bell Family: clockwise from top left, Judy (Bell) Snow, Kristen (Snow) Johnson, Kyle Johnson, Samara Ann Johnson (six months), and Great Great Grandmother Dorothea Bell. All are originally from Tekamah, Nebraska.

> their cereal and consumed more eggs at breakfast. My mother never skimmed the fat off chicken when she boiled it. She said, "That's what made it good!"

> Last Christmas I made each family member a notebook using articles taken from WAPF publications. I hope and pray the kids appreciate my dedication to this lifestyle and ensure a more healthy life for themselves and future generations.

> Thank you for your research and dedication to carry on the legacy of Dr. Price. May God bless you in your work. Dorothea Bell

Tekamah, Nebraska

NUTRITION IN NURSING HOMES

I read the article by Kim Rodriguez about nursing homes [*Wise Traditions*, Summer 2011], and I have observed the same throughout the years. What I know and apply to myself I am not allowed to

> suggest or recommend for the residents because of cost. Even when some of my residents ask for romaine lettuce instead of iceberg, or fresh fruits and vegetables instead of canned or frozen, it cannot be done because it would cost more. Some had better nutrition at home.

> I think this system would change if some investors would back up a group of professionals like Kim, professionals who are health-minded, not sickness-oriented, and started to advertise nursing homes that indeed restore health with whole foods.

> > Tania Manzer, RD, LD Sanford, Florida

SUCCESS WITH THE GAPS DIET

I am writing in response to a letter published in the Fall 2012 edition of *Wise Traditions*, in which Amy Lewark shared her concerns about the GAPS protocol. I hope to address some of her comments and concerns, and to dispel general misconceptions I have observed about the GAPS program.

As a long-time student and practitioner of natural healing modalities (and student midwife), I believe that gut health is foundational to systemic, holistic wellness. I put very little stock in modern "science" with its "compartmentalize, isolate and synthesize" focus,

which drives myopic diagnoses and prescriptions, neglecting to understand our holistic bodies and how they function and heal.

I have suffered numerous significant health maladies and hormonal disruptions over many years, as have my children. I have attempted and applied various healing methods to address our suffering. While we saw some improvements over time, nothing worked to give us complete wellness and health freedom. I know other people have improved their allergies with raw grass-fed milk and are happily able to tolerate properly fermented and sprouted grains. We could not tolerate those good foods. I know other families have succeeded in healing their maladies using myriad natural approaches, including a traditional foods lifestyle (which I absolutely recommend). But we are not all cut from the same cloth. Some cases are more severe, some maladies more difficult to correct.

I have seen and experienced healing from the GAPS protocol, years after I diligently studied and applied numerous techniques to our autoimmune and gut-related disorders. Gut dysbiosis is a real and significant threat to physical and mental health. It is not a new concept.

GAPS is not a healing protocol addressing only autism and its cousins. The GAPS protocol is effective for all brain chemistry imbalances and numerous physical ailments, including allergies and other autoimmune disorders. The GAPS program provides healing for a compromised gut and detoxification of the entire body, including the liver.

Stagnation and malfunction of the liver is a major cause of chronic illness.

My son and I, both of us debilitatingly allergic to foods, airborne irritants and more, have achieved remarkable healing through GAPS, including freedom from severe eczema, seizures, migraines, brain fog, depression, asthma, and various respiratory-sinus problems and GI distress.

Allow me to address a few of the key misconceptions I have encountered about GAPS.

First, GAPS is a temporary healing protocol. It is not intended to be a permanent lifestyle or diet, and it is not a weight-loss program. (Weight loss during the initial detox stage can be an effect of the protocol, often a benefit, but it is not the goal.) GAPS is a healing protocol designed to create wellness and to fix a crucial part of the body that is working incorrectly, providing health freedom and systemic wellness. Candida overgrowth and other malevolent flora do cause real damage to our systems. They are fed by complex sugars and need to be eliminated. Leaky gut causes a plethora of dysfunctions and malnourishment, leading to health scourges we see so prevalently in our modern culture (including autoimmune disorders and brain chemistry malfunctions).

Second, GAPS is not a no-carb diet. As one progresses on the protocol toward the "full" stage, the diet consists of multiple carb sources, including fruits and honey. These foods are introduced methodically to avoid irritation of the healing gut and to avoid feeding any remaining pathogenic flora.

The full GAPS protocol is not harmful during pregnancy. The GAPS protocol consists of two major phases: Intro and the Full program. Intro is the major detox, die-off phase. It is the more difficult, restrictive phase and is not recommended during pregnancy. Graduating to Full GAPS provides a well-balanced diet that poses no harm to a woman seeking to become pregnant. Additionally, the GAPS protocol includes supplementation with essential fatty acids and fermented cod liver oil, powerhouse nutrients that provide additional nourishment.

Certain carbs are restricted on GAPS, but it is a necessary temporary deprivation that produces the worthy goal of acquiring gut health. Once the gut lining is resealed, toxins are flushed from the body, the pathogens are eliminated, and beneficial flora is repopulated; then we can regain (or attain) full mental and physical health and a functioning digestive system that can process all nourishing real foods.

The goal of GAPS is to achieve systemic healing and to graduate sufferers into wellness and onto a full WAPF-type diet and lifestyle. No one who is studying and applying GAPS legitimately is falling prey to a "trend" diet or following a permanent "no grain" lifestyle. I am one "real food" blogger that doesn't believe in dieting, and certainly doesn't follow the latest bestselling "recommendations." I strongly advocate systemic healing and detoxification. If your liver is sick, the rest of you is sick. A body riddled with toxins, such as heavy metals, will perpetually malfunction. If your gut isn't working, your body isn't working. Much of your immune system is housed in your gut. You cannot absorb the nutrients you eat with a leaky, pathogenic-controlled, compromised gut. Your brain function

becomes impaired with an unwell gut. Health does begin in the gut. GAPS provides the solution to these conditions. Gabi Smedra Sandpoint, Idaho

GOOD NEWS FROM THE U.K.

My daughter Silvie and I are the WAPF chapter leaders for the Cheshire area here in the U.K. We enjoy pointing people in the direction of great real foods, like our local farmers supplying high quality raw milk and cream, pastured eggs and meats. I have been running The Real Food Company, a natural food shop for over twenty years, along with my partner Nick, and more recently our daughter Silvie, too.

I discovered your message at a Green Festival way back in 2002. At that time my partner and I were seriously questioning our vegetarian lifestyle. We started eating high quality meat, found a supply of good raw milk, and learnt to soak our grains and to ferment our veggies. This way of life suited us very well, and we could not help but change the products in our shop to reflect our change in lifestyle. Our shop transformed from being a solely vegetarianvegan shop to selling all the foods associated with our new-found way of eating. It has been hard work obtaining traditional foods in Britain, but we are now so pleased to have a comprehensive range including artisan cultured vegetables, local pasture-fed meat, raw butter and cheeses, pastured animal fats and traditionally made charcuterie-all to complement our fresh organic vegetables and wide range of natural foods.

These are ideas we are passionate about, and our passion seemed to be rub-

bing off on our customers and friends. Many of them were relieved to hear the idea that they could eat butter without feeling guilty, and with our encouragement, people are increasingly getting the hang of making their own bone broth, sauerkraut, kefir, kombucha, and sourdough bread. We have attended all three of the Wise Traditions conferences that have been held in the U.K. so far, and without a doubt they have been fantastic events, full of inspiration and opportunities to meet like-minded people.

At the start of this year we noticed that one of our natural health publications, *Natural Lifestyle Magazine*, was asking readers to vote for the best store in the country, so we decided we would enter the competition. We felt it was a long shot, since we are a small shop in a rural town—but why not?

The competition was based on customer votes, which helped the organizers arrive at the short list of finalists. And we were shortlisted! Our customers were (and are) amazing! The judges later told us we were overwhelmingly in front from the start. So many of our customers who voted for us sent along letters, too, explaining why they thought we should win.

Later in the year we were visited by the judges, who spent some time with us and had a good look around our shop. They were impressed by the wide range of foods we stock, our views on the importance of digestive health, and our passion for traditional nutrition—quite different from most natural food/health food shops in this country. When we explained our ideas on how to prepare foods and what constitutes a healthy diet they listened with interest. The result: we won! Out of a field of over two hundred stores we were the overall winner. They wrote about us: "Bursting with passion, commitment, and innovative ideas, The Real Food Company is a wonderful example of how a health food store can diversify its offering while remaining true to its origins" and "the feeling of positivity I got from being there was brilliant. I can't stop talking about them!"

Because we were inspired by the work of the Weston A. Price Foundation we were empowered to change our dietary habits. We have been able to share that message with many people through our business, and through our role as WAPF chapter leaders. It is wonderful to know this is definitely appreciated by our customers.

It is fantastic to be recognized for doing a great job, and it has given us more energy and enthusiasm to push forward with the next new developments our website, www.therealfoodcompany. org.uk. One more thing: both Silvie and I have recently started studying for a degree in nutrition.

We would like to send you all our thanks from Cheshire for the hard work that you put in, and for the inspiration you share that has taken us on this fascinating journey!

> Carol Dines Alsager, Cheshire, U.K.

MORE ON BACON

Regarding your article on bacon (Fall 2012), when the Midwest started producing ethanol from GMO corn, there was a "waste product" that the legislators and factory farming allies started to call a "by-product." It is called

distillers' grain (DG). In New York City during Prohibition in the 1800s the distillers supplied DG to the dairy farmers. Consequently the milk became known as "swill" or blue milk. It was finally banned in New York.

Today, the biotech industry is feeding this DG to livestock in order to get rid of their waste product, so they touted it as a by-product and had the land grant colleges such as Iowa State do some studies. And remember this DG comes from GMO soy, to boot! Iowa State did a pig study (paid by Biotech) where they fed DG to hogs, which heretofore is unheard of, as at least cows had a more complex digestive system.

They found that the belly (where the bacon comes from) became "mushy" from feeding the hogs DG. However, rather than putting the kibosh on feeding livestock GMO DG, it was recommended that farmers stop feeding DG three weeks before slaughter. . . or people will just get used to mushy bacon.

I don't know if it is still happening but we had a legislator in Iowa that was supplying hogs to Niman Ranch which advertises free-range hogs, and he was feeding his hogs DG. I told Niman Ranch to watch out for this practice. You would have to check with them to find out whether or not their hog suppliers are feeding their pigs GMO feed or GMO distillers' grain.

Eileen Dannmann, Director National Coalition of Organized Women Founder, vaccineliberationarmy.com

GERMAN NEW MEDICINE

My niece introduced me to the Weston A. Price Foundation in August

of 2005. Little did I know what a lifechanging event that would be; actually, a *life-saving* event. In October I became a chapter leader. Also, in October I had what would wind up being my very last mammogram. It was clear, but then in November I discovered a quail egg-sized lump in my right breast. Of course I was concerned, but I also knew that I had changed my diet so dramatically for the better that I decided to let my diet be my medicine. (Note: yes, I believe the mammogram caused the trauma/lump/ tumor.)

I did see a surgeon who said I needed a mastectomy. Then he wanted to do a biopsy. Seemed a little backwards to me. I declined all of his advice.

Fast forward two years. Nothing had changed and even though the lump was a bit worrisome, I was still determined to let my body, now totally supported

L.O.V.E. LARD

Oh, how I love that white juicy fresh lard, Whether it's melted, rendered, baked or hard. What you do to my body is without a doubt So healing and protective I just want to shout At all the governments, pharmacies, doctors and more That say, "Cut that fat off! It's the law!" I feel better. I glow. My energy runs high. It's the fat I know! The limits? The sky! No longer ill-tempered or drowsy, it's great: The scientists are wrong, I've lost weight! And so tasty, just dreaming my mouth waters so I'll eat it all meals and drinking broth I'll show You with pride my milky white "lard moustache" Which is better for me than any Grenache. So if it works for me with chronic fatigue goodbye, I recommend for any who want a slice of the pie! No heart disease, diabetes or degenerative disease to be sure, Why this misconception we must abhor? This substance must come from animals eating their grass, The unstable plant oils just don't pass!

And what about those bonds? Cis only, please. Those nasty trans-fats make cells sticky by geez! What about little people with little growing brains? They need this nutrition or you tie them in chains. Procreation you say? Fat is a must! Or fertility is gone and forget any lust! Fat-soluble vitamins, how do they transport? Without the fat carrier with which they cohort? Let's remember how grandma cooked—drippings, cream and butter. Don't listen to that marketing, it's profits they utter! Satisfaction, satiation, only fat can offer. Carbs only crave more; there is no stopper! Be sure to watch out for all the lies and deception. Read widely, do research, get your own perception. And what about cholesterol? Now that's another story. We need to rediscover that, in all its glory! Rebecca Taylor, WAPF member

Rebecca Taylor, WAPF membe Brisbane QLD Australia

by real food, heal the offensive tumor. However, I went to see an acupuncturist and because I was a little overweight she recommended I try a homeopathic form of the HCG Diet. I should have declined the diet, but the thought of losing those pesky twenty pounds was really enticing. Well, that hormone diet, even in homeopathic form, was like putting gasoline on a fire and the tumor grew so rapidly that it consumed my whole breast within two months. Now I had to address it.

I won't recap the litany of "cancer cures" I tried or the many practitioners I worked with. Nothing was working and the tumor had now broken through the skin. But I was certain there was one approach that would heal me; I just had to find the one.

In May of 2011, I discovered German New Medicine (GNM). I knew this was the one protocol I had been looking for. GNM is totally different from conventional and most alternative modalities. In GNM it goes like this: the psyche is affected by an event or "conflict" (loss of a parent in my case) which affects the brain, which then affects a corresponding organ (or system). Working on the psyche is the first step to healing. Living without fear is most important for fear feeds the cancer. Also of most importance is believing in the body's amazing ability to heal. But, you must support the body as well unless everything is in complete balance already (which few, if any, can enjoy).

Gifts and bequests to the Weston A. Price Foundation will help ensure the gift of good health to future generations. During my first consultation with a GNM practitioner I asked about diet and was encouraged to continue to follow my WAPF diet as that was the best to support healing. And in my condition I needed to have a very protein-rich diet. I was so relieved he did not encourage lowfat or vegetarian as most "cancer cures" recommend!

Someone who follows GNM believes Mother Nature did not devise a mechanism for diseased or mutated cells. An example would be leukemia. When enlarged and "different" cells are found under the microscope, a pathologist calls them leukemia when in fact those blood cells are actually new and healing cells from a previous "conflict" that can be found by looking to a past event that affected the psyche. The "conflict" from that event got resolved and now the body is healing. The last thing a person wants to do at this point is get poisoned by chemotherapy, radiation or surgery. Rest and a supporting diet to assist the healing is what is in order.

During the latter half of 2011, I was in full-blown healing mode triggered by my consultation and devotion to GNM. I was in a lot of pain. I could not sleep well and was happy if I got four hours of uninterrupted sleep in a night. I started losing weight, and I felt my life force was draining out of me. I drank raw milk tonics, except I used cream, two egg yolks and maple syrup to keep me going. To this day I credit my knowledge of fats and their importance to my survival of the worst time of my life.

I wound up calling hospice for pain control and once I had pain killers in my blood I started sleeping and within two weeks I had regained all the weight I had lost. My energy increased daily and today, even though I am still fighting this cancer battle, I am winning the war. I keep my faith grounded in the wisdom of German New Medicine and do not fear any new changes (including cancer in my left breast now). I try to nap daily, but it is hard because I have so much energy and stamina. I can tell when I haven't had enough protein because I will get fatigued. A good, rare hamburger will pick me up within an hour. I still drink raw milk tonics every day, but now with milk instead of cream.

So, my story is not finished as I am not completely healed from breast cancer. The original tumor drained away via the break-through taking my breast with it. I have had what I call a natural mastectomy. But, one thing I know for sure: once I am healed I won't be looking over my shoulder for the cancer beast to raise its ugly head again. I know how to heal from it, what to call it, what is causing it, and not to fear it. I am totally empowered, as long as I have my cream and rare, grass fed meat!

For more information please see www.learninggnm.com and be sure to watch the videos on the Five Biological Laws. Also, check out my website www. yikesihavecancer.me.

> Cynthia Calisch, Chapter Leader Sarasota, Florida

SULFUR FOR THE SKIN

Here is some important information for people in the fall and winter with dry skin.

I have tried a good number of nutritional experiments, vitamin A and D, cod liver oil, coconut oil, flax seed oil, some omega-3 oils, evening prim-

rose oil, and none of these had any real positive effect. The thing that works is sulfur. Specifically, "organic sulfur," that is, sulfur in a coarse crystal form that looks like unground, coarse sea salt.

If an adult has no real health issues, he can probably get away with one teaspoon, twice per day, but would need more for various health issues. It is fairly important to take it either half an hour before or after taking any foods, medications or supplements, though it is probably preferable to take it before. I take mine first thing in the morning with a glass of water, and about midafternoon for the second dose. If one takes it too close to bedtime, it might cause wakefulness or a lighter sleep.

While I don't really know what is an appropriate amount of water for people to drink per day, it should be known that apparently for sulfur to get oxygen into the cells, it takes the oxygen from the water we drink. This is something very important to keep in mind. If the sulfur does not seem to be doing its job, one may need to increase water intake.

It should also be known that it is quite possible for sulfur to produce detox reactions because it can apparently remove various toxins from the body, and one should be aware of this, and keep this in mind as well.

Another friend of mine is using the same thing and can verify the results of soft, hydrated skin, especially hands and feet throughout the winter, with no real need to use skin moisturizers.

The trouble is that most foods, even organic, are significantly missing sulfur, and this is something that Dr. Stephanie Seneff has commented on as well.

Should you know anyone inquiring

about how to help dry skin, especially the hands that may chafe and crack during the winter, please let them know that this works very well. I have been exceptionally pleased with the results. Among other things, my nails and hair grow very fast, and digestive issues and regularity are very good. These results have been noticed by my friend as well. Also, she has asthma, and it appears that sulfur has prevented her from getting her usual annual winter upper respiratory tract infection, usually pneumonia. Last winter, taking organic sulfur was the only nutritional, lifestyle change she made, and she did not end up getting pneumonia.

So far so good this season as well, but we will have to watch and see what happens. If she avoids illness again this year I think we can much more conclusively say that it was be the effect of the sulfur. Considering the many positive things that Dr. Seneff attributes to sulfur, that is, healing such things as cancer and Alzheimer's, perhaps this should not be surprising.

> Eric Waymann Brampton, Ontario, Canada

GERIATRIC RICKETS

My mother took your advice the last year or two regarding treating osteoporosis, slowly introducing bone broths, sourdough bread, butter, soaking of beans and grains, raw grass-fed Guernsey milk, two Royal Blend high-vitamin butter oil and fermented cod liver oil capsules per day, liver and bacon once a week, and an herbal remedy for strong bones. She had always had grass-fed meat, wild fish, and fresh vegetables, but lacked the fat-soluble vitamins as a result of following the lowfat diet since it was introduced into Britain in 1983, when skimmed milk first came available.

We had spent the last decade since her diagnosis waiting for the horrid, inevitable broken hip or back bone. Well, she had a bone density test a couple weeks ago, and they no longer wish to see her. Her bones are right at normal for her age after previously being below standard, and I presume that they will continue to strengthen as she continues the right diet. The doctor was amazed and took notes! (And they promote themselves to be experts?)

She is now busy converting her female friends who have been diagnosed with this bogus disease which as we all know is actually malnutrition. In fact, I have come to the conclusion that osteoporosis should be renamed "geriatric rickets." Juvenile rickets causes misshapen bones because the bones are forming, whereas geriatric rickets causes reduced bone density and brittle bones. Using this term will shift the emphasis towards this condition being caused by nutritional deficiencies and a lack of sunshine.

My mother's recovery occurred during a time when she stopped taking the osteoporosis drugs that are given for free in the U.K. on the National Health Service (NHS). This was in part due to my lobbying but also a result of the horrid side effects. These drugs operate by inhibiting osteoclasts and stimulating osteoblasts. The former break down old bone cells and the latter build new bone cells. The problem with meddling in this process is that strong bones require the renewal of old bone cells with new

bone cells. The drugs therefore increase brittleness and they also do nothing about the malnutrition that causes weak bones in the first place. Women at the final stages of geriatric rickets are given an infusion of these toxic drugs directly into the marrow. I have heard from families that this is the most painful treatment.

Calcium tablets are the only nutritional supplement prescribed by the NHS to sufferers, and it simply calcifies the soft tissues in combination with the lowfat diet they promote, which is why bone broth is so superior, because it combines calcium with all the other minerals, along with marrow, which is rich in the fat-soluble vitamins. When people ask, what should I do to strengthen bones, I say, eat bones! Unfortunately this logic is lost on most of the population.

Geriatric rickets is becoming a silent, worsening epidemic amongst women because the bone density tests kick in for all at around sixty-five years of age, and, much like the cholesterol levels that lead to statin prescriptions, the triggers for bone density treatment are manipulated to catch the greatest number of customers for the drug companies.

Doctors in the NHS also get performance-related pay based on the number of women tested and the number of women who test negative who are placed on the drugs. Most women nowadays will, as a result of lowfat diets, suffer low bone density, so a vast number of women are now being put on these toxic drugs, yet they could all be saved anguish if we would only call osteoporosis what it is and treat it accordingly. In addition, routine bone density tests most likely also cause cancer because they use radiation.

> Philip Ridley London, UK

FRACTURED LAND, FRACTURED LIVES

Fracking is the new "f" word for many of us who live in one of the shale gas plays now taking place across the United States and around the world. Fracking, originally coined by the natural gas industry (as fracing), is short for slick-water-hydraulic-fracturing, a production method of extracting natural gas from shale deposits buried deep beneath the ground. According to the gas industry, these newly accessible gas reserves will "lift the U.S. from its economic recession," "decrease our dependence on foreign oil" and is a "blessing to impoverished landowners and farmers" with "unproductive land." Nothing could be further from the truth.

Three years ago my family made the giant leap from living in an upscale suburban community to an idyllic Amish community so that I could explore my passion for farming. Most of the foods that I had listed on my chapter leader resource page came from this community, and I fell in love with the area and the idea of growing our own food. We rented a house from a long time farmer friend as we became acquainted with living in the country, but planned to purchase land of our own once we sold our home in Pittsburgh. However, while the rest of the housing market in this country was continuing to suffer from the housing market crash of 2008, land prices in western Pennsylvania were skyrocketing.

Rural farm land located above the Marcellus and Utica shale deposits doubled in price, literally over night, as the "landmen" descended into the area offering signing bonuses of three thousand dollars or more per acre plus future royalties, which for some landowners could be like winning the mega jackpot lottery. Before the gas rush, you could typically purchase land in this area for around four thousand dollars per acre, but during the gas-land rush any land being sold that also still retained their oil and gas rights, could go for as high as ten thousand dollars per acre, with or without a house on the property.

The majority of farms we pursued were already split estates, meaning that the oil and gas rights had already been sold. Because these properties were already "locked in production," these farms could one day be part of the Marcellus-Utica shale development. If we wanted to stay in the area we would either have to seek much smaller acreage, or take a risk with purchasing land that had already been leased to the gas industry. After a year and a half of actively searching for a farm, I am happy to say that we have finally purchased a home on fourteen acres with all mineral rights intact. Still, it is a far cry from the twenty-five to fifty acres we had budgeted for.

During our search for farmland I also began to heavily research fracking. Initially, I really wanted to believe that this could be a good thing for land owners in these tough economic times, but the more I researched this process, the more I have become convinced that this process is not only polluting the air

and water, but it is also destroying communities. Neighbor against neighbor, family against family, all in the name of the almighty dollar.

There are literally thousands of stories of people experiencing the same horrific effects associated with fracking, but these stories are not being told on the nightly news. I learned many years ago,

through the WAPF, that main stream media cater to the food and drug industries, which fill their coffers, and I promise you, the same type of lies and propaganda we have seen in our fight for healthy, nutrient-dense foods, is occurring with fracking. These megarich multi-national companies own all the major networks and newspapers, so they report only now forced to purchase water, which is delivered each week and stored in a water buffalo outside their house, so that they have clean water to drink and bathe in. The gas company has denied any responsibility and this assertion is supported by our corrupt Pennsylvania Department of Environmental Protection. This farmer spends one hundred from my new house. We knew that this was a risk we took when we decided to stay here, but really, where would we go? Where is there a safe place in this world where we are not extracting finite resources and destroying the environment?

So now I find myself fighting for basic fundamental rights; I fight for

> clean air and water for my family. I am fighting for friends and neighbors who believed the lies that the gas companies told them, and who are now asking themselves, "What have we done?" And I fight for the Amish in my community, who don't even use natural gas, but are living in the middle of a gas field that



, Amish farm house located within one thousand feet of a Marcellus-Utica well.

on what is good for their bottom line.

A recent study in Pennsylvania has shown that many farmers who have suddenly become rich from the shale gas boom are now selling off their dairy herds and retiring. Many sell their land to the gas companies who will further rape and pillage the land that had once grown nutritious food. Other farmers have dead or dying cows, goats, chickens and horses that were unknowingly drinking contaminated water or breathing toxic fumes.

One dairy farmer I know has stopped drinking the milk from their own cows. Their water well is contaminated with chemicals associated with the fracking industry and they are twenty-five dollars each week to fill their water buffalo for their family, but they cannot afford to bring clean water in for their one hundred milking cows, which continue to drink water from their contaminated water well. They worry about the milk they are shipping to families living far away from their beautiful farm—now marred by flaring gas wells, toxic frack ponds and compressor stations—who have no idea what is happening to our rural communities.

I have been a chapter leader for the WAPF for nine years. As an activist who has promoted and fought for our right to nutrient-dense foods, I must tell you that none of that matters to me right now. A new gas well has gone in just three miles may destroy their way of life.

Please, do some research; find out more about this highly controversial process. There are many organizations around the world that are fighting to protect the people and the environment, but we need everyone on board. Sign petitions, send donations and most important—when you flip that light switch, turn on your stove, or run your washer and drier, think about where that energy came from and the lives that it may have affected. If you could see what I can see, you would never look at energy the same again.

> Carrie Hahn Volant, Pennsylvania

Sally Fallon Morell takes on the Diet Dictocrats

OXEN DILEMMA

The Green Mountain College community, located in Poultney, Vermont, has a decade-long tradition of discussing the fate of livestock on the college's Cerridwen Farm. In an open community forum this fall, the college's eighty students decided it was time for a pair of oxen, named Bill and Lou, to go for slaughter and processing, with the meat to be used in the college dining hall. Lou had an injured leg and was no longer able to work or even to walk a significant distance without pain. However, an extremist animal rights organization, VINE (Veganism is the Next Evolution) Sanctuary, has targeted

the college's decision as inhumane and generated numerous petitions and action alerts. Dishonest and abusive postings, cyber attacks generating millions of emails, and harassment and threats of physical violence to students, faculty, staff and administrators has turned a rational and humane decision into an acrimonious battle-with no mention at all of the real abuses that take place in Vermont's confinement facilities. VINE Sanctuary barraged the slaughterhouses with threats, making it impossible to have the animals slaughtered. Here's your caustic commentator's solution to the problem: Turn Bill and Lou over to VINE Sanctuary! Keep a close watch on this sup-

posedly humanitarian group to make sure that they keep the oxen well-pastured, well-fed and well-tended until the end of their natural lives. Once they find out how much pasture rental, feed, shelter and vet bills cost, maybe they will understand why farm animals finish their service to humanity as nourishing meat.

MORE DOUBTS ABOUT MAMMOGRAMS

The routine use of mammograms had led to more than one million women receiving unnecessary treatment for breast cancer over the last three decades, according to a new study published in the *New England Journal of Medicine* (2012; 367:1998-2005). The authors concluded that nearly one-third

of the women who received a diagnosis of breast cancer would never have developed the full-blown disease if left untreated. Nevertheless, in such cases patients typically undergo dangerous and invasive procedures such as surgery, radiation therapy, hormonal therapy, and chemotherapy. H. Gilbert Welch, author of the study, speculated that as mammography technology has become more advanced, doctors are discovering breast lesions in such an early stage of development, it is virtually impossible to distinguish them from benign cell clusters. Even worse than the false positives is the fact that the mammograms "fail to catch forms of breast cancer that



develop rapidly, explaining why the more widespread use of screenings has done so little to curb the rate at which late-stage breast cancer is found." According to Welch, "The sad fact is that there's a subset of women who develop such an aggressive form of cancer, it literally can't be caught early." No one is voicing the thought that the mammograms themselves may be causing these virulent tumors.

GMO LABELING: JUST THE BEGINNING Starting late and working on a small budget, the organizers

of Proposition 37 in California may have lost the vote, but they accomplished a great deal. The ballot initiative, which would have required labeling of GMO ingredients in food for people and pets, got the dialog going and brought awareness of GMO dangers to millions of people. Big agribusiness fought the measure with a barrage of misleading advertisements, funded by a forty-one million dollar war chest. Opponents of your right to know included Kellogg's (owners of Kashi, Morning Star and Gardenburger brands), General Mills (owners of Cascadian Farms and Larabar brands), Ben and Jerry's, Heinz, Dean Foods (owners of Horizon and Silk brands) and Kraft (owners of the Back to Nature brand). Many small companies helped finance the five-million-dollar pro-Prop 37 advertising

campaign including Cliff, Frontier, Organic Valley, Annie's, Applegate, Late July, Stonyfield and Earthbound Farms. The biggest donation to the effort to pass Proposition 37 came from mercola.com. Whole Foods, a company with annual sales equal to those of Monsanto (eleven billion yearly) donated a mere twenty-five thousand dollars, compared to Monsanto's eight million to defeat the measure. Fortunately, it ain't over yet. Organizers are already planning a ballot initiative—much more organized and better funded—for 2016. Stay tuned!

CONSERVATION OF DIGESTIVE ENZYMES

In his book Enzyme Nutrition, Edward Howell described research indicating that the body conserves and reuses digestive enzymes; orthodoxy proclaimed the recirculation of enzymes impossible, because, it was believed, the intestinal membranes were impermeable to protein molecules. It was also argued that if digestive enzymes did cross the intestinal membrane, they would cause havoc by digesting the blood and organs. In a fascinating review study, "Conservation of Digestive Enzymes" (Physiol Rev January 1, 2002;82(1):1-18) the authors describe research that vindicates Dr. Howell. Digestive enzymes do, in fact, cross the intestinal membrane, travel through the bloodstream and return to the pancreas. Ninety to 95 percent of our digestive enzymes are recycled in this way. They do not cause havoc in the bloodstream because the blood contains high levels of enzyme inhibitors, so that our enzymes only work when they are in the place where they are needed to work. Truly we are fearfully and wonderfully made, and how small is the mind of man to comprehend the marvels of the human body.

VITAMIN C FOR BRAIN DEVELOPMENT

The fetus suffers when mother lacks vitamin C. Maternal vitamin C deficiency during pregnancy can result in damage to the fetal brain, damage that can't be reversed with vitamin C intake after birth. According to a new study (PLoS ONE, 2012; 7 (10):), even marginal vitamin C deficiency in the mother stunts the fetal hippocampus, an important memory center, by 10-15 percent, preventing the brain from optimal development. According to Professor Jens Lykkesfeldt, head of the study, "We used to think that the mother could protect the baby. Ordinarily there is a selective transport from mother to fetus of the substances the baby needs during pregnancy. However, it now appears that the transport is not sufficient in

the case of vitamin C deficiency." Preliminary results show that the impact occurs early in the pregnancy—yet another reason to eat a nutrient-dense diet before conception. Particularly at risk are babies born to smokers and mothers of low economic status. Conventional wisdom suggests plenty of fruits and vegetables for vitamin C, but better sources are lacto-fermented foods and raw dairy products.

CROSSING THE BLOOD-BRAIN BARRIER

Many teenage girls have suffered debilitating illness or even death after the Gardasil vaccine, claimed to protect women from future cervical cancer. In a recent study, researchers examined the brain tissue of two young women (fourteen and nineteen years old), otherwise healthy, who died after their Gardasil vaccines. The researchers found that the girls not only suffered from what appears to be a fatal autoimmune reaction, but that this reaction was specifically in response to one of the strains of HPV found in the vaccines, namely HPV-16. The scientists found antibodies in the brains of the girls, where they should not be at all. In addition, they found vasculitis or inflammation in the walls of blood vessels in the brain and this inflammation appeared to be autoimmune in nature due to the presence of the HPV-16L1 antibodies binding to the blood vessel walls (Pharmaceut Reg Affairs 2012, S12:001). This means that these complexes crossed the blood-brain barrier, and then triggered the fatal autoimmune response in the brains of these two girls. Leslie Manookian, producer of the film "The Greater Good," notes that these findings raise several important questions. If vaccine-derived complexes can cross the fully developed blood-brain barrier of teenage girls and can trigger a fatal autoimmune response and cause inflammation in the brain, can components of other

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.

vaccines enter the brain of an infant or young child whose blood-brain barrier is not yet fully developed? And if these girls developed inflammation of the brain, is this what is happening to so many kids who suffer with speech delays and learning disabilities, not to mention full blown autism? What other complexes in vaccines are crossing the blood-brain barrier, and what harm are they causing? And if HPV vaccines can cause autoimmune disease like inflammation of the brain, what other autoimmune and inflammatory diseases could they cause—such as allergies, lupus, asthma, MS and arthritis (http://www.greatergoodmovie.org/news-views/1596/)?

FEEDING THE WORLD WITHOUT CHEMICALS

Largely ignored by the media, two of the leading science journals and even one of the study's sponsors, the USDA, a new study indicates that we can grow all the food we need, and do it profitably, with far fewer chemicals. The study was carried out on land owned by Iowa State University. Beginning in 2003, researchers set up three plots: one replicated the typical Midwestern cycle of planting corn one year and then soybeans the next, along with its routine mix of chemicals. On another, they planted a three-year cycle that included oats; the third plot added a four-year cycle and alfalfa. The longer rotations also integrated the raising of livestock, whose manure served as fertilizer. The results: the longer rotations produced better yields of both corn and soy, reduced the need for nitrogen fertilizer and herbicides by up to 88 percent, reduced the amounts of toxins in groundwater two hundredfold and didn't reduce profits at all. The longer rotations had higher labor costs but remained just as profitable. This study was not about organics, but definitely points to a middle path between fully organic agriculture and chemically based methods: a third path that decreases input of chemicals and environmental burden but retains profitability. This is wonderful news! USDA's response so far: no comment (New Your Times Opinionator, October 19, 2012).

ZINC AND AGING

A new study has outlined for the first time a biological mechanism by which zinc deficiency can develop with age. Zinc deficiency is related to a decline in immune function and increased inflammation associated with cancer, heart disease, autoimmune disease, and diabetes. The research, published in the *Journal of Nutritional Biochemistry*, used laboratory animals to study zinc transporters, which were significantly disregulated in old animals (DOI: 10.1016/j.jnutbio.2012.07.005). The animals showed signs of zinc deficiency and had enhanced inflammatory response even though their diet supposedly contained adequate zinc. When the animals were given about ten times their dietary requirement for zinc, the biomarkers of inflammation were restored to those of young animals. This study shows the longterm effects of a vegetarian diet, which tends to be low in zinc. The best dietary sources of zinc are shellfish (especially oysters), red meat and liver.

WE ALREADY KNEW THIS. . .

... but it's good to get scientific validation. Researchers at the Mayo Clinic have discovered that eating lots of carbs and sugar can raise the risk of cognitive impairment. People age seventy and older who eat a carb-laden diet have nearly four times the risk of developing mild cognitive impairment. The study tracked over twelve hundred elder people over four years; those who reported the highest carbohydrate intake at the beginning of the study were 1.9 times likelier to develop mild cognitive impairment than those with the lowest carb intake; participants with the highest sugar intake were 1.5 times likelier to experience mild cognitive impairment than those with the lowest levels. Those whose diets were highest

> INTEGRITY IN SCIENCE AWARD Presented at Wise Traditions 2012



The coveted Integrity in Science Award for 2012 was presented to Stephanie Seneff, PhD, for her outstanding work in the field of sulfur, cholesterol and vitamin D in human metabolism.

in fat were 42 percent less likely to face cognitive impairment. When total fat and protein intake were taken into account, people with the highest carbohydrate intake were 3.6 times likelier to develop mild cognitive impairment. With results like these, public health officials should be urging the elderly to cut the sugar and carbs and eat more fat and protein, but instead their recommendations were mealy mouthed. Said Rosebud Roberts, lead study author: "We think it's important that you eat a healthy balance of protein, carbohydrates and fat, because each of these nutrients has an important role in the body" (ScienceDaily.com, October 16, 2012).

AN ADVOCATE OF WEIGHT GAIN

Science has lost a real pioneer with the death of Dr. Reubin Andres, a gerontologist who argued that weight gain in older people increases longevity. Dr. Andres was clinical director of the National Institute on Aging when he began examining the data on weight and longevity in the late 1970s. Of particular use were weight and height data culled from insurance policyholders and compiled by the Society of Actuaries and Association of Life Insurance Directors of America. He compared the society's weight data on those who had lived the longest with the ideal weights that the Metropolitan Life Insurance Company recommended to ensure a long life. He concluded that the recommendations were too high for the early years but too low for later years, noting that the group with the smallest percentages of deaths was 10 to 20 percent over the recommended weights. To live longer, he concluded, people should start thin and then gain about six pounds a decade beginning in their early forties. The advice went against the prevailing wisdom, which held that the most healthful way to age was to maintain the same weight throughout adulthood (*New York Times*, October 1, 2012).

FORMULA WARNINGS STRESSFUL

In a classic example of industry throwing its weight around, the industry-backed Infant Nutrition Council is fighting a proposal by Food Standards Australia New Zealand (FSANZ) to put warning labels on cans of infant formula. An FSANZ consultation paper has suggested warnings that could either replace or be added to the "breast is best" statement, already mandatory on infant formula products in those countries. Risks associated with not breastfeeding include slower cognitive development, weaker immunity, and obesity. Jan Carey, chief executive of the Infant Nutrition Council slammed the proposed warnings as "scaremongering," which would create stress and anxiety for parents. Even midwife and founder of the Holistic Baby support group, Cathy McCormick, said the warnings would distress mothers forced to use formula. "It would just make them feel bad," said McCormick (The New Zealand Herald, September 30, 2012).

ACTIVIST AWARDS Presented at Wise Traditions 2012



Brave Minnesota farmer Alvin Schlangen.



Sally Fallon Morell, WAPF president, presents the annual Activist Awards: David Morris, who first proposed the idea of a WAPF yearly shopping guide; Kim Schuette, San Diego chapter leader who has worked with the healing GAPS diet; and farmer-hero Alvin Schlangen.

Nutritional Adjuncts to the Fat-Soluble Vitamins

By Chris Masterjohn, PhD

Throughout the twentieth century, we viewed the fat-soluble vitamins in isolation from one another. Researchers relegated vitamin K to blood coagulation, and ignored vitamin K_2 entirely because it is present in such small quantities in the diet. Vitamins A and D each fell in and out of favor, the popularity of one always rising at the expense of the other. Ignoring the forest to study one tree at a time, the concept of synergy eluded us.

In order to truly understand the fat-soluble vitamins, however, we must understand that vitamins A, D, and K cooperate synergistically not only with each other, but also with essential minerals like magnesium and zinc, with dietary fat, and with key metabolic factors like carbon dioxide and thyroid hormone.

VITAMINS A, D, AND K

The "K" in "vitamin K" stands for "koagulation," the German word for blood clotting. From its discovery in the 1930s through the late 1970s, we knew of no other roles for the vitamin. The 1990s had come and nearly gone by the time awareness of its role in bone metabolism broke out of the confines of the vitamin K research community, and only in the twenty-first century has its role in preventing calcification of the blood vessels and other soft tissues become clear.

Vitamin K₂, found in animal fats and fermented foods, is present in much smaller quantities in most diets when compared to vitamin K₁, found in leafy greens. Since researchers throughout the twentieth century saw the two forms of the vitamin as interchangeable, they ignored vitamin K₂ as though its scarcity made it irrelevant. The realization that vitamin K is not just for "koagulation," however, led us to discover that vitamins K1 and K2 are not interchangeable after all: vitamin K₁ more effectively supports blood clotting, while vitamin K₂ more effectively ensures that calcium winds up in the bones and teeth where it supports health rather than in the soft tissues where it contributes to disease. It was thus only in 2006 that the United States Department of Agriculture determined the vitamin K₂ contents of common foods for the first time.¹

While vitamin K₂ languished in obscurity, vitamins A and D continually traded places with one another as the favored vitamin du jour. The pendulum initially swung in favor of vitamin D because rickets was common in the early twentieth century while eye diseases resulting from vitamin A deficiency were rare. It then swung in favor of vitamin A when that vitamin became known as the "anti-infective" vitamin.² After World War II, the medical establishment had easy access to antibiotics and thus lost interest in battling infections with vitamin A.3 Vitamin D fared far worse, taking the blame for a British epidemic of infant hypercalcemia and eventually earning a reputation as "the most toxic of all the vitamins."4

These days, the pendulum has swung full force in the opposite direction: we blame an epidemic of osteoporosis on vitamin A, and see vitamin D as the new panacea.⁵

Though a paradigm of synergy never took hold, it was not for want of opportunity. When Mellanby and Green first demonstrated in the 1920s that vitamin A prevented infections, they concluded that vitamin D could not be "safely substituted for cod-liver oil in medical treatment," and that "if a substitute for cod-liver oil is given it ought to be at least as powerful as this oil in its content of both vitamins A and D."² Consistent with this point of view, clinical tri-

SUMMARY

- Vitamins A, D, and K₂ interact synergistically to support immune health, provide for adequate growth, support strong bones and teeth, and protect soft tissues from calcification.
- Magnesium is required for the production of all proteins, including those that interact with vitamins A and D.
- Vitamins A and D support the absorption of zinc and zinc supports the absorption of all the fat-soluble vitamins.
- Many of the proteins involved in vitamin A metabolism and the receptors for both vitamins A and D only function correctly in the presence of zinc.
- Dietary fat is necessary for the absorption of fat-soluble vitamins.
- Vitamin K₂ activates proteins by adding carbon dioxide to them. We can increase carbon dioxide production by consuming carbohydrates, exercising, and maintaining robust thyroid status.
- The fat-soluble vitamins thus interact not only with each other, but with other nutrients and metabolic factors as well. This level of complexity should urge us to exercise caution when interpreting scientific research, and to cooperate with the wisdom of nature by obtaining vitamins through nutrient-dense foods.

als in the 1930s showed that cod liver oil could reduce the incidence of colds by a third and cut hours missed from work in half.⁶ Cod liver oil also caused dramatic reductions in mortality from less common but more severe infections. The medical establishment, for example, had been successfully using it to treat tuberculosis since the mid-nineteenth century.⁷ Studies in the 1930s expanded this to the treatment of measles.⁸ These findings made the popularity of cod liver oil soar (Figure 1).⁹

The idea that vitamin A alone was "antiinfective," however, led to similar trials with halibut liver oil, which is rich in vitamin A but poor in vitamin D. These trials often failed to show any benefit. I.G. Spiesman of the University of Illinois College of Medicine proposed a simple solution to this paradox: vitamins A and D worked together to prevent infection, he suggested, and both vitamins are needed to prevent the common cold. He published his own clinical trial in 1941, showing that massive doses of each vitamin alone provided no benefit and often proved toxic. Massive doses of both vitamins together, however, caused no toxicity and offered powerful protection against the common cold.¹⁰ Nevertheless, as antibiotics grew in popularity after World War II, interest in the fat-soluble vitamins waned and cod liver oil use began its steady decline (Figure 1).9

The emergence of molecular biology in the late twentieth century provided new evidence for synergy. Vitamins A and D both make in- 50dependent contributions to immune function by binding to their respective receptors and thereby 40 directing cellular processes in favor of healthful immune responses, but studies in isolated cells suggest that vitamin D may only be able to activate its receptor with the direct cooperation of vitamin A.11,12 We now know that vitamins A and D also cooperate together to regulate the production of certain vitamin K-dependent proteins. Once vitamin K activates these proteins, they help mineralize bones and teeth, support adequate growth, and protect arteries and other soft tissues from abnormal calcification, and protect against cell death.1

As described below, the synergistic action of the fat-soluble trio depends on support from other nutrients like magnesium, zinc, fat and carbohydrate, as well as important metabolic factors such as carbon dioxide and thyroid hormone.

MAGNESIUM AND THE FAT-SOLUBLE VITAMINS

Magnesium contributes to more than three hundred specific chemical reactions that occur within our bodies, including every reaction that depends on ATP, the universal energy currency of our cells.¹³ Magnesium also activates the enzyme that makes copies of DNA, as well as the enzyme that makes RNA, which is responsible for translating the codes contained within our genes into the production of every protein within our body. This process of translating the DNA code in order to produce proteins is called "gene expression."

Vitamins A and D carry out most of their functions by regulating gene expression, which means they rely directly on magnesium to carry out these functions. They also rely indirectly on magnesium because our cells can only produce their receptors and all the proteins with which they interact with the assistance of this critical mineral.

The well-studied interaction of magnesium with vitamin D and calcium provides an illustrative example.¹³ Magnesium is required







for both steps in the activation of vitamin D to calcitriol, the form of vitamin D that regulates gene expression and stimulates calcium absorption. Even fully activated vitamin D (calcitriol), however, is useless in the absence of magnesium. Humans who are deficient in magnesium have low blood levels of both calcitriol and calcium, but treating them with calcitriol does nothing to restore calcium levels to normal. The only way to normalize calcium levels in these subjects is to provide them with sufficient magnesium. Magnesium also supports the cellular pumps that keep most calcium out of our soft tissue cells and make it available for the extracellular matrix of bones and teeth.

Altogether, these findings suggest that vitamins A and D can only fulfill their functions in the presence of adequate magnesium. As can be seen in Table 1, magnesium is abundant in many whole grains, nuts, seeds, legumes, and vegetables, some fruit, and some seafood. It is less abundant in meat, by contrast, and almost entirely absent from refined grains and sugar.¹⁴ Thus, we would expect a well-rounded diet devoid of "the displacing foods of modern commerce" to be rich in magnesium and thereby support the synergistic action of the fat-soluble vitamins.

ZINC AND THE FAT-SOLUBLE VITAMINS

As with magnesium, the fat-soluble trio can only support health if our diets contain adequate zinc. The interaction between vitamin A and zinc is particularly well studied.¹⁵ Vitamin A supports the intestinal absorption of zinc, possibly by increasing the production of a binding protein in the intestines. Zinc, in turn, supports the formation of vesicles involved in transporting vitamin A and the other the fat-soluble vitamins across the intestinal wall.

Zinc is an essential structural component of many vitamin A-related proteins, including the primary protein that transports vitamin A through the blood, the enzyme that carries out the first step in the activation of vitamin A to retinoic acid, and the nuclear receptor that binds to retinoic acid and allows it to regulate gene expression.

Numerous studies have demonstrated the interaction between zinc and vitamin A in humans. For example, in humans with marginal zinc status, zinc supplementation supports vitamin

TABLE 1. Magnesium Content of Selected Foods

Magnesium is especially abundant in many seeds, and also found abundantly in many whole grains, nuts, and vegetables. Some fruits and types of seafood are also good sources. Meat, however, even liver, is low in magnesium. In contrast to whole grains, refined grains contain almost no magnesium. Like refined grains, refined sugar also contains almost no magnesium.

FOOD	MAGNESIUM (MG/100 G)	FOOD	MAGNESIUM (MG/100 G)
Pumpkin and Squash See		Salmon	122
Brazil Nuts	376	Kelp	121
Sesame Seeds	356	Bananas	108
Sunflower Seeds	325	Spinach	79
Caviar	300	Cod	74
Almonds	286	Peaches	57
Buckwheat	231	Oysters	47
Lima Beans	224	Potatoes	43
Tomatoes	194	Bacon	36
Bell Peppers	188	Chicken Breast	31
Oats	177	Hamburger	27
Peanuts	176	Liver	18
Kidney Beans	140	Enriched White Flour	16
Macadamia Nuts	130	White Rice	13
Whole Wheat	126	Table Sugar	9
Lentils	122	-	

A's role in visual function¹⁶ (see sidebar below) and eye development (Figure 2).¹⁷

Although less well studied, zinc also interacts with vitamin D. Vitamin D and zinc most likely promote each other's intestinal absorption.^{15,18} In rats, dietary zinc supports the production of the vitamin D receptor.¹⁹ Once the receptor is formed, zinc provides it with essential structural support. Although in the absence of this structural support the receptor still binds to vitamin D, the structural support is needed to allow this vitamin-receptor complex to bind to DNA.²⁰

Studies with isolated cells illustrate the importance of this interaction: adding zinc to these cells increases the rate at which vitamin D activates the expression of genes.²¹

Altogether, these results suggest that vitamins A and D can only fulfill their functions in the presence of adequate zinc. As can be seen in Table 2, zinc is found most abundantly in oysters, beef, and cheese.²² Chicken and eggs have considerably less zinc than beef, while milk and most plant foods contain very little. We absorb zinc about five times more effectively from animal products than from plant products. Thus, we should expect a diet that contains liberal quantities of zinc-rich animal products to support the synergistic action of the fat-soluble vitamins.

FAT, CARBS, THYROID AND CARBON DIOXIDE

In order to absorb fat-soluble vitamins from our food, we need to eat fat. Human studies show that both the amount and type of fat are important. For example, one study showed that absorption of beta-carotene from a salad with no added fat was close to zero. The addition of a lowfat dressing made from canola oil increased absorption, but a high-fat dressing was much more effective.²³ Canola oil, however, is far from ideal. Studies in rats show that absorption of carotenoids is much higher with olive oil than with corn oil.²⁴

Similarly, studies in humans show that consuming beta-carotene with beef tallow rather than sunflower oil increases the amount we absorb from 11 to 17 percent.³¹ The reason for this is unknown, but it may be that oils rich in polyunsaturated fatty acids promote the oxidative destruction of fat-soluble vitamins in the intestines before we are able to absorb them. Thus, the more fat we eat, and the lower those fats are in polyunsaturated fatty acids, the more fat-soluble vitamins we absorb.

While dietary fat is clearly important, there may be a role for dietary carbohydrate as well. Once vitamins A and D stimulate the production of vitamin K-dependent proteins, vitamin

ZINC AND THE DARK ADAPTATION TEST FOR VITAMIN A DEFICIENCY

The role of vitamin A in vision is unusual. This vitamin carries out most of its known actions by regulating the expression of specific sets of genes. Vitamin A regulates gene expression only after being activated in a two-step process from retinol to retinal, and finally to retinoic acid. Vitamin A supports vision, however, in its semi-activated form as retinal. Retinal binds to a protein known as opsin, forming a vitamin-protein complex known as rhodopsin. Each photon of light that enters our eye and collides with rhodopsin causes the retinal to change shape and release itself from the complex. This event then translates into an electrical impulse that our optic nerve transmits to our brain. The brain synthesizes myriad such electrical impulses at every moment and interprets them as vision.³⁰

While the function of opsin is to help generate visual images by binding and releasing vitamin A, opsin can only maintain its proper shape and function when it is bound to zinc. In addition, zinc supports the conversion of retinol to retinal, the form of vitamin A that binds to opsin. We could predict, then, that vitamin A would only be able to support vision in the presence of adequate zinc. This can be studied by determining dark adaptation thresholds, which determine the dimmest spots of light we are able to see after having spent a period of time in the dark to maximize our visual sensitivity. When vitamin A is insufficient, we lose the ability to see the dimmer spots of light.

Robert Russell of Tufts University studied ten patients with deficient blood levels of vitamin A who also failed the dark-adaptation test. Eight of them achieved normal dark-adaptation thresholds after supplementing with 10,000 international units of vitamin A for two to four weeks. Two of them, however, had deficient blood levels of zinc. Vitamin A supplementation alone failed to normalize their visual function, but adding 220 milligrams per day of zinc to the regimen for two weeks brought it back to normal.¹⁶ These results show that vitamin A can only support healthy vision with the direct assistance of zinc.



Thirty-three Thai children ages six to thirteen with marginal zinc and vitamin A status were randomized in double-blind fashion to receive a placebo, 25 mg/day zinc, 1300 international units/day vitamin A, or a combination of the two supplements for six months. The figure shows the proportion of children with abnormalities in the conjunctiva of the eye, a characteristic sign of vitamin A deficiency. The synergistic interaction between zinc and vitamin A is statistically significant (P<0.02). The development of the surface of the eye and many other tissues is regulated by retinoic acid, the fully activated form of vitamin A. These results show that zinc supports the role of vitamin A in tissue development, probably by supporting the activity of enzymes involved in activating vitamin A to retinoic acid and by allowing the nuclear receptors for retinoic acid to bind to DNA and regulate gene expression. Adapted from reference 17.

TABLE 2: Zinc content of selected foods.

Zinc is found most abundantly in oysters, beef, and cheese. Although not reflected in the table, zinc is generally absorbed from animal products about five times more effectively than plant products.

FOOD	ZINC (MG/100G)	FOOD ZIN	C (MG/100G)
Oysters Ground Beef Liver Cheese Chicken Eggs	17-91 3.9-4.1 3.1-3.9 2.8-3.2 1.0-2.0 1.1	Legumes Milk Grains and Cereals Vegetables Fruit	0.6-1.0 0.4 0.3-1.0 0.1-0.7 <0.1

FIGURE 3: Low-Carbohydrate Diets Reduce Blood Levels of Carbon Dioxide

Investigators fed twenty adult patients requiring artificial ventilation a standard or low-carb, high-fat diet through a feeding pump. The purpose of the study was to determine whether a low-carbohydrate diet could be used to reduce the need for a ventilator. Carbohydrates generate more carbon dioxide than fat, and we eliminate excess carbon dioxide by breathing faster. The study showed that patients on a low-carbohydrate diet generated less carbon dioxide, breathed more slowly, and required less time on a ventilator. Nevertheless, for healthy individuals who do not require artificial ventilation, dietary carbohydrates may support the activity of vitamin K, which activates certain proteins by adding carbon dioxide to them. Adapted from reference 26.



K activates those proteins by adding carbon dioxide to them. Once added to a protein, carbon dioxide carries a negative charge and allows the protein to interact with calcium, which carries a positive charge. The greater the supply of carbon dioxide, the better vitamin K can do its job.²⁵ Carbohydrates are rich in carbon and oxygen, and when we break them down for energy we release these elements in our breath as carbon dioxide. Because carbohydrates are richer in oxygen, burning them generates about 30 percent more carbon dioxide per calorie than burning fat, and low-carbohydrate diets have been shown to lower blood levels of carbon dioxide (Figure 3).26 Ideally, we should study this further by determining whether dietary carbohydrate affects the amount of activated vitamin K-dependent proteins in humans.

We also produce more carbon dioxide when we burn more calories, regardless of whether we are burning carbohydrate or fat. Intense exercise more than doubles the amount of carbon dioxide we produce compared to what we produce when at rest.²⁷ Even working at a standing desk rather than a sitting desk increases both calories burned and carbon dioxide generated by about a third (Figure 4).²⁸

Future studies should directly investigate

whether exercise increases the activation of vitamin K-dependent proteins, but it seems reasonable to suggest that part of the reason exercise promotes cardiovascular health may be because it ensures a more abundant supply of carbon dioxide, which vitamin K uses to activate proteins that protect our heart valves and blood vessels from calcification.

Thyroid hormone is a key regulator of the metabolic rate and may thus be a major determinant of the carbon dioxide available for activating vitamin K-dependent proteins. Theoretically, thyroid hormone should increase the rate of metabolism and a greater rate of metabolism should produce a proportionally greater supply of carbon dioxide. Thyroid hormone directly increases the production of vitamin K-dependent proteins and protects blood vessels from calcification in rats.²⁹ The reason for this relationship is unclear. We could speculate, however, that our bodies in their infinite wisdom use thyroid hormone to tie the production of vitamin K-dependent proteins to the production the carbon dioxide needed to activate them.

THE BIG PICTURE

It is clearly time to move beyond viewing each vitamin in isolation. The fat-soluble

FIGURE 4: Twenty healthy young adult men and women performed crossword puzzles and word finds for forty-five minutes either at a traditional sitting desk or at a standing desk. Adapted from reference 28.



vitamins not only synergize with each other, but cooperate with many other nutrients and metabolic factors such as magnesium, zinc, fat, carbohydrate, carbon dioxide and thyroid hormone.

This paradigm has two important implications. At the level of scientific research, a study about one vitamin can easily come to false conclusions unless it takes into account its interactions with all the others. We should reverently and humbly bow before the complexity of these interactions, realizing how little we know and recognizing that we are always learning. At the level of personal health, these interactions emphasize the need to consume a well-rounded, nutrient-dense diet. Supplementation with an individual vitamin runs the risk of throwing it out of balance with its synergistic partners. The fatsoluble vitamins work most safely and effectively when we obtain them from natural foods within the context of a diet rich in all their synergistic partners.

Chris Masterjohn, PhD, is creator and maintainer of Cholesterol-And-Health.Com, a web site dedicated to extolling the benefits of traditional, nutrient-dense, cholesterol-rich foods and to elucidating the many fascinating roles that cholesterol plays within the body. Cholesterol-And-Health.Com is home to his blog, The Daily Lipid. Chris is a frequent contributor to Wise Traditions, the quarterly journal of the Weston A. Price Foundation, is a perennial speaker at the annual Wise Traditions conference, and writes a second blog on the foundation's web site, Mother Nature Obeyed. He has written five peer-reviewed publications has submitted two additional experimental papers for peer review. Chris has a PhD in Nutritional Sciences from the University of Connecticut and is currently working as a Postdoctoral Research Associate at the University of Illinois where he is studying interactions between vitamins A, D, and K. This article represents his independent work and does not necessarily represent the positions of the University of Illinois.

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WISE TRADITIONS 2012



The U.S. Wellness Meats exhibit team: Amanda Welker, Laura Lodgson and Tressa Johnston.



Randy and Carla Hartnell of Vital Choice with surprise guest Louise Hay (middle).



Sandor Katz, author of *Wild Fermentation*, presents a lively lecture on fermented foods.



Gary Cox, attorney for the Farm-to-Consumer Legal Defense Fund, gets a warm greeting from Cathy Raymond and Carol Albrecht.



Sandrine Love administers her popular Nourishing Our Children exhibit.



Julia Ross, MA, author of the *Diet Cure* and the *Mood Cure*, presented a popular seminar.



Karl Burgart with his delicious Olea Estates organic olive oil.

Will Winter and Becca Griffith dressed as bacon, with admirers.





Sandeep Agarwal proudly displays his Pure Indian Foods ghee.



The Role of Zinc in Human Biology: A Modern Detective Story

By Ananda S. Prasad, MD, PhD As presented at *Wise Traditions* Conference 2012

which works as an antioxidant. Fluoride is not essential for life but considered to be essential for dental health. Manganese is also considered to be essential as it is involved in cartilage

As for zinc, its recognition as an essential mineral came only recently. The story of how zinc achieved acceptance is a very interesting one. Not long ago scientists derided the premise that zinc played a role in human health. Today we know that zinc plays many important roles. For example, zinc is a part of the super oxide dismutase enzyme, so it also has a role as an antioxidant. In addition, zinc takes part in neurotransmitters, and plays a key role in immune function, sound growth and development. In fact, zinc is really a miracle element in many ways.

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EARLY ZINC RESEARCH

The first hint that zinc played an important role in life processes came in 1869, when the mineral was found to be essential for the growth of a fungus, *Aspergillus niger*. It was a chemist from the University of Lyon, France, Professor Jules Raulin, who reported in 1869 that zinc was needed for the growth of this organism. Prior to that zinc was not considered to be important for biology.

In 1926 scientists found zinc to be essential for the growth of higher plant life, and in 1934 Wilbert Todd, Conrad Elvehjem and Edwin Hart from Wisconsin reported that zinc was also important for growth in rats. In 1955, a disease called parakeratosis in swine was reported by Tucker and Salmon, who showed that zinc could cure skin lesions. And then O'Dell and Savage showed that zinc was needed for the growth of poultry in 1958.

HOW I CAME TO STUDY ZINC

I was born in India, and some years later I came to the University of Minnesota (USA) for my medical training. In 1958, I finished my training, received my PhD and became a hematologist. At that time, I was contacted by Professor Hobart Reimann, Chief of Medicine at Jefferson at that time and formerly Chief of Medicine at Minnesota. He was invited by the Shah of Iran, who was a personal friend, to set up a medical curriculum for a university in Shiraz, Iran. And he was looking for some young person who could go and help him set up the curriculum.

Cecil Watson, who was my boss, said that perhaps I might be interested in doing this job. Hobart contacted me, but I was reluctant because my research was going very well at the University of Minnesota, I was happy, I did not speak the Iranian language, and I had no interest in going to Iran. So I said to Hobart, "Hobart, why do you want to disrupt my career for two years for something that would be a waste of my time?"

But he was a very convincing person. He told me, "You're a young man, you should go for two years. You never know what you will see in terms of diseases, and you're a clinical investigator. You might enjoy seeing something new. If nothing else happens, you will at least see a different country." I finally accepted his challenge, went there and within two weeks of my arrival, an Iranian physician presented a patient to me in a medical center grand rounds. He was twenty-one years of age but looked like an eight- or ten-year-old boy. He had extremely retarded growth, he had hypogonadism, that is, no secondary sexual characteristics (his genitalia were infantile) and the skin on his face appeared rough.

Superficially, it looked as if he might have suffered from vitamin A deficiency, but we ruled this out later. He also had anemia; his hemoglobin was 5 gram percent. As a hematologist, my first job was to look at the red blood cells to see what was causing the anemia. I determined very quickly that the anemia was due to iron deficiency.

But there were two problems: by reading the *Textbook of Medicine and Hematology* I learned that adult males don't become anemic to this extent unless there is a blood loss. And this patient had absolutely no evidence of blood loss, so my first question was; how did he become iron deficient?

And the second major problem was that I could not explain this extreme degree of growth retardation and hypogonadism based upon iron deficiency. If you take rats, pigs or even elephants and make them iron deficient, nothing happens to their growth or gonads. So those were the two puzzles that I could not easily resolve.

I also wondered how often these cases came to the attention of physicians. I was told by the Iranian physician who brought me the patient that such cases were very frequent in the villages around Shiraz; he said that if I wanted any number of cases like this they could bring them to my service.

I was located in Nemaze Hospital, a very modern hospital in Shiraz, Iran; it was actually a show piece for the Shah of Iran. I controlled twelve beds under my care, so I told them to bring me twelve patients.

And sure enough, within two weeks, I had twelve such patients. I studied them in great detail. One very interesting thing was their nutritional history. It turned out that they were eating only bread, made of unleavened flour. There was no animal protein intake; they had some vegetables but very little dairy products or animal protein.

And most interestingly, they were also eating a pound of clay every day. Shiraz is surrounded by hills and they would go there and get the clay and eat it. I'd never seen a clay-eater in all my life, not in Minnesota or anywhere else, and I did not quite understand why they were eating clay, but that was the story.

PUBLISHED PAPER

I studied these twelve patients in great detail. I did not have very good laboratory facilities in Iran but I did a very good clinical study. I put all the clinical findings in a paper entitled, "Syndrome of Iron Deficiency, Anemia, Hepatosplenomegaly, Hypogonadism, Dwarfism, and Geophagia." I submitted this paper to Professor Gutman, the editor of the *American Journal of Medicine*, and it was published in Volume 31, 1961.

In that paper, I speculated that perhaps because of the high phosphate content in the clay and cereal protein, iron was being chelated. I also went to the periodic table, looked at the transitional elements and speculated that perhaps if iron is being chelated, other trace minerals may be be affected similarly. I suggested that zinc may be another mineral that is similarly chelated and thus unavailable for absorption.

Zinc was very attractive to me because of earlier studies showing that it was a growth factor for microorganisms, for plants and for animals. So I thought that if there were a zinc deficiency in humans, I was looking at it right there in Iran.

I included this speculation in the *American Journal of Medicine* article, and I also told the editor that if he thought that I was speculating too far or too much and he did not like it, I'd revise my article. Still, I urged him to publish the description of the syndrome because this syndrome did not exist in any textbook of medicine.

Well, Dr. Gutman was a very brave editor. He reviewed the paper himself. He wrote to me that the part he liked the most was the speculation about zinc and he did not want to remove anything I had written. The whole article was published completely unaltered. It's a sixteenpage article with great detail and information, and includes my speculation about zinc. In 1983, this article was cited as a nutrition classic and republished in *Nutritional Review*. By then, zinc deficiency was an accepted phenomenon.

DWARFISM IN EGYPT

My paper attracted the attention of a lot of physicians, nutritionists and biochemists in the

DWARFISM DUE TO ZINC DEFICIENCY



Severe zinc deficiency leads to dwarfism, hypogonadism and proneness to infection. Shown above, male dwarfs in Iran; to the right, a dwarf farm boy from an Egyptian village.



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United States. One of them was Professor William Jefferson Darby, Chief of Biochemistry at Vanderbilt University. He liked my idea that zinc deficiency might be contributing to the symptoms and invited me to meet with him in Cairo, Egypt.

In Cairo, there is an institution called the United States Naval Medical Research Unit, which was established by Franklin D. Roosevelt for studying infectious diseases. Just before I arrived there, a Rockefeller group had worked on typhus fever. The American army used to be stationed in Egypt, and many soldiers died because of infections.

At that time, the Rockefeller group had left so the institute was available to study zinc. I went there and talked to Bill Darby, but my main concern was whether I would find these dwarfs in Egypt? I saw them in Iran but maybe this happens only in Iran and not in Egypt or any other country.

So I went with Bill Darby on a tour of several villages. I did not speak the language, but I had a translator with me. To my great surprise, I found that after visiting five villages that day, I saw three or four patients in every village who looked like eight- or ten-year-olds, but their chronological age was eighteen to twenty. It shocked Bill Darby completely. He asked me, "Why do you ask the ages?" But that was how I made my discovery.

At that point I decided to join Vanderbilt University to do the research on zinc in Egypt. I was helped by the National Institutes of Health, which gave me very good support, and also Admiral Galloway of the U.S. Navy was able to provide support for my research. In addition, I had help from the Egyptian Ministry of Public Health. With all that help I was able to set up a good laboratory where I could measure zinc.

I did not see females when I was in Iran and Egypt; the reason was that females would not come to me to be examined. They refused to come to my ward but later on I had an Iranian physician working with me who was able to examine these female dwarfs. He kept them in his own house and found that indeed they had ovarian hypo-function and were growth retarded. These results were reported in 1974 in the *American Journal of Clinical Nutrition*. also females. Other symptoms include rough skin, poor appetite, mental lethargy, and frequent infections. Now, this last symptom is very important: I never saw a dwarf beyond the age of twenty-five in the Middle East, either in Iran or Egypt. I went to the villages, asked the physicians what happened to them, and was told that they died of infections: pneumonia, meningitis, viral, parasitic, all kinds of infections. That convinced me that zinc probably has a very important effect on immune cells.

TREATING ZINC DEFICIENCY

Back in those days, in 1961-1962, the measurement of zinc was very difficult. We did not have the atomic absorption spectrometer, so you had to do the dithizone technique. That meant shaking the tubes all day for eight hours and at the end of eight hours, you'd get two results, two patients. It was very arduous and difficult, and the contamination problem was very difficult to deal with, but in spite of these problems we were able to study forty dwarfs in great detail. Not only did we measure zinc in the plasma, we also looked at zinc levels in the red cells, hair and urine. By use of Zn-65, we also measured the zinc turnover rate and exchangeable pool.

We put all these things together and showed for the first time that indeed zinc deficiency occurs in humans. Prior to this, all the textbooks said that zinc deficiency was never seen in human subjects.

We wanted to see whether by giving zinc we could make these dwarfs grow, although I had never seen any such example in the textbooks of medicine, any instance of someone aged eighteen or twenty years who would grow just because you are giving a simple inorganic element like zinc. I did not believe it was possible; nonetheless what we gave them 15 mg of zinc a day. We studied about forty dwarfs in Egypt.

At that time zinc capsules were not available in the market. I had to take zinc sulfate and put it into a capsule. I also needed special permission from the U.S. Navy and the Egyptian government to give the dwarfs zinc. I had to argue with them that the amount of zinc I was giving was not toxic.

To my great surprise I found that within three weeks they were developing secondary

Zinc deficiency not only affects males but

sexual characteristics, they started growing hair—mustache, beard and axillary hair—and within six months the genitalia became completely normal. Even more surprising, within one year the gain in height was five to six inches.

When I saw those results, I was truly thrilled. I knew that this was something very important for medicine. We published several papers from Egypt. One thing we were able to do was to discriminate between the effect of iron and the effect of zinc. When we gave them iron, just iron sulfate, we corrected the anemia, the hemoglobin became normal, iron became normal, iron binding capacity returned to normal, but nothing happened to their growth or gonads. But when we gave them zinc they remained anemic, hemoglobin did not change, but they grew in height and developed normal adult genitalia within six months.

CONTROVERSY AND ACCEPTANCE

Those were the basic reports that we published from Egypt. Some of my colleagues praised the observation; they thought that it was a great discovery. But there were several scientists who thought that it could not happen, that zinc had no effect, and the topic became very controversial. I had to live with controversy for almost ten years. I constantly had to defend the thesis: why did I think it was zinc? As a matter of fact, some of my colleagues told me that I had become a lunatic to think that zinc was needed by humans.

In 1973, I got a call from National Academy of Sciences to appear before the National Research Council to talk about zinc. I told the chairman, "You read English, I have written everything in English, you can decide on your own whether my evidence is good enough or not."

"We have done that," he said, "and we all in the committee agree that zinc is important and is essential for humans, and we are planning to submit this to the U.S. Congress to declare zinc as an essential element. We need to establish the recommended dietary allowance (RDA) and we want you to tell us what the recommendation should be." And that was a great relief for me, the controversy was ended and I had a peaceful life after that. Based on our input the RDA was set at 15 mg per day for adult males.

ZINC IN PARENTERAL SOLUTIONS

After my stay in Egypt, I came to the U.S. and started doing my work on zinc in the laboratory. At that time, there was a lot of research going on in developing parenteral solutions to give to patients who could not eat or who had malabsorption and could not sustain life. At that time, the rehydration solution and the parenteral nutrition solution (TPN) were almost as perfect as you could get for all the animo acids, vitamins, and so on. But if patients received this TPN for three months, they would die of infection.

I was shown one patient at Harper Hospital whose hemoglobin had dropped from twelve to nine. When I saw this patient, she was psychotic; she had a lot of parakeratotic lesions around her eyes, mouth and orifices, the same lesions as you see in severe zinc deficiency, in patients with acrodermatitis enteropathica. I told the resident not to worry about the hemoglobin but to worry about her life, and to give her zinc. He said, "Dr. Prasad, where do I find zinc to give parenterally?" There was no solution available so I got on the phone, called the FDA and asked their special permission to prepare parenteral zinc solution to give to this lady or else she would be dead within three to four days. They gave me permission to do that. My pharmacy helped me get the solution and the patient recovered completely.

This kind of experience had been observed by many other scientists throughout this country and also elsewhere. FDA, USDA, NIH and U.S. Pharmacopeia, they all decided to have a very urgent meeting in 1977 in Chicago, and at that time it was made mandatory for the physicians to include zinc in their parenteral solution, and this has continued to the present time. The addition of zinc has made TPN completely successful. Now you see patients who have been on TPN for five to ten years and are doing very well. This is a very important story in terms of the impact of zinc on health.

PREVALENCE OF DEFICIENCY

When I came back to the U.S., all my colleagues told me that I had described a very important disease, made some very interesting observations, but predicted I would never see zinc deficiency in the United States. "What are The addition of zinc has made TPN completely successful. We found that zinc deficiency affected Hispanic children and young women at rates of approximately 25-30 percent. you going to do here?" they asked.

As a matter of fact, Professor William Bean, Chief of Medicine at Iowa University, wrote a book called *Rare Diseases*, and he included my syndrome in that book. I saw him in one of the meetings and I told him I liked his book very much but I thought he was wrong regarding zinc. I told him I believed that zinc deficiency was not a rare syndrome and that as time went on, we would find that zinc deficiency was more prevalent than we realized. In developing countries, zinc deficiency may affect as many as 50-70 percent of the population. The WHO estimate is that two billion people have zinc deficiency.

What about the United States? We have found that in the elderly population, 30 percent have zinc deficiency. For this reason they have immune dysfunction, they are oxidatively stressed, and they also generate increased amounts of inflammatory cytokines.

What about women during pregnancy, and the need for zinc for fetal growth? The requirement under those conditions, according to the RDA, is something like 25 mg; however, if we just look at the diet and examine how much zinc you get in a standard American diet, there's no way that you can get 25 mg of available zinc. So there is a lot of zinc deficiency in that age group.

My colleague Harold Sandstead and I published a paper on the Mexican population of Galveston, Texas. We found that zinc deficiency affected Hispanic children and young women at rates of approximately 25-30 percent. And then Dr. Hambidge published a paper about a Hispanic group in Denver, Colorado, also showing widespread zinc deficiency. And I have seen a lot of Black Americans in Michigan, particularly the patients with sickle cell disease and others, where zinc deficiency is fairly common.

So to say that there is no zinc deficiency in the U.S. is wrong. There is plenty, but in most cases it is not recognized; you would have to be very alert to find it.

As Chief of Hematology making rounds in five different hospitals, I found that zinc deficiency was common in many other diseases. For instance, we found that patients with liver disease have hyperzincuria; alcoholics excrete a lot of zinc in their urine so they become zinc deficient; patients with malabsorption syndrome become zinc deficient very rapidly; patients with chronic renal disease also have hyperzincuria; and we find zinc deficiency in patients with nephrotic syndrome, glomerulonephritis and so on, even in several patients with malignancies.

An important question to ask is why the elderly become zinc deficient. When we started taking their history, it turns out that they rarely eat three meals a day. They have a quick breakfast, maybe a doughnut and coffee, no lunch and then they will have a meal they don't cook themselves, often eat at a restaurant. And the intake as we calculated, in Michigan, would be around 8-10 mg of zinc per day.

Now this is not only my experience in Michigan but the same thing has been reported in the elderly from Australia, Europe and many other countries. The ainc intake is not optimal among

A CASE OF ZINC DEFICIENCY

This young patient with Wilson's disease presents a very severe example of zinc deficiency. The patient was taking penicillamine to reduce toxic copper levels. He had lost all his hair and had developed parakeratosis (a skin disease characterized by dry, scaly skin) around his eyes and mouth and in the axilla; his growth was affected and he was also developing cognitive impairment. Analysis of zinc levels in the plasma and in the red blood cells, in the urine and the hair, showed the patient to be very zinc deficient. Not only Wilson's disease, but also the drug penicillamine, contributed to the deficiency. Penicillamine is a chelator, which chelates not only copper but also zinc. Once the patient was given zinc, he had a complete recovery within a few months; he even went to college.



the elderly subjects, that's the major problem. Also it turns out that the absorption of zinc is also not optimal in this age group.

MORE RESEARCH

My next project was to set up a human experimental model of mild zinc deficiency where there was nothing abnormal except zinc intake. I succeeded in producing that model in Michigan, and we studied that model for many years, publishing many significant papers on the functions of zinc in humans.

What I did was to restrict zinc in the daily diet to around 3-5 mg. If you consider the elderly eating some 8-10 mg, it was a marginal deficiency that we were after, and that's what we developed in the volunteers. But in spite of the fact that the deficiency was very marginal, they had a lot of evidences related to zinc deficiency. For instance, neurosensory changes: they had abnormal taste, called dysgeusia. They could not taste sugar, salt and bitter properly. They had problem with dark adaptation; they had decreased serum testosterone; they developed low sperm count; and most interestingly we found that the ammonia levels went down.

It turns out that zinc is involved and zincdependent enzymes are required to utilize ammonia. We later proved this in our animal studies.

The subjects in our experiments had a lot of immunological changes. We found that they had decreased production of interleukin-2, a very important cytokine generated by T- helper cells. T-helper cells are a type of white blood cell that play an important role in the immune system.

The patients had decreased thymulin activity. Thymulin is a hormone produced by the thymus gland that is very important for the proliferation, development and differentiation of T-helper cells.

The thymulin story is very interesting. This hormone was isolated and found to be a nano peptide that is zinc dependent. This work was done by Jean-Francois Bach and Mireille Dardenne in France, and I went to visit them. The discovery was reported, and I wanted to see whether or not it is true in the deficiency model that I had set up.

In collaboration with Bach and Dardenne, we did a study on thymulin in our patients here. It turns out that thymulin activity is highly sensitive to zinc restriction. When we restricted zinc, within eight to ten weeks, thymulin activity declined, even though there was no change in plasma zinc. Blood levels of zinc stayed normal for twenty-four weeks because we were restricting zinc slightly, but thymulin activity was affected; interleukin-2 was affected as well.

These findings indicate that the immunological functions are far more sensitive to zinc than anything that you can measure in the laboratory.

Regarding cognitive deficiencies, my colleague Professor Harold Sandstead did some work on Chinese dwarfs, and he found that they had impaired cognitive functions which were improved by zinc supplementation.

ZINC THERAPY FOR ACUTE DIARRHEA

We went through the first stage where we thought that zinc was not important for humans, then the second phase where we thought that deficiency was very rare. Now we know that zinc deficiency is common. And now we have learned that there are some very important therapeutic effects of zinc in certain conditions.

The first one has to do with infants and children in developing countries, where they frequently suffer from acute diarrhea and respiratory tract infections. I was invited to Bangladesh about twelve years ago, and I was shown a ward of one thousand babies with acute diarrhea. The physicians told me that ninety percent would die within three weeks. They were being given oral rehydration solution, which was developed almost thirty years ago for treatment of diarrhea, but this oral rehydration solution did not save their lives.

Professor Bob Black from Johns Hopkins University, became very interested in zinc; he said since zinc is essential perhaps we should add some zinc to the solution. He had his colleague Ken Brown and others set up a program in India, Bangladesh and Pakistan. Indeed, they found that once they added zinc to the oral rehydration solution, the children lived, and the mortality went down very dramatically. They published this important observation in several papers.

One interesting side story is that when Bill Gates was visiting Bangladesh, he was told the story that these children with the diarrhea would have died, but we are giving them zinc and with These findings indicate that the immunological functions are far more sensitive to zinc than anything that you can measure in the laboratory. The FDA has approved zinc as a therapy for Wilson's disease, which used to be fatal but now can be managed very well. zinc they would live. He went to India and he heard the same story; he went to Pakistan and heard the same story; so he went back to Seattle and asked his foundation to contact a zinc expert.

I got a call from his foundation to advise him about zinc. I went to the foundation, and they were asking all kinds of questions as to why they should invest money in treatment of diarrhea with Bill Gates Foundation funds.

I told them that if you give twenty million dollars and go to twenty countries, you would save millions of kids, you would see the result very quickly. They bought the idea and they gave twenty million dollars, and studies were done in twenty different countries.

A reporter for *Time* magazine was visiting Africa, going from one village to another talking to families. The families would tell them that they lost four children but the fifth one was living because they received a small tablet of zinc. She published her article on zinc in *Time* magazine.

Now WHO has a program in seventy countries where zinc is mandatory for treatment of acute diarrhea. Truly, zinc is a life-saving element.

WILSON'S DISEASE

Wilson's disease is a fatal genetic disorder. Normally the disease expresses itself by the time you reach twenty, thirty or forty years, and copper accumulates in the liver, brain and the kidneys. The patients die by the time they reach forty or fifty years old. But we discovered that if you give them zinc, you can decrease the copper burden.

This was an accidental discovery. In sickle cell anemia you find zinc deficiency, and I was interested in giving zinc to decrease the sickling of the red cells because when the red cells sickle, they produce pain all over the body. They clog up the blood vessels and there's a pain crisis. In order to reduce the copper burden, however, I had to give them 150 mg of zinc a day. At that level, we found that the copper went down. Only then do you see low serum copper, low ceruloplasmin and microcytosis (small red blood cells).

We published these finding in *The Journal of the American Medical Association* in 1978 or so, and this gave us the idea that perhaps in Wilson's disease and similar genetic disorders, we could use zinc to decrease the copper burden.

Dr. Brewer, my colleague, has been working with this premise for twenty years; he's following about three hundred patients all over the country. What he's found is that zinc is a very effective mode of therapy for Wilson's disease.

The FDA has approved zinc as a therapy for Wilson's disease, which used to be fatal but now can be managed very well.

FOOD SOURCES OF ZINC			
FOOD	mg/100 g	FOOD	mg/100 g
Oyster, raw	84.4	Heart, chicken, raw	6.59
Wheat germ, raw	17.8	Pine nuts, pignolias, dried	6.45
Crab claws, meat	11.9	Beef, neck, raw	5.8
Poppy seeds	10.2	Cashew nuts, dry roasted	5.60
Cocoa, powder	10.1	Crab, boiled	5.5
Yeast, dried	8.0	Sausage, beef salami	5.50
Sesame seeds, whole, dried	7.75	Cashew nuts, oil roasted	5.35
Linseeds, raw	7.75	Beef, shin + leg (shank), raw	5.3
Sesame seed, decorticated	7.75	Egg, chicken, whole, dried	5.28
Wheat bran	7.7	Cheese	5.1
Alfalfa seeds	6.9	Date, dried	5.1
Liver, pig, raw	6.78	Pecans, dry roasted	5.07

Note: Many plant sources of zinc, such as grains, seeds and legumes, also contain phytic acid, which blocks the assimilation of zinc. Proper preparation by soaking, souring and sourdough leavening neutralizes phytic acid so that the zinc in these foods may become available to the human body.
ZINC AND THE COMMON COLD

Now a bit about zinc and the common cold. In 1984, George Eby from Texas reported for the first time that if you take zinc acetate or zinc gluconate lozenges, you can decrease the severity and duration of the common cold. But between 1984 and 2000 many studies were carried out, and the subject remained controversial. Half the reports said it works, the other half said it doesn't work.

I came into the picture in the year 2000, when I did two studies, one published in the *An*nals of Internal Medicine and the other in *The* Journal of Infectious Diseases.

There were a lot of problems with the previous studies. In the first place was that the salts they were using for zinc lozenges were not appropriate. You must have something where zinc is released properly in the mouth when you take it as a lozenge. We found that gluconate or acetate was the proper salt to use.

The second thing we found was that if you start within twenty-four hours of the onset of a cold—there are eight to ten symptoms, and if you have two symptoms you start immediately—the lozenges are effective, but if you wait three or four days after the cold starts, then zinc is no longer an effective mode of therapy, and the cold will last eight days.

The final thing that we found was that in the chemical formulation, a lot of lozenges on the market have citric acid and many other binders; all these binders prevent zinc from ionization and therefore render it unavailable for action.

If all these three factors are taken care of we found that zinc is very effective; it will reduce the duration of a cold by 50 percent and severity by 50 percent. Recently, a big Cochrane review on zinc for the common cold was published, and it was picked up by *The New York Times* and the *Los Angeles Times* among many others. The review confirmed our results that indeed zinc will be effective if all these precautions are taken.

Zinc works by decreasing the adhesion molecules where viruses attach. So it makes sense that zinc works in the early stages of a cold, but not later after the viruses have attached to adhesion molecules.

SICKLE CELL DISEASE

Sickle cell disease is a genetic disorder. It turns out that these patients hemolyze red cells at a higher-than-average rate. The hemoglobin is very rich in zinc so they lose all the zinc in their urine, and they becme very deficient. Zinc can be very helpful for the the treatment of sickle cell patients.

MACULAR DEGENERATION

As we get older, at least 50 percent will develop macular degeneration, and this causes blindness. The National Institutes of Health has been conducting a study on eye diseases and zinc and other antioxidants for the last ten years. It turns out zinc is very effective in the prevention of blindness and the progression of macular degeneration.

But most interestingly, they also observed that mortality was decreased in those subjects who were receiving zinc alone versus those who were receiving other vitamins and antioxidants.

CARBON MONOXIDE POISONING

In Russia, a zinc histidine compound called Acyizol is being used for carbon monoxide poisoning very effectively. In mining and related industries, people are already using zinc histidine for carbon monoxide poisoning in Russia.

ZINC IN THE ELDERLY

The elderly are prone to pneumonia and upper respiratory tract infection; the incidence is something like 5-6 per year. Our recent study has shown that by supplementing them with zinc, you reduce the incidence by 66 percent.

Zinc has three major effects on immunology. First, it affects cell-mediated immunity; second, it is an antioxidant; and third it works as an anti-inflammatory agent. Why are these observations so important? Because if you look at the current concept of many chronic diseases including atherosclerosis, cancer and some neuro-degenerative disorders, it is oxidative stress and chronic inflammation that are implicated in these conditions. I suspect that zinc may be very helpful as a preventive agent for these diseases. It turns out that zinc is very effective in the prevention of blindness and the progression of macular degeneration.

ZINC AND ENZYMES

When I started my research I knew of only three enzymes that required zinc: carbonic anhydrase, carboxy peptidase and alcohol dehydrogenase. Today, we know of over three hundred enzymes that require zinc, and we know of two thousand zinc-dependent transcription factors that are involved in cell biology.

One example of a zinc-dependent enzyme is super oxide dismutase, which converts the super oxide into hydroxy ions. Zinc generates metallothionein, and this protein detoxifies hydroxylione. Zinc is also an inhibitor of NADPH oxidase, which is involved in generation of free radicals.

In the past ten years we have learned that zinc works like a molecular signal. Once zinc goes from outside to inside the cell, it takes part in phosphorylation of many of components and participates in very important roles in the cell biology.

THE ACCEPTANCE OF ZINC

From an ignored mineral, zinc has now become so important in fifty years that a new society of molecular zinc cell biology has been formed. It has one hundred fifty members internationally. Our last meeting was in Australia. More and more scientists are now interested in the study of zinc, and there is considerable research on this subject. No doubt we will be learning a lot more about zinc in the future.

Ananda S. Prasad, MD, PhD, MACP has been at Wayne State University since 1963 when he took a position as Director of the Division of Hematology, a post he held until 1984 when he became the Director of the Division of Research. Prasad has also been a Professor of Medicine at Wayne State from 1968 until the present. He was appointed as Distinguished Professor of Medicine, Division of Hematology-Oncology in 2000. Dr. Prasad's pioneering studies from the Middle East in the early sixties established for the first time the essentiality of zinc for human nutrition and showed that its deficiency occurred in humans. The impacts of this discovery include establishment of RDA for zinc in 1974, mandatory inclusion of zinc in TPN fluids in 1978 resulting in saving of many lives, its use in children with acute diarrhea decreasing the mortality, its use as a successful therapeutic agent for the treatment of Wilson's disease, its use in the elderly with age-related macular degeneration for prevention of blindness, and the treatment of the common cold and prevention of infection in the elderly. Dr. Prasad is author of twelve books and over three hundred scientific articles.

ALASKA FISHING TRIP WITH DAVE AND BARBARA WETZEL



New York chapter leader Claudia Keel and husband Matthew Mercier celebrate their halibut catch during their trip to Alaska with Dave and Barbara Wetzel of Green Pasture products.

The trip is raffled off every year at the *Wise Traditions* conference.

Winners for 2013 are Carol Wright of Sante Fe, New Mexico and her daughter Lynn Wright of Windy Acres Dairy in Prineville, Oregon.

Traditional Nourishing and Healing Skin Care How to Make Your Own Skin Balm

By Andrew J. Gardner

ittle did I know that a trip to a farm in Mexico would lead me to embark on another journey, one to discover a practical solution to the modern skin care dilemma, a solution consistent with the true principles of nutrition and health. This journey led to the discovery of what people used for skin care before the introduction of man-made chemicals as well as the science behind their traditional wisdom.

Due to the lack of any product on the market that fit the ideal for healthy and effective skin care, I was prompted to create a formula that I could use and share with others—a simple recipe for traditional nourishing and healing skin care.

Currently there are virtually no skin care products available made with animal fats.

HOW IT ALL STARTED

My quest began after a tour of a farm in Tequila, Mexico, in the state of Jalisco, near Guadalajara. Tequila is, of course, where the famous liquor of the same name is produced from the blue agave plant. Even though the workers in this desert where the plants are cultivated did not use gloves, their hands were soft and not dry or calloused. I was informed that they had always used a balm which was a mixture of beef tallow and gel from the blue agave plant. This amazing "new" information was the impetus for my research into traditional skin care and what people used on their skin before the advent of unnatural substances such as petroleum products and chemically-fractionated plant products.

In my research, I found that people used naturally pressed plant oils like olive oil, which modern sensibilities would expect and accept. However, I also found that people used another class of oils even more: animal fats. This was astounding information to me, especially in light of the modern taboo on the use of animal products in today's skin care, but it squared with what I had learned in Mexico.

Currently there are virtually no skin care products available made with animal fats. Interestingly, such topical products disappeared at the same time that animal fats in our diets did. Among the animal fats used for skin care, it appeared from my research that the one used most overwhelmingly was indeed tallow. Tallow is the rendered fat of cows, sheep, and other ruminant animals such as deer. It is very solid and waxy at room temperature and can be kept for extended periods without the need for refrigeration. Rendering is the process of gently heating the interior fat tissue, called "suet," causing the pure oils to melt away from the rest of the tissue.

Tallow was usually mixed with various other substances directly from nature to form a spreadable skin balm. Further research showed that modern science supports this traditional use of tallow as a principal ingredient of skin care recipes.

Before looking in more detail at what people formerly used for skin health, it would be good to examine sound versus unsound principles of skin care and why many ingredients of commercial skin care products, including those found in health food stores, can be harmful.

COMMON-SENSE PRINCIPLES OF SKIN CARE

Regarding the principles of what we should put on our skin, common sense and reason can aid us in discovering where to look and where not to look. Never mind the fact that modernday conventional thinking considers this way of proceeding as "unscientific." In reality, right reason and true science never contradict but rather support each other.

We know that the skin is the largest organ of the body and readily absorbs much of what is applied to it, good and bad. That is why so many drugs can be administered through the use of transdermal patches. Therefore, it is an excellent principle and wise precaution not to apply



MCQUEEN'S PURE MUTTON TALLOW

"Valuable as a family remedy for chapped and rough skin caused by exposure to inclement weather. Excellent as a skin cleanser and also used as a foundation for various medical ointments." substances to our skin that we would not readily take internally or, in a word, eat. It would be ideal if what we used on our skin were edible, and yet more, a whole food, in which case it would also have the potential of actually nourishing the skin and helping it to heal itself.

Another sound principle of health is to give the body what it needs to maintain and heal itself, since only the body itself can do that job. The modern mentality often seeks to improve on nature or even to supplant nature, which is impossi-

ble to do as well as presumptuous and foolhardy to attempt. In the case of skin care, this mentality seeks to manipulate the chemistry of the skin to produce relief or enhancement. It seems logical that such an approach would likely only produce short-term results, if any, and,

what is worse, could result in toxicity with possible long-term negative effects on the skin and on the health of the whole body. Therefore, it is no wonder that modern skin care products have to be re-applied, possibly more and more frequently, to maintain their effect, and we can never know all the other harmful effects that their unnatural ingredients may be having on our health.

But what are "unnatural" ingredients? Again, reason comes to our rescue. Ultimately and in the beginning, everything comes from nature, even the most unnatural substances, which is why the word "natural" is one of the most overused and abused of words. The further removed a substance is from its original and native form, the more unnatural it is. The more a substance from nature is manipulated, modified, and refined, the more it should probably be avoided. This is where reading the ingredients on labels becomes essential, even on products in the health food store.

Keep in mind that not all ingredients are necessarily disclosed on the label, and the chemical processes used to produce these ingredients are most surely not disclosed there. We must also understand that such processes certainly leave residues, which are also not shown on the label. In the practical order, however, what is actually printed on the label is often all you need to know. In other words, if it sounds like a chemical, it is a chemical. It does not matter if it is claimed to be "plant-derived." If it has a chemical name and not the name of something in nature, it must already be too far removed from its original and



native source to be healthful. We know that plant substances that are extracted and isolated (and, worse, synthesized) can be toxic whereas the original plant was not. After all. many pharmaceutical drugs, by definition toxic, were originally derived from plants. Also keep in

mind that just because a chemical has not yet been shown to be toxic does not necessarily mean that it is benign. How often do we later hear of toxic effects that were previously unknown or even concealed? Furthermore, chemicals are never tested for their interactions with all the other chemicals around: that would in fact be an impossible task.

Based on the above principles, it would seem superfluous as well as overwhelming to examine the substances that are actually found in many commercial products. Nevertheless, we should take a brief look at some of these ingredients (see Sidebars, pages 40 and 41). Again, I think it is important to note that just because a man-made ingredient is not yet on someone's list of healthdamaging substances does not mean it is safe. And, as we will see, just because a product is in the health food store or even labeled "organic" does not mean that it has no chemical ingredients, even ones already known to be harmful, which is why it is important to read all labels.

The more a substance from nature is manipulated, modified, and refined, the more it should probably be avoided.

A HEALTHY AND EFFECTIVE SKIN CARE OPTION

In light of the many harmful ingredients in most skin care products (see sidebar below and opposite), it is difficult to find many skin care products on the market that can definitely be considered a healthy and effective option. Therefore, we should take a look at the traditional wisdom on skin care and then see if modern science supports the ancestral knowledge.

As we have already seen, our ancestors overwhelmingly used tallow for skin care. For example, a book of "recipes" for all facets of life, written by Dr. A.W. Chase, MD in 1866, lists ten formulations of salve, eight of which contain tallow, in addition to other natural ingredients.¹⁷ This same medical doctor quotes the *Boston Medical and Surgical Journal* of his day on using pure tallow for a "very common and very painful affliction," an ingrown toenail. Even though this use is a very specific one, it is included here as being a strong testimonial on the healing power of tallow:

"The patient on whom I tried this plan was a young lady who had been unable to put on a shoe for several months, and decidedly the worst I have ever seen. The edge of the nail was deeply undermined, the granulations formed a high ridge, partly covered with skin; and pus constantly oozed from the root of the nail. The whole toe was swollen and extremely painful and tender. ... I put a very small piece of tallow in a spoon, heated it. ... and poured it on. . . . The effect was almost magical. Pain and tenderness were at once relieved, and in a few days the granulations were all gone, the diseased parts dry. . . and the edge of the nail exposed so as to admit of being pared away without any inconvenience. The cure was complete, and the trouble never returned. I have tried the plan repeatedly since, with the same satisfactory results. . . . A repetition in some cases might be necessary, although I have never met with a case that did not yield to one application. It has now been proven, in many other cases, to be effectual, accomplishing in one minute, without pain, all that can be effected by the painful application of nitrate of silver for several weeks."18

Another piece of evidence to the traditional use of tallow in skin care is an antique one-ounce tin of "McQueen's Pure Mutton Tallow," manu-

HARMFUL INGREDIENTS IN MODERN SKIN CARE PRODUCTS

PETROLATUM or mineral oil jelly, along with mineral oil, a carcinogenic by-product of the distillation of gasoline from crude oil.¹

PARABENS, known to mimic estrogen and suspected of being carcinogenic.²

BHT, a carcinogenic preservative,³ which is also linked to allergic reactions, hyperactivity, rashes, asthma and toxicity to the liver and kidneys.

TITANIUM DIOXIDE,⁴ a carcinogen.

TRIETHANOLAMINE (TEA),⁵ a carcinogen.

DMDM-HYDANTOIN, a carcinogenic formaldehyde releaser.⁶

METHYLISOTHIAZOLINONE, which causes nerve damage.⁷

SODIUM HYDROXIDE, which is lye or drain cleaner.

POLYSORBATE 80 and CETEARETH-20 are commonly contaminated with the highly toxic 1,4-dioxane.⁸

EDTA, a harsh detergent and hormone disruptor.9

PHENOXYETHANOL, which "can depress the central nervous system and may cause vomiting and diarrhea" in infants.¹⁰

DIAZOLIDINYL UREA, a preservative that releases carcinogenic formaldehyde¹¹ and can cause dermatitis.¹² (For skin care products, it is certainly ironic to find chemicals that cause dermatitis.)

PROPYLENE GLYCOL, associated with irritant and allergic contact dermatitis as well as contact urticaria (hives).¹³

BUTYLENE GLYCOL along with propylene glycol is a component of antifreeze.

HARMFUL INGREDIENTS IN "NATURAL" AND "ORGANIC" SKIN CARE PRODUCTS

FRAGRANCE almost certainly synthetic, and such fragrances have been documented to be carcinogenic and toxic in other ways, causing headaches, dizziness, allergic rashes, skin discoloration, coughing, vomiting, and skin irritation as well as nervous system and behavioral effects.¹⁴

CHEMICAL PRESERVATIVES such as sodium benzoate and potassium sorbate. Sodium benzoate has many toxic effects on the body as outlined in its Material Safety Data Sheet (MSDS), and when combined with ascorbic acid (vitamin C), it forms benzene, a known carcinogen. Potassium sorbate is fundamentally non-toxic but can cause skin irritation per its MSDS listing. In any case, it seems that synthetic preservatives that inhibit the growth of micro-organisms would also generally not be beneficial to other living organisms such as humans.

VITAMINS, probably synthetic. Some studies published in *Science, The New England Journal of Medicine,* and other journals suggest that some synthetic vitamins are toxic, and some extracted vitamins have been found to be useless since they need to be in a whole food form because the whole vitamin is a complex, not just the one molecule identified as the principal component.

POLYUNSATURATED OILS like safflower, sunflower, cottonseed, corn, soy, and canola. High heat is generally used in the production of these oils. Polyunsaturated oils are unstable, fragile, and susceptible to rancidity when subjected to heat, which causes the production of free radicals, associated with cell damage, aging and disease. Certainly, we do not want to be applying products high in free radicals to our skin, causing the very types of problems we are trying to relieve or prevent. And polyunsaturates would not seem to be conducive to skin health, extrapolating from the fact that the modern excess consumption of these types of oils leads to a host of health problems.¹⁵

1,4-DIOXANE: This shocking hidden ingredient is not listed on the label. A carcinogen and a known eye and respiratory tract irritant that readily penetrates the skin, it is also suspected to be a kidney toxicant, neurotoxicant, and respiratory toxicant, among others.

There was a press release from the Organic Consumers Association (www.organicconsumers.org) on March 14, 2008 entitled, "Carcinogenic 1,4-Dioxane Found in Leading 'Organic' Brand Personal Care Products." I believe this example could be considered the tip of a toxic iceberg, a discovery of the sort of thing that is probably happening with many of the other ingredients of skin care products.

According to Mike Adams, "A cancer-causing compound called 1,4-dioxane has been found in some of the most commonly used petroleum-based cosmetics by a study commissioned by the Organic Consumers Association, including products from Kiss My Face, Nutribiotic, Jason, Ecover, Citrus Magic, 365, Alba, Lifetree, Giovanni, Seventh Generation, Method, Earth Friendly Products, Sea-Chi Organics and many other brands. The explanation for the presence of 1,4-dioxane is that 'ethoxylation, a cheap short-cut companies use to provide mildness to harsh [harsh!?] ingredients, requires the use of the cancer-causing petrochemical ethylene oxide, which generates 1,4-dioxane as a by-product.' There are many labeled ingredients that imply the presence of 1,4-dioxane. To avoid 1,4-dioxane, the OCA urges consumers to search ingredient lists for indications of ethoxylation including: 'myreth,' 'oleth,' 'laureth,' 'ceteareth,' any other 'eth,' 'PEG,' 'polyethylene,' 'polyethylene glycol,' 'polyoxyethylene,' or 'oxynol,' in ingredient names."

Quoting a poignant passage from the same press release: "A visit to any health food store unfortunately reveals that the majority of products in the personal care section with 'organic' brand claims are not USDA-certified and contain only cheap water extracts of organic herbs and maybe a few other token organic ingredients for organic veneer. The core of such products is composed of conventional synthetic cleansers and conditioning ingredients usually made in part with petrochemicals. According to market statistics, consumers are willing to pay significantly more for products branded 'natural' or 'organic' which they believe do not contain petrochemical-modified ingredients or toxic contaminants like 1,4-dioxane. . . When it comes to misbranding organic personal care products in the U.S., it's almost complete anarchy and buyer beware unless the product is certified under the USDA National Organic Program."¹⁶

We might even say that the ancestral wisdom on nutrition and health is more reliable than modern scientific studies, which are subject to manipulations and misinterpretations and can only look at one small piece of the puzzle at a time.

factured by G.F. Baker in Nunnelly, Tennessee "since 1895," which includes the following words on the bottom of the tin: "Valuable as a family remedy for chapped and rough skin caused by exposure to inclement weather. Excellent as a skin cleanser and also used as a foundation for various medical ointments."

Interestingly, in Germany, deer tallow (*Hirschtalg*) is still used as a base ingredient in many salves used by athletes to prevent sore skin or blisters.

It would be fascinating and useful to do more research into the traditional wisdom on skin care to confirm the pattern that we can already see emerging. The healthy traditions of our ancestors were not haphazard but had a purpose that seems to have been rooted in their very being, as we can see in the studies of Dr. Weston A. Price.¹⁹ We might even say that the ancestral wisdom on nutrition and health is more reliable than modern scientific studies, which are subject to manipulations and misinterpretations and can only look at one small piece of the puzzle at a time.

TRADITIONAL WISDOM ON TALLOW CONFIRMED BY SCIENCE

Modern-day research confirms the traditional wisdom of our ancestors. From biology, we know that the cell membrane is made up primarily of fatty acids, a double layer, to be exact. Saturated fats constitute at least 50 percent of the cell membrane. Since saturated fats tend to be more solid than unsaturated fats at a given temperature, they help give the cell membrane its necessary stiffness and integrity for proper function.²⁰ The monounsaturated fats, while not as "solid" as the saturated fats, are more so than the polyunsaturated fats which are also present in the cell membrane in their own proper proportion, although the modern diet leads to a disproportionate amount of the polyunsaturates. Healthy, "toned" skin cells with sufficient saturated and monounsaturated fats would undoubtedly make for healthy, toned skin. Interestingly, tallow fat is typically 50 to 55 percent saturated, just like our cell membranes, with almost all of the rest being monounsaturated.²¹ so it makes sense that it would be helpful for skin health and compatible with our cell biology.

patibility with our skin biology is its similarity to sebum, the oily, waxy matter that lubricates and waterproofs our skin. Indeed, the word "sebum" actually means "tallow" in Latin and began to be used in this biological sense around the year 1700. The sebaceous glands, which secrete sebum, are found in greatest abundance on the face and scalp, but they are distributed over all of our skin except on the palms and soles.²² Sebum is made up of lipids (fats) of which 41 percent are in the form of triglycerides,²³ and the lipids of tallow are principally in the form of triglycerides, which is how fatty acids are usually configured in nature.

In regard to this compatibility of tallow with the biology of our skin, we should note that we are animals rather than plants, so the modern taboo against animal products in skin care products would seem unfounded and even illogical. In addition to containing very little saturated fats, plant products do not have the same levels of other nutrients needed for healthy skin. Tallow contains the abundant natural fat-soluble activators, vitamins A, D, and K, as well as vitamin E, which are found only in animal fats and which are all necessary for general health and for skin health.

Tallow (especially tallow from grass-fed animals) also contains fats like conjugated linoleic acid (CLA), which has anti-cancer²⁴ and anti-inflammatory properties, as well as palmitoleic acid, which has natural antimicrobial properties.²⁵ Dr. Mary Enig cites a 2006 study on fats showing that CLA, which is found in high concentrations in tallow, has significant anti-cancer effects, and that supplying tallow increased those effects due its palmitic acid, another fatty acid.²⁶

STEARIC ACID AND STEARATES

Examples of skin care ingredients not necessarily already known to be harmful are stearic acid and stearates. Indeed, stearic acid is a healthful saturated fatty acid eighteen carbon atoms long, and it comprises 20 to 25 percent of tallow and therefore about half of the saturated fat found in tallow. Tallow is our best source of stearic acid; other sources are butter and cocoa fat.²⁷

While stearic acid helps makes tallow a

Wise Traditions

unique and healthful substance, the purpose for which commercially fractionated stearic acid is used is entirely different. It is used as a "surfactant cleansing agent" and "surfactant emulsifying agent."²⁸ Another concern is its source and the methods used to isolate it so that it actually ends up being a chemically named ingredient rather than a component of a whole substance found in nature. "Stearic acid is prepared by treating animal and vegetable fats and oils with water at a high pressure and temperature (above 200°C [400°F]), leading to the hydrolysis of triglycerides. The resulting mixture is then distilled."²⁹

Stearates are compounds "containing" stearic acid. They include "salts" of stearic acid, such as sodium stearate, where the hydrogen of the carboxyl group (-COOH) on the end of the molecule is replaced with sodium, and it is actually a soap or detergent. "The stearate salts are generally used for their lubricating properties. They also help to keep emulsions from separating into their oil and liquid components. The stearate salts increase the thickness of the lipid

(oil) portion of cosmetics and personal care products and reduce the clear or transparent appearance of finished products."³⁰

Stearates also include esters of stearic acid, such as glyceryl stearate, where a molecule of glycerin is bonded to the oxygen in place of hydrogen. "Glyceryl stearate acts as a lubricant on the skin's surface, which gives the skin a soft and smooth appearance. It also slows the loss of water from the skin by forming a barrier on the skin's surface. Glyceryl stearate, and glyceryl stearate SE (self-emulsifying) help to form emulsions by reducing the surface tension of the substances to be emulsified. Glyceryl stearate is made by reacting glycerin with stearic acid. . . . Glyceryl stearate SE is produced by reacting an excess of stearic acid with glycerin. The excess stearic acid is then reacted with potassium and/or sodium hydroxide yield-ing a product that contains glyceryl stearate as well as potassium stearate and/or sodium stearate."³¹ Yet again, we do not find a healthful reason stated for using these chemical compounds on our skin.

At first sight, it would seem that these compounds, related to a healthful component of tallow, are a sign of imitating nature, but that does not appear to be their purpose at all. In addition, after all of this fractionating and chemical compounding, they are a far cry from the naturally occurring stearic acid found in tallow as part of a whole food.

And here is a good place to note a couple of reasons why the industry does not create products like tallow balm for skin care. Products directly from nature cannot be proprietary (especially not if you can make them in your own kitchen). In addition, products from nature are not always con-



Cutting up the suet.



Adding olive oil to melted tallow.

MAKING TALLOW-BASED SKIN CARE SALVE



Warm rendered tallow.



Tallow and olive oil mixture, in small jars.



Cooled, hardened tallow.



Solidified tallow balm.

sistent and predictable since each batch can vary according to the season, the source and so on. This variance does not fit the industrial model, even the health food store industrial model. I believe the safest and most healthful course is in the use of whole food substances from nature, and therefore we should use tallow as our ancestors did. sive water. A tallow balm can be applied anywhere on the body, including feet, hands, face, and even lips, so there is no need for multiple skin care products, not even a separate lip balm, since tallow is perfect for every skin care need.

It is interesting that, with modern skin care, a separate product is marketed for the face, presumably because it is gentler, making one wonder if this is an admission to the harshness of the not-so-natural ingredients in the body lotions. A separate product is not necessary when it is truly from nature as tallow is.

NOT JUST ANY TALLOW

Surely the quality of the tallow used in a balm would be of paramount importance to the therapeutic properties of the product. Since manmade toxins are found in nonorganically raised animals, it would not be wise to apply their fat to the skin (any more than to eat it) because of the risk of absorbing pesticides, antibiotics, hormones and all of their metabolic by-products. Furthermore, since Mother Nature knows best, it stands to reason that if the animals are fed foods that are not natural to them, the nutritional value of their tallow would be compromised, even if such foods were technically organic.

Indeed, tallow from cows

that are only fed grass has a

better mineral and micronutrient profile, including higher levels of vitamins. For example, one study found that grass-fed cows have four times the vitamin E of grain-fed cows.³² Products from grass-fed animals were also found to have three to five times more CLA that those fed a "conventional" diet.³³

USING SKIN BALM MADE FROM TALLOW

Since, as explained above, tallow is very compatible with our cell biology, it is readily absorbed by the skin. Therefore, applying tallow balm does not result in a greasy look or feel. It is taken up by the skin as nourishment and softens the skin quickly. Furthermore, a little balm goes a very long way, unlike with most commercial lotions that contain a large amount of very expen-



Diaper rash, before and after treatment with tallow balm.

Tallow balm can be used for all manner of skin conditions, including dry, chapped, calloused, cracked and sun-damaged skin, rashes, burning, itching, wrinkles, and so on, because it gives the skin the nutrients it needs to heal itself. It can even be used as a soothing aftershave. One mother applied it all over her baby's body for eczema, which had been present for a couple months, and it disappeared. Another mother applied it on her baby for a terrible case of diaper rash that did not respond to other "natural" products, and it was gone after three applications. In addition, a man who had had a split lip for over a year and who had already "tried everything," including "natural oils and shea butter," had his lip heal in two weeks using tallow balm, and "it's been healed ever since." Finally, numerous others have had success using it for calluses, dry and cracked skin, and sunburns,

and for moisturizing, smoothing and softening their skin.

HOW TO MAKE BALM USING TALLOW

The first step in making balm is to obtain tallow from pasture-raised animals (cows or sheep) that are 100 percent grass-fed. You can obtain tallow from your local farm or obtain the interior fat (suet) and render it yourself. There are different ways to render tallow, but I recommend this "secret," superior, and easy method: Cut up the suet into small pieces, excluding anything that isn't white. Place it in a colander or a vegetable steamer over a pot, and put the pot in the oven at 220°F. Leave the pot in the oven until all of the tallow has melted out of the suet, mashing and stirring once or twice during the process. The tallow will drip out into the pot. Filter the liquid tallow that is in the pot, placing a cloth in a new colander over a new pot and pouring the tallow through the cloth.

With the tallow in the liquid state but as cool as possible (around 120°F), thoroughly mix in the other pure, natural ingredient(s) of your choice to make the tallow softer and more spreadable at room temperature.

(Pure tallow has a waxy consistency; candles used to be made from tallow.) Put the mixture in the refrigerator to let it solidify. This gives the balm a smoother consistency than letting it solidify at room temperature.

The amount of the other ingredient(s) that you mix with the tallow will depend on the ingredient and the degree of spreadability you are looking for. I use organic extra virgin olive oil in the proportion (by weight) of eight or nine parts tallow to one part olive oil. Olive oil has been considered a healing salve for the skin since ancient times due to its soothing, cleansing, and moisturizing properties. Olive oil is liquid at room temperature, so not much is needed to soften the tallow. If you use a product that is more solid, such as coconut oil, palm oil, or shea butter, you will need to use more, partially defeating the goal of having a balm high in tallow content. Whatever you use, be sure it is pure and organic. For example, coconut oil, palm oil, and shea butter are sometimes extracted using hexane, which is refined gasoline. Know your ingredients.

If desired, you can add essential oils to the liquid mixture as well. I add specific essential oils, such as lavender, which are known for their long-standing tradition of being healing to the skin. Another major benefit of using essential oils in your balm is to give it a fresh, pleasant scent and to neutralize the scent of the tallow, which is distinctive although not necessarily unpleasant. Since essential oils are extremely concentrated, not much is needed, but care should be taken not to use any that are adulterated, extended, synthesized or distilled using chemicals or high temperatures and pressure. For this reason, I use Young Living Therapeutic GradeTM essential oils. Again, it is important to know your ingredients and to remember the principle of using only those ingredients that are edible whole foods. You will be able to take pride in the fact that you could take out a spoon and eat this balm since it is a nourishing food for skin and body!

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A Dictitian's Experience WORKING IN THE PRISON SYSTEM By Noel Franklin

THE PRISON HOSPITAL

The Prison Hospital is a three hundred seventy-five-bed private facility offering acute, sub-acute, skilled, intermediate and end-of-life care for conditions such as HIV, cancer, cardiovascular disease, kidney dialysis and mental health for inmates. The Hospital serves state and federal agencies throughout the U.S.

This hospital was designed to provide cost effective detention healthcare. In a prison population of ten thousand, approximately four hundred are medically or mentally dependent. When compared to the usual cost of providing healthcare in community hospitals, this hospital provides substantial savings. Inmates do not participate in Medicare or Medicaid programs. Pay source is the admitting state or federal government agency, ultimately funded by taxpayers' dollars.

In addition to providing inmate healthcare, the hospital evaluates recently arrested individuals to determine whether they are competent to stand trial or are not guilty by reason of insanity. I am often asked to do a nutritional evaluation while this determination is made. Here I often identify B_{12} , iron, folate, thiamine and/or carnitine deficiency, all of which can cause psychological imbalance. These deficiencies are caused primarily by a very poor diet prior to arrest, often combined with alcohol and/or drug abuse.

Support services such as dietary and housekeeping are contracted to "for profit" companies who receive a predetermined fee. These companies determine the department's budget. The dietary department is budgeted at \$1.11 per meal. This amount might be compared to a nursing home or public hospital budget of \$2.50 per meal. In the six years I have worked in this facility the budget has never increased, although food costs have gone up.

As a dietitian, I am expected to verify

that the prearranged menu meets the "Dietary Guidelines for Americans" issued by the U.S. Department of Health and Human Services. These guidelines suggest the amount of calories, protein, fat, vitamins and minerals. The guidelines do not consider the quality of the food. For example, soy protein, beef protein, bean protein, and protein powder are valued equally as long as protein content is the same in all instances. Vitamin and mineral requirements are ultimately met by synthetic vitamin and mineral supplementation in food.

Recent changes to a more "heart healthy" menu were welcomed by this contracted company, not because it is purportedly better for those who will be fed by these guidelines or even because it may help the company look good in the public eye, but because the change decreases its food costs. This is a common theme in most institutions. Here are the "heart healthy" changes that decrease food costs:

- Margarine replaces butter.
- Animal protein serving size is decreased to decrease fat.
- Skim milk replaces whole and lowfat milk.
- Cheese is removed from sandwiches and other foods.

Other recent cost cutting measures include:

- Substituting real milk with powdered milk or fortified milk substitutes.
- Elimination of coffee, sugar, sweeteners, salt, jelly, salad dressings.
- Changing from meat to meatless entrées using soy or beans as the protein source.

The department performs with inadequate staff, allowing little time for proper food prepa-

Recent changes to a more "heart healthy" menu were welcomed by this contracted company solely because the change decreases its food costs. ration. Expensive convenience foods are used, further decreasing monies available for higher quality foods. Inadequate staffing is a result of difficulty in hiring. Applicants are few, and most fail background checks and/or drug screens. Employment is usually short-term because applicants work only the time necessary to reinstate their unemployed status. Applicants that pass the background check and drug screen and present with a true desire to work do not carry proper immigration status.

Efforts to increase the dietary budget have failed. I present studies to demonstrate how good nutritional practices decrease overall hospital costs but it is difficult to get a response from this contracted company, which most certainly is more interested in its profits than the inmates' care or hospital-wide costs.

Ensure[®] and other nutritional supplements are not part of the dietary department's budget, and their use is not restricted. Ensure[®] is "ordered" by the physician as a medication might be. Many inmates rely on these supplements to maintain weight and protein status. I am unable to serve an inmate more food due to dietary budget constraints, but can provide Ensure[®]-type supplements in any quantity. The products are well accepted by inmates because of the sweet taste.

THE PRISON SYSTEM

I recently assumed nutrition responsibility for forty-five state inmates who receive dialysis. The inmates reside in one of twenty-seven South Carolina state prison facilities totaling approximately twenty-seven thousand inmates. The system ultimately reports to the governor, with many levels of administrators, guards and wardens to total close to six thousand employees. These six thousand employees receive seventeen paid holidays a year, including two Memorial Days: Federal and Confederate. Pay scale is the same as other healthcare facilities. The system is completely supported by state tax dollars because inmates do not participate in Medicaid or Medicare programs.

Meals at these state facilities are prepared and served by inmates. As with the prison hospital, meals must follow the guidelines of the U.S. Department of Health and Human Services. Food cost is fifty cents per inmate per meal. As compared to other state and federal correctional systems, this facility is found to have the lowest food costs in the country and administrators speak very proudly of this fact.

Food quality is superior to the food at the prison hospital because it is prepared from "scratch." The dietary department utilizes inmates to do the work and staffing is not a problem as in the prison hospital, where inmates are much too ill to work.

Inmates raise cattle for the production of beef and milk on state property. Beef and milk production was initiated to decrease food costs, but prison administration found it more profitable to sell the product to grocers and purchase food of poorer quality for the inmates.

No sugar or products containing sugar or corn syrup is served. Administrators feel this is poorly spent money on empty calories. Also, wardens fear inmates will hoard the sugar product and secretly make alcohol, something I find hard to believe.

Wardens frequently exert their petty positions of power and selfishness by initiating control of the food, often restricting meals to bologna or peanut butter sandwiches for weeks. This is initiated because one inmate may have said or done something which was "out of line" in the eyes of the warden. Sandwiches are delivered directly to the dormitories. Meals are served across the prison campus. The shift to sandwiches allows the warden "less work" because he does not have to supervise the inmates as they move across campus to eat. A regulation from South Carolina Department of Health states that cold food must never be served for more than three consecutive days, but the wardens assume their whim to overlook this regulation is acceptable, and it goes unchallenged.

Wardens, guards and other employees plan monthly organized fish fries on prison property for themselves. You smell the food cooking throughout the property and this day is known to be a violent one in the system, often with fights breaking out. I find this fish fry to be inappropriate when you consider that most of the men have not had any meat but poultry patty in many years and would love a piece of fish. I suggested that employees have their fish fry off prison property. Wardens frequently exert their petty positions of power and selfishness by initiating control of the food, often restricting meals to bologna or peanut butter sandwiches for weeks.

This medical director and administration should be ashamed of such poor treatment of an inmate and fellow man in preference of so-called "good stewardship" of our tax dollars.

Their answer was they would then have to "go off the clock" if they leave property and would rather do this while being paid, despite the problems it causes.

Because protein intake is poor and protein requirements for individuals on dialysis are high, the prior dietitian initiated use of Ensure® supplements for dialysis inmates. She found this to be the only way to provide required protein amounts without the ability to offer more food. All of these inmates found the Ensure® to be intolerable because it is too sweet. They are not used to eating sweets. Inmates who were recently admitted, and had been eating and drinking sugars, liked Ensure®.

Ground poultry product, prepared in various ways, is used as the protein source for approximately 95 percent of meals. This product is sold at low cost to the prison directly from the chicken processing plant. It is the ground remains of the chicken after all saleable parts are removed. The product contains good quality fat and protein and a small amount of bone and cartilage. I find the product to be healthy but not appealing, mostly because of the monotony and poor preparation methods. It is often undercooked and rarely seasoned. I found it to be inedible, as did all of the inmates I worked with in dialysis. In most dialysis inmates I observed a very poor visceral protein status, reflected in a blood laboratory value called albumin. It has been well demonstrated that low albumin values lead to increased health problems in dialysis patients, something I presented in a letter written to the medical director and administrator of this system, shown opposite.

One week after I sent this letter, I was fired and my name placed on a list to no longer be admitted into any correctional facility in South Carolina. There was no communication by the medical director or administration, which I found to be highly inappropriate. I later found I was not the first dietitian who spoke up and was fired.

My suggestions are realistic. An additional two cents per inmate per day to the food budget would allow substantial variation and improved protein quality. The increase would cost the system approximately five hundred forty dollars per day but would decrease overall hospitalization and pharmaceutical expenses.

In comparison, an additional Memorial holiday for employees costs the South Carolina taxpayer approximately ninety thousand dollars. Seventeen paid holidays per year costs South Carolina taxpayers over twelve million dollars per year. This is not a realistic or appropriate use

MEAL COMPARISONS: A TYPICAL MEAL

PRIOR TO ARREST

Breakfast: Donut or pastry or cold cereal/lowfat milk /coffee Lunch: Sandwich and chips /soda Dinner: Pizza/soda Snacks: Cookies/candy/chips beer/wine/coffee THE PRISON HOSPITAL Breakfast: Flaked cereal /Lowfat milk Apple juice Liquid pasteurized egg product Toast Lunch: Bologna sandwich with lettuce and mayonnaise Punch Packaged cookie Supper: Breaded pre-made chicken patty Canned green beans Canned potatoes Lowfat milk Sliced bread /margarine Iello Snack: Prepackaged crackers or sandwich

THE PRISON SYSTEM

Breakfast: Homemade milled grits Biscuits (scratch with milled flour, eggs, milk) Whole milk (cows are milked, although milk is pasteurized) Breakfast patty made of ground poultry product Orange juice Lunch: Ground poultry product sandwich on homemade bread Lettuce/tomato Apple Juice Supper: Spaghetti with tomato sauce & ground poultry product meatballs Bread (from scratch with milled flour, eggs) Whole milk Mustard greens Snack: Bread slice with cheese

MY LETTER TO THE SOUTH CAROLINA DEPARTMENT OF CORRECTIONS

The importance of nutrition in the prevention of disease and the relationship between poor nutrition and increased medical costs is well documented.

In an effort to prevent needless medical costs, I would expect the SC Dept of Corrections to provide the nutrition necessary to keep the inmates nutritionally healthy.

Currently the SC Dept of Corrections works with the lowest food budget in the nation: \$1.51/inmate/day. There has been no increase to coordinate with increased food costs over the past two years.

The average cost of food at comparable correctional facilities across the nation is \$2.50/inmate/day. The average budget in local health care facilities is \$2.50/meal. Meeting our low budget is accomplished in three ways:

- 1. Grits, eggs and milk are produced by the prisoners on three farms, the largest being 7000 acres at the Walden Correctional Facility in Sumter.
- 2. Costly processed foods and sugars are not utilized.
- 3. The protein source of most meals is an inexpensive low-grade ground poultry product. The product is the ground remains of chicken after all saleable pieces are removed. This includes cartilage/gristle.

My concern is that the prisoners are receiving but unable to ingest adequate protein.

After numerous complaints from dialysis inmates about a "poultry patty," I went to see the product, how it was cooked and served in the Broad River Correctional Facility cafeteria. I concluded that the poultry product is intolerable. It has a strong stench, is very greasy and tastes foul. I also recognized at least 75 percent of the product is not eaten and goes to waste.

The product is prepared in various ways for most meals. Because its preparation in a regular diet is more tolerable than in a renal diet (using salt, etc.), we have changed many of our dialysis inmates to a regular diet to help them ingest more protein. We feel adequate protein is a more important component of the diet than the potassium, phosphorus and sodium restriction.

Perhaps in years past the poultry was more appealing. With increased hormones and antibiotics used in chicken production, taste worsens. Increased use of hormone and antibiotics in recent years is documented.

The Department of Corrections constructs meals following the guidelines of the Dietary Guideline for Americans issued by the U.S. Department of Health and Human Services and the U.S. Department of Agriculture. The guidelines specify the required amount of nutrients but do not regulate the quality or frequency of the product served. For instance, you could serve 2-3 ounces of buzzard each meal and meet the guidelines for protein.

Protein is a particularly important nutrient, and protein needs are higher in dialysis patients than in any other group. There is a direct relationship between low protein intake and increased mortality/medical costs. You will receive but a few of the studies on this topic in the following e-mail.

Blood laboratory values are documented and analyzed monthly in dialysis. Most inmates have a low visceral protein status, which means they are not getting enough protein in the diet. I assume it would be the same for the rest of the SC state prison population if they receive this poultry product as their protein source.

Providing inmates with inadequate nutrition in an effort to reduce costs is a human rights violation. I find it both appropriate and necessary to replace this ground poultry product with a product that is edible.

Respectfully, I would like to share some ideas of ways to offer an acceptable protein product without greatly increasing costs:

- 1. Increase the budget slightly to allow purchase of low cost protein products such as liver, gizzard, turkey necks, canned mackerel, souse, spam, pork parts or spent hen products.
- 2. Purchase and serve half the product. It is more cost effective to serve half of something that is eaten than 100 percent of something that is not. Perhaps this will not meet the guidelines on paper, but it a more appropriate nutritional choice.
- 3. Instead of selling all of the beef produced by the prisoners in Watertree, keep some for prisoner consumption. Last year they produced close to 140000 pounds.
- 4. Initiate production of chicken, pork or turkey for inmate consumption.
- 5. Expand our sources of food donation or sale of product close to expiration date from local grocers.
- 6. Expand milk production into the production of cheese, cottage cheese, yogurt and kefir.

I appreciate your time and attention.

Noel Franklin

of our tax dollars.

This medical director and administration should be ashamed of poor treatment of an inmate and fellow man in so-called preference of "good stewardship" of our tax dollars. Perhaps a more a more humane budgetary constraint would be to eliminate a second Memorial holiday.

FOOD QUALITY AND HEALTH

In the prison hospital, I recognize a difference in the health of patients according to which prison system they were admitted from. Federal inmates are healthier; they also benefit from better nutrition practices of institutions offering real butter and whole meats.

Some systems provide meals based on refined convenience foods and have a cantina available for soda and snack products. These inmates present as unhealthy and laden with disease. The systems that provide unadulterated food, where prisoners prepare food mostly from scratch without sugar also have an overall healthier patient population. It appears as if we either develop a desire or an intolerance for sugared sweet products. Our "sweet tooth" disappears as these foods are eliminated from the diet. In the prison hospital sweet foods are desired and requested. In the prison systems where sugar is eliminated, they are not only undesirable, but poorly tolerated.

I have had to conclude from viewing hundreds of diet histories that diets from"outside" the system are poorer than any of the diets provided by the prison hospital or prison system. They tend to be laden with corn syrup, alcohol, refined foods and caffeine. Rarely is adequate protein, fruit or vegetables included in the diet. Nutritional deficiencies are common and are often resolved with supplementation and/or the diet served in the facility. See my comparison on page 48.

CONCLUSION

In order to control costs, food offered by the prison system and prison hospital is of substandard quality. What I find sad is that the diets are an improvement over the diets of most before admission. But before admission, the individual makes the choice to eat this way. Once in the system, inmates have no choice over what they eat or how they take control over their health. This power is unfortunately put in the control of heartless individuals who feel that healthy budgets are more important than these human lives.

I leave you with a thought from Matthew 25:40: Inasmuch as ye have done it unto the least of these my brethren, ye have done it unto me. \bigcirc

CHILDREN AT WISE TRADITIONS 2012

Below: Homeopath Joette Calabrese holds a WAPF child. Right: Children in the popular children's program.





Homeopathy Journal

HOMEOPATHIC ZINC By Joette Calabrese, HMC, CCH, RSHom (NA)

Ooh, we homeopaths love toxins. No, we're not masochists. It's just that we consistently observe that toxins, when diluted according to homeopathic methodology, make for the best medicines, exemplifying the law of like cures like.

Zincum metallicum is no exception. Even though zinc is a fundamental prerequisite for human health, overexposure to large quantities of zinc can be harmful and cause zinc toxicity. Worse yet, when used on the skin to address eruptions, it can easily restrain the presentation of exterior illness and cause it to submerge to a deeper, more troublesome level of illness. That's where homeopathy comes in. Although other authors in this issue of *Wise Traditions* will highlight zinc's many health attributes, I will examine its dark side from the standpoint of homeopathy, and particularly by way of a story that elucidates the point.

One of the things that makes us human, as well as makes us fine parents and ultimately good citizens, is a need to make things right for our families. The appeal of homeopathy lies in exploring the thrill of just how gentle and yet curative homeopathy can be in the hands of parents. Let's take the Connors family for example.

FRIGHTENING SYNDROME

Carolyn Connors' third child, Michael, is chubby, robust and happy. Except for one little thing. He has a history of convulsions nearly every time he falls asleep. Not a mild concern for a parent. No one on either side of the Connors family has a history of neurological illness and certainly no seizure disorders. It was an agonizing mystery.

Carolyn had been following WAPF principles for years. Well, not perfectly, but she undeniably put a certain effort into it. She also incorporated homeopathy wherever she could since her first baby was born. That meant that when one of her children had strep throat, she usually counted on *Belladonna 30* and plenty of pasture-fed bone stocks. It also meant that she usually relied on homeopathy for skin rashes, cradle cap, and other allergy-related disorders. For the Connors family, it was a no-brainer to integrate the best of both modalities.

However, when she met with the family homeopath regarding Michael's seizures, she recognized that she had overlooked a key aspect of the situation.

Successful homeopathic treatment, actually any successful approach to health care, requires the assembly of a timeline. That is, a reconstruction of what happened last, including procedures and drugs that might have been used, what happened just previous to that, and so on in reverse order. Most homeopaths lay this out in pencil which allows for easy revisions as the events unfold. Carolyn was accustomed to this extra measure of detail, since she and her family had been meeting with their homeopath for nearly a decade, but had not thought such precision was relevant this time.

In the case of her baby's seizures, Carolyn applied her memory as to what could have triggered such a severe neurological response. "Ill health is usually not random," she remembered her homeopath saying time and again. But no exciting cause could be discovered for Michael's problem. Well, at least not until a complete history of his health was reviewed in minute detail. The following is what the homeopath and Carolyn ascertained on close examination of the events that led up to the convulsions.

SEEMINGLY INNOCENT EXPOSURE

At about eight months of age, Michael suffered an unpleasant diaper rash. It was while the family was visiting grandparents in Florida over Christmas. The food they were accustomed to eating at home was, of course, not offered and Successful homeopathic treatment, actually any successful approach to health care, requires the assembly of a timeline. Carolyn had to admit that the baby, and in fact all of them, had eaten more than their share of Christmas cookies, cakes and breads... all store bought. In no time, Michael's bottom was so affected that the skin was crimson, taunt and shiny. Although Michael's mom traveled with their homeopathy kit and a reference book, this time her usual methods were inadvertently preempted by Michael's adoring grandmother. Always willing to contribute, Grandma had just the thing for the diaper rash. It was a zinc oxide cream that was handy and right there in the bathroom. Carolyn was in a hurry to get the kids off to a family gathering and would normally not have used such a product, but she made a quick rationalization. "It's just this one time and it will probably offer the baby some quick relief." She was partially right.

The skin was less angry and Michael didn't fuss as much when she wiped the area at the next diaper change. But then, Michael's grandma offered to buy a tube should the eruption return. "Keep this on hand in your diaper bag, just in case, dear." Not for another few days did the eruption return and the Connors family began counting on the diaper rash ointment for several days.

In homeopathy, we always seek to find not only the initial provocation, but the sum of symptoms that will point to the remedy that represents the entire person. To treat all children with convulsions in the same manner is what I call vending machine medicine. That's why it's key to establish how the convulsions typically present, along with any other concomitant symptoms so that each bit of evidence lies before us.

ZINC AND SUPPRESSED ERUPTIONS

Most plants, animals and minerals have an injurious side to them. This so-called sinister side can reveal the substance's secrets as to how it can be used in homeopathic preparation. Like many homeopathic remedies, *Zincum metallicum* is an element found on the periodic table. When made into a homeopathic remedy via the homeopathic dilution process, we learn that it is a premier remedy for rashes, such as eczema, exanthems, and interestingly, in seizures as well. But a most significant characteristic of *Zincum metallicum* is the ease in which skin eruptions are suppressed and driven to a deeper, more serious pathology.

Roger Morrison, MD's exposition of *Zincum metallicum* in *Desktop Guide to Keynotes and Confirmation Symptoms* lists the symptoms that it addresses this way: "twitches, convulsions, jerks, fasciculation, eruptions, easily suppressed, chronic complaints from suppressed exanthema." James Kent, MD, in *Lectures on Homeopathic Materia Medica* puts it thusly, "There is a tendency to convulsions, drawing in the extremities. . . and an inability to throw eruptions to the surface."

In short *Zincum metallicum* is a remedy associated with a reaction to suppressed eruptions. That is, eruptions that are "treated" with ointments, which hold back the true pathology and in turn, drive the illness to a deeper state. The remedy can resolve this problem.

In Michael's case, it became evident that the ointment treatment was what unleashed the latent disease lurking below the surface. Most folks don't make the connection between suppressed skin eruptions and deeper pathologies that follow. Indeed, why would they? The correlation would not be roused unless this homeopathic tenet was known.

LAWS OF TREATMENT

In Dr. Samuel Hahnemann's revolutionary treatise on homeopathy, *The Organon*, he discusses in Aphorism 202 the following law of health that played itself out in Michael's case. "If the physician of the old school (allopathic medicine) destroys the local symptom by some external means, (ointments, etc.) thinking thereby to heal the entire disease, nature compensates for this by awakening the internal malady and the other symptoms that have lain dormant next to the local disease."

That is, the internal disease, which has lain dormant, will be awakened when the localized pathology of a less important disease is "treated" with drugs. More disturbing is the fact that without the knowledge of these laws at hand, it leaves the drug and dermatologist unaccountable. When the localized symptoms disappear, the vicious circle continues, potentially for a life time. The internal disease's defending outlet is potentially blocked forever. This action is accompanied by the rerouting of disease, thus affecting the more vital organs and biological systems. In essence, a lesser illness (diaper rash) is traded for a more dire one (convulsions). If Michael had been taken to a neurologist, an additional drug would have been hurled at the new symptoms.

Have you ever wondered why so many young people today are chronically ill? Modern medicine is so wrapped up in its worldview that it customarily dismisses other opinions, theories and health laws that don't support its position. Until the sacred rules of health are embraced, no one will recognize the deleterious effects of seemingly blameless actions.

Back to Michael and his mom. Once the homeopath recognized that the ointment likely suppressed Michael's skin eruption and drove it to the central nervous system, the remedy choice was evident. Not only because the ointment was made from zinc, but more importantly because the symptoms of convulsions after skin suppressions are keynotes of the remedy *Zincum metallicum*. Within a week or so after Michael was given *Zincum metallicum 30C*, (orally) three times per day, Carolyn called to report that the seizures had completely melted away. The seizures simply

no longer existed. What do you suppose returned within days once the seizures were halted? You guessed it! Michael was revisited by the diaper rash. And thankfully so. Now his mom could treat a lesser illness appropriately, not with polyester medicine, but with a medicine that cures the entire person and doesn't compel more sobering illness to surface.

Zincum metallicum 30C was administered for another week and the power of the remedy inspired Michael's natural healing ability that faded the rash away. Was it placebo? Of course not! How could a baby be influenced by such? Is this anecdotal? Indeed! However, it has also been clinically observed for the last two hundred and more years that Zincum metallicum offers consistent results for these kinds of pathologies in hospitals, clinics, private practices. . . and in the homes of intelligent moms.

Dr. Hahnemann observed these results when he proved this remedy using double blind methodology back in the early 1800s. The likes of Dr. James Kent also observed the same in Chicago in the 1920s as did Dr. Roger Morrison in 2000 and other physicians who have documented such findings. But what is most significant in this case is that the Connors family witnessed their baby return to whole health once more.

Like all stories, a satisfying end must be played out. This one has a dramatic epilogue. Approximately eight months later, Michael began convulsing during sleep again. It wasn't as severe as before, but his mother noted the disease had most certainly returned. She promptly contacted her homeopath.

Knowing that someone who has been aided

by Zincum metallicum in the past is susceptible to easily suppressed symptoms, the first question asked was if there had been any skin eruptions, such as diaper rash or such. "Yes," recalled Mrs. Connors. "But it's better now that....oh, no!" This is when she remembered that her mother-in-law had been visiting at the time the diaper rash returned and had been applying the ointment again! The timeline of events coursed through her mind at warp speed: skin eruption followed by application of ointment followed by suppression of symptoms followed by latent, more serious illness.

Once again *Zincum metallicum 30C* was employed. This time it was three weeks before the benefits were accrued. As the neurological disease abated, like a finely tuned clock, the eruption reappeared. Then, that too died away. Sigh.

I know what you're thinking. "Throw out the damned ointment!" That's what I say, too, minus the expletive.

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Joette Calabrese, HMC, CCH, RSHom (Na) is a classical homeopath who melds homeopathy with WAPF principles. She meets with folks on Skype to help them return to health via these methods. She also teaches families how to use homeopathy in her virtual classroom in her popular webinars, books and CDs. She is an expert presenter at WAPF conferences and throughout the U.S. To learn more about how homeopathy might fit your lifestyle, contact (716) 941.1045 or www. JoetteCalabrese.com for a free fifteen-minute conversation with Joette.





Lois Connor, the acorn lady, with partner. Lois did an acorn preparation demonstration at our conference in Santa Clara.



Acorn gruel is prepared using hot rocks.



While Science Sleeps – A Sweetener Kills By Woodrow C. Monte, PhD

The title of the book summarizes my impression that except for a few isolated points of light, North America is a dark continent as far as honest, rigorous science is concerned. Science snores away while corporate conmen who worship money scatter their pretend science everywhere, robbing Americans of their health and their wealth. This book carefully examines one particular contaminant in the food supply.

Dr. Monte quickly identifies the culprit he is going after and then builds an extensive case against this culprit, accumulating evidence from real science, chemistry, history, statistics and personal observation. The final result is quite convincing. The villain is methanol, also known as wood alcohol. Methanol easily converts to formaldehyde in the body and then the real damage begins. Most people know that drinking a glass of straight wood alcohol will end badly, but they don't know what happens with smaller exposures. Because formaldehyde is a very tiny molecule, it is not visible under a microscope and our technology could not detect it in tissue samples until recently. Detection is still very expensive and difficult.

Animal and human enzymes contain a subtle difference that changes how methanol is metabolized. The result is that animal tests can "prove" it safe when it is not. Therefore the only true way to test for toxicity is to test it on humans, which should raise some obvious ethical questions. Unfortunately, human testing has in fact been carried out on a very large scale on uninformed subjects.

Until the early 1800s there was very little human exposure to methanol, particularly in the food supply. Then Nicolas Appert invented canning. The process of canning fruits and vegetables, whether done at home or in a factory, creates small amounts of methanol. Canned meats may have other problems but do not have methanol. So what happened? A detailed search of history reveals no mention of multiple sclerosis before the 1800s. The first case appeared after canned goods had become available among those who could afford them. Monte goes on to elaborate in detail the chemistry and biology of the causative factors. He also points out that this could explain what is really happening with autoimmune diseases in general.

Formaldehyde damage to proteins and DNA can be almost impossible to detect, even with modern day technology, as previously mentioned. But our immune system does detect it and responds to it. So at least in the early stages of autoimmune disease, when the immune system appears to be attacking perfectly healthy cells, it is attacking formaldehyde-damaged cells. Perhaps our immune systems aren't behaving so stupidly after all.

One of the next major sources of methanol exposure was cigarettes, which became more widely available in the late nineteenth century with the invention of automatic machines to mass produce cigarettes. As we know, diseases of civilization climbed rapidly in the late nineteenth and early twentieth century and methanol was probably a factor. Getting back to multiple sclerosis, that disease increased rather explosively starting in the 1980s which corresponds with when one of the largest sources of methanol was introduced to the food supply—aspartame, also known as Nutrasweet.

The evidence against aspartame was clear from the beginning, and the FDA originally had no intention of approving it. FDA resistance to aspartame mysteriously disappeared almost literally overnight when Mr. Donald Rumsfeld, erstwhile president of the firm that produced aspartame, found himself well connected to top levels of government under Bush the First. Not only did FDA resistance disappear but a lot of evidence against aspartame disappeared as well.

Despite their well-documented corruption, the FDA and CDC can do a fine job of collect-

Until the early 1800s there was very little human exposure to methanol, particularly in the food supply.

Real Food Fermentation by Alex Lewin Quarry Books

If you have no experience with real food, and many don't, one of the first things you will learn when you encounter the genuine article is that real food doesn't last very long. You just don't see many expiration dates on real food around the year 2050 or later. So what do you do, besides eat it fast? One thing you can do is ferment it. If you like relatively easy and inexpensive options, this is a good choice. The process has additional benefits, like enhancing nutrition, enzymes and flavor.

Early chapters in *Real Food Fermentation* explain why you would want to ferment food in the first place, what are the benefits, what equipment you'll need (not much), and how the process works. The instructions are all non-technical and easy to read. Lewin wisely advises using local and organic produce as much as possible. This book includes a list of books and movies that have exposed what is going on with our food supply over the last hundred years from *The Jungle* by Upton Sinclair, to *Silent Spring* by Rachel Carson, to the films "Food, Inc." and "Farmageddon." If you are familiar with the titles in this list then you have a good idea of what is going on with food production in the U.S.

There is a chapter for sauerkraut, a chapter for other lacto-fermented vegetables, and a chapter for cultured dairy products. Raw dairy is recommended in this book. You will find good instructions for making butter in that chapter. There are additional chapters on fruit, drinks like cider, kombucha, kvass, and vinegar, and the last chapter is about fermenting meat. This is a visually appealing book with many excellent pictures illustrating the steps of the process and it scores a thumbs UP.



Review by Tim Boyd

ing data when agendas are not involved. Dr. Monte provides many charts plotting the rise of methanol sources like aspartame to the rise of several diseases, including cancer, Alzheimer's, and coronary disease. He suspected a relationship between birth defects, especially neural tube defects, and methanol exposure but the data didn't seem to confirm it. Then he realized there was a lot of missing data. The many abortions or miscarriages due to neural tube defects were not included in that data. When that oversight was corrected the correlation became clear.

Digging further, Dr. Monte caught another whiff of corruption when he scrutinized the recommendation that pregnant women take folic acid. His research indicated that folic acid itself can be somewhat dangerous as an isolated supplement. One possible use for folic acid is to neutralize the effects of methanol and formaldehyde. I think there is a better option that requires no money, no government bureaucracy, and it's easy. Stay away from methanol.

Other investigations showed that school teachers had higher levels of cancer than the general population. While the old fashioned ditto machine may be almost obsolete, it was still common in many schools up until the 1990s and some schools may still have them. The liquid or "toner" they use is anywhere from 40 to 100 percent methanol. Reading this book by itself may give one the impression that methanol is at the root of all modern disease. I still think there are other culprits, other toxic chemicals, malnutrition, radiation, and so on, that must be considered especially with cancer, but Dr. Monte makes a convincing case that methanol could be a major factor.

An interesting footnote caught my attention. The caduceus—a winged staff with two snakes spiraling around it—is the symbol used by much of the pharmaceutical medical establishment. You might not know that this symbol only came to be used a little over a hundred years ago. The original symbol, which is still used elsewhere, was the rod of Asclepius, which is a rod without wings and only one snake. The winged rod with two snakes belongs to the mythological god Hermes, who, among other things, was the protector of merchants and thieves. I leave it to the reader to decide how appropriate that symbol is for modern medicine. My thumb is UP for this book. Review by Tim Boyd



The Solution: Homeoprophylaxis: The Vaccine Alternative A Parent's Guide to Educating Your Child's Immune System By Kate Birch and Cilla Whatcott Balboa Books

I'm worried for authors and homeopaths Kate Birch and Cilla Whatcott. They are putting themselves in the middle of a battleground where arrows will likely fly. Those who slice at the market share of the monolithic collusion between Big Pharma and the U.S. government could find themselves in the crosshairs.

Nevertheless I admire Birch and Whatcott's courage, for this is a bold book. Homeopaths are aware of the techniques these authors present, but the general public is not. It's high time that someone with pluck delivers this vital information to those who matter most: parents.

Yes, yes; we know that vaccination is an ill-founded concept and the result of an outdated invention that has often been shown to cause greater risk than the illness against which it's intended to protect. The word vaccine, indeed, ought to strike apprehension in the minds of parents. This kind of reaction is a healthy, protective response that for too long has been intimidated out of parents by authoritative medical "experts" and cunning drug company marketing. These authors address that specious coercion. But the spotlight of their discourse is on what to do practically in such an environment to protect our children and a schedule of how to do it.

The word vaccine, indeed, ought to strike apprehension in the minds of parents. Their strategy is like a shot in the arm, if you'll pardon the metaphor. The path laid out in the book's one hundred plus pages is intelligent, well researched, and offers a step-by-step plan of action.

Not merely the "story behind the story," or even a full dissertation on the harm of vaccines, this book offers a viable, complete chart that parents can embrace as the final answer to the question, "If I don't vaccinate my children, what do I do to protect them?" There it is in black and white: the entire schedule of how to use specific, simplified homeopathic protection against, for example, whooping cough before it comes to your town, against pneumonia, even tetanus.

Run, don't walk to your keyboard and buy a copy for yourself, one for your in-laws, and another for your chiropractor. If you're fortunate enough to have fallen into a pediatric practice that's principled, give a copy to the doctor as well. Then follow their program step-by-step.

Ms. Birch and Ms. Whatcott are my kind of women. . . my kind of homeopaths. I don't know them personally, but I hope to shake their hands one day. I'm guessing that theirs will be a firm grip. It will give me assurance that I needn't worry so much about them and their quest to offer moral support and practical alternatives to parents who choose not to vaccinate their children. Instead I can apply my efforts toward directing my clients and students straight to their little masterpiece.

Review by Joette Calabrese

JOURNAL NOW AVAILABLE AS DIGITAL TALKING BOOK FOR THE VISUALLY IMPAIRED

We now have our journal converted into an audio format available for the visually impaired. Special software is required for this, such as Dolphin Easy Reader. Go to the JOUR-NALS tab on our homepage. Starting with Fall 2011, click the journal you are interested in. Please tell others! Many thanks to Amy Adams of ePubUSA.com for this service!

The Hidden Story of Cancer: Find Out Why Cancer Has Physicians on the Run and How a Simple Plan Based on New Science Can Prevent It By Brian S. Peskin and Amid Habib Pinnacle Press

In Brian Peskin's world it's all very simple and straightforward: he's right and virtually everyone else is wrong. Attend one of his lectures or email him personally, as I have done, and that's pretty much the message you're going to get. But how right is he actually?

Peskin is very clever at mixing facts and fiction. Sadly, the facts aren't originally his own—but the fiction is.

Peskin claims he's "standing on the shoulders of a giant." That giant is none other than German biochemist Otto Warburg, a contemporary of Weston Price. Peskin brings Warburg's very important, yet largely ignored research on cancer and nutrients to the reader's attention. For this, he deserves every bit of credit.

For those of you not familiar with Otto Warburg, this brilliant scientist started doing research into the mechanism behind cancer in the 1920s. Warburg discovered and demonstrated that cancer cells are normal cells which become anaerobic cancer cells once they lack as little as 35 percent oxygen. The cells then start fermenting blood sugar (glucose) as a source of fuel, much like the cells of primitive organisms do.

This anaerobic fermentation process is known in medical circles as the "Warburg factor," but that's about all the credit they have been willing to extend him. As happens to all great thinkers, Warburg's findings have been hotly disputed. Yet to date no one has been successful at proving him wrong in clinical trials.

In his book, Peskin demonstrates the fallacy of looking for cancer-causing "viruses" or "oncogenes," stressing that cancer is not viral, nor is it genetic. Peskin even gets it right when he mentions that the integrity and permeability of the cell membrane, which is largely composed of lipids (fats), is very important for transporting oxygen and other important nutrients into the cell, as well as waste matter out of the cell.

He's also right on the money when he mentions that the consumption of too many carbs and processed vegetable oils and fats jacks up our blood sugar and weakens and suffocates the cell walls, thus promoting the very factors that Otto Warburg discovered cause cancer. So far, so good.

But where Peskin goes wrong is when he starts adding his own questionable views about how to restore and maintain the integrity of the cell membrane.

According to Peskin, all the reader needs to do is take supplements of high-quality, plantbased "Parent Essential Oils (PEOs)," that is, essential eighteen-carbon omega-3 (alpha-linolenic acid) and eighteen-carbon omega-6 (linoleic acid) fats.

According to Peskin, these "parent oils" are all the human body needs and it will effortlessly make the necessary conversion to the elongated forms of omega-3 (DHA) and omega-6 (arachidonic acid). Countless studies have proven him wrong and shown that the body actually prefers ready-made long-chain fatty acids, but Peskin conveniently looks the other way and says they're wrong and he's right.

In fact, according to Peskin, long-chain omega-3 fatty acids are even "toxic." Here's the real kicker: DHA-rich fish oils (including cod liver oil) are written off as "poisons."

Never once does he distinguish between highly processed fish oil and low-temperatureproduced cod liver oil. For Peskin, it's all "poison." Oddly enough, Peskin does distinguish between "adulterated" and "unadulterated" PEOs.

But it gets even weirder. For some reason known only to Peskin, he has taken it upon himself to glorify omega-6 fatty acids and villify omega-3 fatty acids, particularly the elongated



Where Peskin goes wrong is when he starts adding his own questionable views about how to restore and maintain the integrity of the cell membrane.

Actually, the body needs only very small quantities of "parent" essential fatty acids when the diet is rich in saturated fat. variety. Peskin even claims the human body contains very little omega-3, since most of it gets "burned up" by the body.

On what science does he base his information? Peskin cites a body of studies which show that omega-6 is ubiquitous in humans. Although this looks convincing on the surface, such studies are actually based on modern, grain-eating humans. Had Peskin bothered to study populations of hunter-gatherers, subsisting for the most part on wild animals eating a lot of omega-3 rich green plants, he might have arrived at entirely different conclusions about the fatty acid composition of the human body—with a much larger base in evolutionary history, I might add.

It's now a well-known scientific fact that modern confinement cattle, as well as the humans that eat them, are largely grain-fed, causing a predominance of omega-6 fatty acids in the body, at the expense of the omega-3 fatty acids Peskin has a problem with. Paradoxically, Peskin does advocate the consumption of grass-fed meat.

He produces one study after another about the importance of plant-based essential fatty acids. Yet he fails to recognize that there is a government agenda to turn populations worldwide into semi-vegetarians by basing their food intake on carbohydrates from grains, vegetables and fruit and very little animal fat and cholesterol.

Saturated fat, the fat of choice for all the indigenous populations—gets hardly a mention in Peskin's book. Only a handful of brave scientists have actually studied saturated fat in great depth and detail, among whom is Mary Enig, someone Peskin is not likely to "chew the fat" with any time soon. Actually, the body needs only very small quantities of "parent" essential fatty acids when the diet is rich in saturated fat.

"Just take the oils," is all he seems to be saying in his book and lectures. Oh, and eat protein. Animal protein, that is. It seems animals are only good as a source of quality protein, but the fats will have to come from plant-based oil supplements. So tell me, Brian, where exactly did Grock get his oil supplements? A couple of cave blocks away? Where did he get his plant-based essential oils during an Ice Age which lasted 2.5 million years? And did he really only eat lean meat?

By now you're probably wondering what all of this has to do with "the hidden story of cancer." According to Peskin, our cell membranes are supposed to be made up of essential fatty acids, the "PEOs" he recommends the reader should supplement with.

In a bizarre twist of logic, Peskin actually manages to view these highly unstable oils as "oxygen magnets." According to him, the PEOs attract oxygen from the blood, which then ends up in the cell, thus oxygenating the cell and preventing or curing cancer, which is inherently anaerobic.

Yes, unstable fats do attract oxygen, but they turn rancid as a result, because these unstable fats are highly susceptible to oxidation. Which is why, in the human body, they're always in the presence of highly stable saturated fat to prevent this from happening. Although Peskin does acknowledge this fact, this is only mentioned in passing.

Despite all the scientific "evidence," which seems to back up Peskin's claims, he fails to produce even one controlled, double-blind scientific trial that clearly proves the effectiveness of his protocol.

Not only is all of this misleading to cancer patients, it's also plain wrong. But in Peskin's world, he's right and you're not. He may be "standing on the shoulders of a giant" (Otto Warburg), but a giant Peskin is not.

Had he confined himself to merely writing a book about Otto Warburg, I would no doubt have put my thumb up for this book. But, since Peskin takes Warburg's well-studied facts and adds his own pseudo-scientific fiction into the mix, my thumb remains firmly down for this book.

Review by Mike Donkers Nijmegen, Netherlands Chapter Leader

Tim's DVD Reviews

Wise Traditions London 2012 Festival for Traditional Nutrition The Weston A. Price Foundation London Chapter

Our friends in the U.K. produced another conference earlier this year and once again presented an interesting and engaging line-up of speakers.

Professor Ton Baars provided some new science on the subject of that highly subversive food known as raw milk. One of the complaints we hear from time to time at the Foundation is that we refer to "old science" when discussing the benefits of raw milk. Apparently truth has a shelf-life and once it goes stale it becomes irrelevant. Yet a recent study by Elwood and others, in 2010 showed that the risk of cardiovascular disease was reduced with whole milk consumption. Full fat dairy products reduce asthma risk according to a study by Wijga and others, done in 2003.

A Shropshire, U.K. study by Perkin, and others, in 2006 compared farm children on raw milk with children not on raw milk. The raw milk drinkers had less asthma, eczema and atopy and there was a dose-effect response. Another study from 2011 by various other researchers saw the same thing. Other studies carried out in the last few years on mother's milk show significant degradation of nutrients after pasteurization. The bottom line is that the findings of new science look suspiciously like those of "old" science.

Dr. John Turner spoke on acid reflux and why you don't want to ignore it. The biggest reason is that it can be a precursor to more serious problems. One important detail is the consumption of good fats. Dr. Turner points out that after being emulsified with bile, fat is absorbed first into the lymphatic system, not directly into the cardiovascular system. He has never heard of hardening of the lymphatic system so he doubts that fat has much to do with hardening of the arteries. Most cases of acid reflux are due to stomach acid levels being too low rather than too high. There are many reasons why stomach acid can be insufficient, which often involves a mineral deficiency or excess grain and sugar consumption. Also, *trans* fats may increase the shelf life of processed food but they will decrease your shelf life.

Stephanie Seneff, PhD, explains why we need to overcome our fears and get some sun. In the presence of sunshine our skin produces cholesterol sulfate which is needed for a long list of important biological functions. Vitamin D_3 is not a good substitute. She gives her usual brilliant analysis on the subject.

Elizabeth Wells, DNN, educates her listeners about electrical sensitivity. There can be a range of symptoms that include headaches, migraines, tingling, neuropathy, cramps, stiff joints, rashes, and sleep disturbances. It is not just the power of the electrical energy but the frequency that is also important. She goes into treatment protocols that include dietary suggestions like coconut oil, kombucha, bone broth, and apple cider vinegar. You may also want to address emotional issues. We may yet come to understand the Amish wisdom of avoiding the whole thing altogether.

Professor Paul Connett says his biggest claim to fame is that he played soccer with John Cleese (of Monty Python fame). He also wrote The Case against Fluoride which we have reviewed favorably. To date he has received no scientific response to his book. Ethically speaking, doctors can't force medication on you (although that seems to be changing) but apparently the government (not medically qualified) can do so by slipping it into the water supply and saying it's good for us. There are no double-blind placebo studies confirming that claim and plenty of studies associating lowered IQ with fluoride exposure. Those who promote fluoride are the typical cowards who will run like rabbits and hide if you try to debate the science. I would assume that they are promoting fluoride because

The bottom line is that the findings of new science look suspiciously like those of "old" science.

Tim's DVD Reviews

they have been drinking too much of their own tap water. Elizabeth McDonagh of the National Pure Water Association followed up with the history of water fluoridation in Great Britain.

As always, Sally Fallon Morell provided the solid framework and basis for what the Foundation is all about. Most of our members are probably also familiar with Dr. Natasha Campbell-McBride, who presents her always popular Gut and Psychology Syndrome session. She also gives advice on what to do and what to avoid before and during pregnancy. Environmental factors, dietary and emotional influences can switch genes on and off. You don't want to switch the wrong genes on and off, so there are some common mistakes to avoid. Cosmetics and even hygiene products can be toxic. Remodeling rooms or almost any new product radiates chemical fumes. She also recommends not going to the dentist while pregnant. On the bright side, there is no such thing as too much butter. All good advice for another conference that scores a thumbs UP.

The DVD can be purchased and a number of other free videos viewed at http://www.westonaprice.org/london. Note that among others, Sally Fallon Morell's 45-minute intro video and this DVD's promo video are available at the site for free viewing.

Why in the World are They Spraying? **Produced and Directed by Michael J. Murphy**

This is the sequel to "What in the World are They Spraying?" which introduced the concept of geoengineering, an agenda that involves weather or climate modification. I won't get into any arguments about the success of any such attempts but many seem to doubt that these attempts are even being made. Besides purely emotional, kneejerk reactions, there seems to be a mindset that believes that unless an official governmentapproved source confirms the existence of a thing, that thing does not exist. This mindset assumes that government can do or say no wrong. Well, for those who believe this and are new to this planet, let's go along with such thinking for a moment for the sake of argument.

There are over one hundred sixty government-issued patents for weather modification. Many of those patents specify certain reflective materials to be sprayed in the upper atmosphere. There are videos showing planes doing exactly that, leaving "contrails" that are not coming from the engines but from wingtips or elsewhere on the plane. These materials mentioned in the patents are showing up in high concentrations in the soil below and in the rain coming down.

Then there is the Environmental Modification Convention (ENMOD) which prohibits hostile use of environmental modification. This convention has been signed by the U.S. government, passed by Congress, and signed by seventy-six countries as of January 2012. The U.S. approved it in the 1970s.

This seems to be a lot of trouble to go to for something that can't or won't be done. There is a convenient little loophole that allows countries to do whatever they want to their own weather. Anyone who has heard of the butterfly effect knows this makes the so-called protection prohibition worthless.

Brushing aside naïve denials, the stated purpose of reflective sprays in the upper atmosphere is to cool the planet. Studies by NASA and others show that while that may happen in the short run, in the long run the planet is in fact heated up. One expert in the video explains the theory of how it all works. Microscopic metallic nanoparticles floating high in the atmosphere reflect heat. They don't just reflect heat from the sun above them back out to space but also reflect heat downward from air already warmed by the sun. The particles can also be artificially heated by high-powered antenna arrays like the HAARP installation in Alaska and other similar and even larger facilities around the world. That in turn heats the air around the particles. Hot air expands and rises until it hits cooler air at higher altitudes and the moisture in that previously

There are over one hundred sixty governmentissued patents for weather modification.

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warm air condenses into precipitation. You now have a significant weather phenomenon called a low pressure system where there was none before.

This is all background information that sets up the main question in the movie: why would someone want to do this? Of course, it could theoretically be used to relieve drought or break up violent weather systems and make life easier. However, when the military is involved, that is not usually the first thing they think of. If you can relieve drought and alleviate severe weather, you can also do the opposite to make big trouble for an enemy. If you are a big company with access to this kind of technology, you can cause droughts and floods which destroy small farms which you can then swoop in and buy up. If you are a commodities trader dealing in commodities affected by weather, you have a big advantage if you know what weather to expect. Approximately 80 percent of the U.S. economy is weather sensitive. There is a lot of money to be made in weather control. Whether they are succeeding or not, there is plenty of evidence that someone is trying pretty hard. The thumb is UP.

Genetic Roulette: The Gamble of Our Lives Jeffrey Smith

Since the mid 1990s Americans have taken part in a large experiment without their informed consent. During that time the number of Americans with at least three chronic ailments has almost doubled, infant mortality has gone way up, and the average life span has gone way down. Allergies and autoimmune illnesses have been climbing since 1996. Americans are getting sicker in general. Since the mid 1990s Americans have also been fed an increasing amount of unlabeled genetically modified food (GMO or Frankenfood). Non-believers in coincidence might suspect there is a connection.

The most commonly genetically altered foods so far are soy, corn, cotton and canola oil. Genetic engineers have produced spermicidal corn (good for population control) as well as attempted such stunts as mixing spider genes with goats in the hopes of milking goats for spider web protein to make bullet-proof vests. Mr. Smith assures us he is not making this up. "Tobacco science," a term inspired by the methods of the tobacco companies, is being used by the biotech industry for their safety studies. They use the wrong control group, wrong detection methods, wrong statistics and short duration tests so cancer, birth defects and so on are not detected.

The FDA has claimed it had no information that GMOs are any different from natural foods. A 1998 lawsuit proved they lied about this claim... again. Why would they do that? Perhaps because one of the people in charge on and off at the FDA is Michael Taylor, former attorney and vice-president for Monsanto. Monsanto is one of the biggest names in GMO production. Of course, putting Taylor in charge of the FDA is like putting the fox in charge of the henhouse. University studies funded by

Monsanto also can't be trusted.

One of the more common motivations for developing genetically modified food is to make it resistant to weed killers like Roundup, also conveniently made by Monsanto. This is supposed to be a great deal for farmers who can get rid of weeds by just hosing down their crops with Roundup. They usually discover that it costs more than the old-fashioned way of doing things. It becomes even less of a great deal when the Roundup-resistant genes inserted into the crops insert themselves into the weeds and the whole scheme crumbles at the feet of the resulting super Frankenweeds. Birth-defect victims may also feel differently about what a great deal it is. Ditto those Franken-rodents who have hair growing inside their mouths. For farmers who now find Roundup to be weed feed rather than weed killer, they recommend another chemical called 2,4-D. This is a major ingredient of Agent Orange. What could possibly go wrong?

Researchers have connected GMOs to food allergies. Once allergic reactions develop they are not limited to just GMO foods, but to the natural versions of the foods as well. Eliminating GMO often resolves the problems. Aspartame is made from GMO products so it would be wise to avoid artificially sweetened Franken-junk as well. Major infant formula producers Gerber, Walmart, Enfamil, and Similac put a large percentage of Frankensoy in their formulas. Since there are no labeling requirements so far in the United States, avoiding GMOs is not as simple as reading the label. Even shopping organic is not an absolute guarantee. It should be, but there are cheaters out there. The best option, if you can do it, is to buy local from farmers you know.

This is a very good film that thoroughly covers all the issues. There is even a very reassuring note at the end informing us that no DNA was harmed in the making of this movie. The thumb is $UP.\Theta\Theta$

Farm and Ranch AGENDA 21 By John Hammell, Chapter Leader from Point Roberts, Washington

Vegetarianism is a major tenet of Sustainable Development. Grass-based farmers and those seeking healthy food from nontoxic farms are facing a new political threat, foisted on an unsuspecting populace worldwide in the form of United Nations Agenda 21, a forty-chapter blueprint for population control and world control that emerged from the 1992 Earth Summit in Rio de Janero. "Sustainable development" is the catchword for Agenda 21, the threat of which is succinctly summarized in the You Tube video "Agenda 21 for Dummies."

Implementation of Agenda 21 is the mandate of a globally operating UN Non-Government Organization (NGO) called the International Council for Local Environmental Initiatives (ICLEI), now usually referred to as Local Governments for Sustainability. More than six hundred American cities and counties are paying taxpayer money to belong to this NGO group, which is aligned directly with the UN Charter while diametrically opposed to the U.S. Constitution and to private property rights.

SUSTAINABLE DEVELOPMENT

Of course there is nothing wrong with what I call "small s" sustainability as practiced for generations by conscientious farmers, ranchers and others living in rural areas who are good stewards of their land. I raise chickens, have an organic garden, I recycle diligently and do a lot of walking and cycling—but I have a real problem with what I call "big S Sustainability" as promulgated via UN Agenda 21.

During the 1992 Earth Summit, which launched the global movement known as UN Agenda 21, Maurice Strong, the Secretary General of the UN, addressed the gathering and said the following: "Current lifestyles and consumption patterns of the affluent middle class, involving high meat intake, use of fossil fuels, appliances, home and work air conditioning, and suburban housing are not sustainable."

Here's how Big S Sustainability works: If you own livestock and they can drink from a creek, then they want you to permanently fence off your own land to prevent any upset of potential fish habitat. If you want to irrigate your crops and somebody decides it isn't good for a certain insect, then you no longer have irrigation rights.

Vegetarianism is a major tenet of Sustainable Development. Agenda 21 focuses on the goal of eliminating meat consumption and using pastures to grow wheat, corn and soy for human consumption. To get us to comply, we're told in endless propaganda campaigns that meat is dangerous and the vegan lifestyle is the only healthy alternative

How will we be able to get grass-fed beef if ranchers are blocked by environmental regulations from being allowed to graze cattle close to streams, or from putting up fencing where they need to on their land? "Grazing livestock"

THE TARGETS

According to "The UN's Global Biodiversity Assessment Report," here is a partial list of items the UN, and all its environmental based governance structures, plan to eradicate in all of its member nations, including the USA:

Private property	pages 767, 782	Grazing of livestock	page 350
Large hoofed animals	page 350	Agriculture	page 728
Harvesting of timber	page 738	Logging activities	page 749
Farmlands, rangelands	page 733	Fencing of pastures, paddocks	page 351
Ski runs	page 337	Golf courses	page 970
Scuba diving	page 728	Judeo-Christian-Islamic religions	pages 66, 782
Population growth	page 771	Modern hunting	page 738
Industrial activities	page 730	Disturbance of the soil surface	page 351

is listed as "unsustainable" in the UN's Global Biodiversity Assessment Report. In the same document, agriculture and private property are listed as "unsustainable."

Out-of-control environmental regulations destroyed the livelihood of all the farmers in the San Joaquin Valley of California, the richest agricultural region in the U.S., when the water was shut off by the EPA to protect a two-inchlong fish called the delta smelt. The San Joaquin Valley used to grow twenty billion dollars worth of vegetables and fruit per year, more than any individual state in America. California has a new endangered species on its hands—farmers!

Former UK Prime Minister Tony Blair said it best when he said, "There is Capitalism, Communism, and now there is Sustainable Development."

All the private property and water rights infringements we have been seeing come directly out of the Sustainable Development programs. They come in a wide variety of names to throw people off, such as Comprehensive Planning, Growth Management, Smart Growth, and so forth.

Sustainable Development is a term used to describe a new form of collectivist global ecogovernance: a process of governing every action people take on a basis of people's impact on the environment, often based on junk science. It elevates nature above man, and is being used to drive farmers, ranchers and people living in rural areas off their land to force people into urban areas.

The end goal of the people-pushing of this agenda is to have vast areas made off limits to

human beings and to cluster people into envisioned futuristic "sustainable" hive-like cities inside which every aspect of our lives is to be dictated, and from which travel is to be very highly restricted.

THE GOOD NEWS

The good news is that there is a growing bipartisan American movement to stop this criminal agenda. Starting with Carroll County, Maryland, at least one hundred thirty-eight counties and communities have booted ICLEI. Alabama has voted as a state to remove itself from ICLEI.

And people are becoming more aware! There are two excellent books on the subject:

- Behind the Green Mask—UN Agenda 21, by Rosa Koire
- *The Perils of Sustainable Development* by Rene Holaday

I urge everyone you know to contact their state legislators urging passage of legislation similar to the bill that passed in Alabama, which blocks any federal or state agency from seizing anyone's land without due process of law. See http://legiscan.com/gaits/text/645326.

The price of freedom is eternal vigilance! It's obvious that the ILCEI does not consider groups like the Weston A. Price Foundation to be "sustainable." Please get involved or support those in your community who are working against UN Agenda 21 and ICLEI!

John Hammell can be reached at jham@iahf. com or (800) 333-2553.

OPTING OUT

The good news is that many counties and communities, and one state (Alabama) have opted out of the ICLEI. A partial list is given below. For more information, visit http://www.varight.com/news/agenda-21-iclei-update-138-iclei-members-quit-iclei-in-18-months-we-got-em-on-the-run/.

Akron, OH Alameda, CA Albuquerque, NM Asheville, NC Bryan, TX Calistoga, CA Carroll County, MD Clermont, NY Clinton County, MI College Station, TX Cumberland, ME Des Moines, IA East Hampton, Ny Eureka, CA Forest Hills, PA Fort Wayne, IN Greenfield, MA Hawthorne, CA Humbolt County, CA Hyattsville, MD Inglewood, CA Ketchim, ID Kodiak, AK Lake Elsinore, CA Lexington, MA Loudoun, County, VA Madison, WI Manhattan Beach, CA Mendocino County, CA New Brunswick, NJ Oklahoma City, OK Palos Verdes Estates, CA Piedmont, CA Pittsburgh, PA Providence, RI Racine, WI Sacramento, CA Santa Fe County, NM Sun Valley ID Washtenaw County, MI

Starting with Carroll County, Maryland, at least one hundred thirty-eight counties and communities have booted ICI FL Alabama has voted as a state to remove itself from ICI FI.

THOSE WONDERFUL DESSERTS AT THE CONFERENCE!

CARAMELIZED BANANAS ON COCONUT CRUST

8 servings FOR DUSTING BAKING DISHES coconut oil arrowroot CRUST 2 cups dried unsweetened coconut meat 1/2 cup melted coconut oil 1/2 cup coconut sugar TOPPING 4 bananas 2 tablespoons ghee or coconut oil 2 tablespoons honey

Brush insides of eight ramekins or other baking dishes with a little melted coconut oil and dust with arrowroot. Mix coconut meat with coconut oil and coconut sugar and press into pan. Bake the crust for about 20 minutes at 350 degrees, or until golden brown. Slice bananas and arrange decoratively over crust. Melt ghee and honey together. Brush/drizzle honey and ghee mix over sliced bananas. Brown under broiler until caramelized.

PUMPKIN PANNA COTTA 8 servings 1/4 oz (1 tablespoon) gelatin 2 1/2 cups coconut milk 1 cup puréed pumpkin (or other winter squash) 1/2 cup maple syrup or honey 1/4 teaspoon ground cinnamon

1/8 teaspoon salt

Sprinkle the gelatin over 1/2 cup of the coconut milk and let sit for 5 minutes. Blend together the remaining coconut milk, pumpkin, maple syrup, cinnamon, and salt until very smooth. Cook the coconut milk with gelatin over low heat until gelatin is dissolved. Add in the pumpkin mixture and cook over medium heat stirring occasionally until steam rises. Pour into molds/dishes and chill until firm.

DRIED FRUIT COMPOTE

10 servings

3 ounces dried apricots
3 ounces dried peaches
2 ounces pitted dates
2 ounces dried apples
1 ounce dried cherries
1-1/2 cups apple cider
1 cinnamon stick
2 whole cloves
1 tablespoon coconut sugar
1 tablespoon lemon juice, or to taste

Combine all ingredients except lemon juice in a saucepan. Simmer until the liquid thickens, about 20 minutes. Add lemon juice. Serve warm with whipped cream.



Food coordinators for *Wise Traditions* 2012: Dianne Kerwin and Lydia Rose Sifferlen.



Head chef Bryan Grund addresses the banquet audience.



Sous chefs enjoy well deserved applause.

Food Feature SOUPS, STEWS AND ONE-POT MEALS OF SLOVENIA By Sylvia P. Onusic, PhD

This article is dedicated to my Dad, who made Slovenian soups, stews and one-pots meals come alive for me in our Pennsylvania home. He always included a good number of meat bones in his stocks, the goodness of which cannot be duplicated. The special ingredient was Slovenian love. He learned to cook from his mom and his older sister. Did he love to eat soup! I remember how, after he removed the bones from the

soup pot, he relished eating a sampling of the bone marrow. He also valued liver, and other organ meats, which were served often in our home. Blood sausage was a special treat in the fall. His *jota* (a sauerkraut and bean stew described below) was a delicious improvisation on the original Slovenian recipe.

SLOVENIA HUNGARY Wolfsberg AUSTRIA o Leibnitz o St Veit Murska o Sobota (Lipnica) (Sent Vid) Villach D. O (Beljak) MARIBOR Ravne na Koroškem Regions o Ptui triglay a Bled Kryavee o Velenie Julian Alps Kranj o Brnik BAirport o Ce o Domžale o Trbovlje Rogaški Slatina o Celie Soca Valley Ljubljana 🔿 Litija oSe Nova o Vrhnika o Krško o Brežice ZAGRER Adriatic o Postojna Škocjan Caves Coast ROATIA Ilirska • Bistrica Kočevie Izola o Koper o Cmom Piran 40 km o Delnice o Opatija ⇒24 miles o Ogulin

in the world and the third most forested country in Europe. Slovenia is rich in subterranean waters and numerous mineral and thermal springs, twenty-seven thousand kilometers of rivers and other watercourses (Hlad &Skoberne, 2001). For a quick peek at this country, see: Slovenia: A Diversity to Discover at http://www.youtube. com/watch?v=ui0FZm3Ib60.

Geographic location and early affiliation

with the Holy Roman Empire gave the Slovenes a combination of Western culture, folklore, education, and cuisine (Barer-Stein,1999).

Slovenia has three distinct climates: the Alpine North has cold winters and warm summers; the Eastern plans bordering Hun-

SLOVENIANS IN AMERICA

At the end of the nineteenth century and the beginning of the twentieth century, Slovenian immigrants left Europe to find a new life in America. Many emigrated to Pennsylvania, to the coal and steel-producing regions. The immigrants brought with them their foodways and knowledge about food from Slovenia.

Slovenia is a beautiful country in Central Europe, tucked between the foothills of the Alps, the coast of the Adriatic Sea and the beginning of the Pannonian Plains which extend to the East. At the crossroads of Europe, Slovenia is bordered by Italy, Croatia, Hungary and Austria. A scenic and mountainous country, with manicured farms, pastures, vineyards, and orchards, Slovenia is among the most biologically diverse countries gary have freezing winters and hot dry summers; and the Western coastal area on the border with Italy has warmer temperatures with cool winters and hot summers, similar to Northern Italy (Bogataj, 2007). These diverse weather patterns affect agriculture, forestry and animal husbandry, and of course cuisine and local foodways.

The lower slopes of mountain ranges in the north grow apples, pears and plums, and support animals, such as cattle, sheep and pigs for meat and dairy. Low-lying land is covered with forests full of game, lakes and streams with freshwater fish, fields of cereal crops and grass for pasture. In the warmer western part of the country, olives, figs, and grapes are grown, and ocean life abounds. In the northeast, farmers cultivate large fields of grain, pumpkins for oil and animals. These diverse weather patterns affect agriculture, forestry and animal husbandry, and of course cuisine and local foodways.

Experts say that within these areas there are actually twenty-four distinct culinary regions in Slovenia today, each characterized by specific traditional foods and ingredients.

GASTRONOMIC REGIONS OF SLOVENIA

Slovenia is divided into five basic geographic regions: Primorska, by the sea; Prekmurje, bordering Hungary; Gorenjska, the northern Alpine regions; Dolenjska, middle Slovenia; and Notranjska, in the Karst region and southern Slovenia. Each region is known for its characteristic soups, stews, breads, noodles, dumplings, casseroles, fats and oils, cheeses, honeys and desserts made with local ingredients.

Slovenian traditional foods and cuisine are a meat-and-dairy-based diet, incorporating seasonal fruits and vegetables, using lard, butter, olive oil and pumpkin seed oil as fats, depending on location. Poultry is well liked and served often. The regional dishes are mainly influenced by the surrounding geography, topography, weather and local tastes. Experts say that within these areas there are actually twenty-four distinct culinary regions in Slovenia today, each characterized by specific traditional foods and ingredients (Bogataj, 2008).

All cuisines, except those of America and the Arctic, have flavorings that account for the distinctiveness and characteristic taste of foods. "A characteristic combination of flavorings is added to most foods of the world's cuisines, a 'flavor principle,' distinct from other cuisines," says psychologist Paul Rozin, who focuses on food as a system for studying how humans deal with the world. These flavor principles are the main carriers of the identity of the cuisines which gives one the ability to identify that cuisine in the future. Human have a strong attachment to distinct flavor principles (Rozin, 1997).

The main "flavor principles" in Slovenian cuisine are salt, tarragon, thyme, rosemary, caraway seed, lovage, marjoram, parsley, garlic, onions, cracklings, bacon, paprika, poppy seed, horseradish, fruits, vinegar, wine, sour cream, clabbered milk, sauerkraut and lacto-fermented turnips (Milhench, 2007).

The tradition of cheese making in Slovenia dates back to the sixth century AD. Dairy products are used in many Slovenian recipes, especially sour cream, which is added to soups and stews just before serving.

THE COOKING POT: SOUP, STEWS AND CASSEROLES

From the time that man captured fire and tamed it for cooking, soups have been part of man's diet. Physical anthropologist Lorin Brace says that people were cooking about two hundred thousand years ago. In his book *Catching Fire*, Wrangham makes a convincing argument that is was cooking that made us human and developed our brains by allowing for more complete digestion of meats and higher intake of calories (Wrangham, 2009). These first soups put man on the path to larger brain development and higher achievement.

Rock-lined pits and natural cooking vessels like turtle shells gave way to the proverbial cooking pot, a universal symbol of hearth and home all over the world. Into the universal soup pot are ingredients found from many parts of the globe, melding flavors and tastes unique to culture. Soups are an appreciated commonality in all cultures (Rumble, 2009).

Slovenia had a peasant economy and was ruled by foreign nobility until World War II. Soups and stews played a more important part than bread in the peasant diet (Montanari, 1996). However, cereals were widely used to make soups and porridges. Buckwheat, millet, rice, barley and rye were the main cereal grains in common use.

Buckwheat came to Slovenia in the fifteenth century and today is a major grain for pancakes, dumplings, polenta, porridge and casseroles (Bogataj, 2008). It is often paired with mushrooms and sour cream. Buckwheat grows well in very poor soil where the yield of wheat would be low. Pure buckwheat can be used to make gruel, porridge, pancakes and polenta.

In order to make bread, buckwheat must be mixed with other grains. Buckwheat polenta came to rival the yellow polenta traditionally made with millet in Italy and Slovenia (Flandrin & Montanari, 1996). Millet was a native grain and is a very important ingredient in specific sausages, soups and stews, while wheat was difficult to grow in Alpine regions and thus a limited ingredient in everyday and traditional dishes. Wheat was highly prized and usually reserved for holidays.

Potatoes from South America, another New

World food, like peppers, tomatoes and maize, found their way to Slovenia at the end of the eighteenth century but it was not until the nineteenth century that they were accepted as human food (Bogataj, 2008, Zuckerman, 1998). Today potatoes are a common ingredient in many culinary dishes, including soups and stews. *Čompe*, a dish made with potatoes and cottage cheese, is celebrated with its own holiday in the Alpine areas.

Maize (corn) was imported to Europe by Christopher Columbus in 1493 and reached Slovenia in the 16th century. Impressed with its high yields, eighty bushels to one acre, compared to six to one for rye, and less for wheat, landlords compelled peasants to eat greater and greater amounts. Because the corn was not properly prepared, epidemics of pellagra, a consequence of niacin deficiency, were common. Pellagra causes skin eruptions, nervous disorders, insanity and even death (Flandrin et al, 1996).

Famines, caused by climatic changes throughout the Little Ice Age from 1300 to 1850 caused grain failures, which were especially severe in the 19th century (Fagin, 2000). Because of food shortages in these periods of famine, New World crops were more accepted (Fernando-Armesto, 2002).

The pig has been the mainstay of Slovenian cuisine for centuries and plays a star role in preparation of soups, stews and one-pot meals. "Despite changing eating habits in modern times, the pig is still the biggest Slovenian friend of man. As with many other nations and in our country, the breeding, slaughtering and processing of these animals into a range of fresh, semi-durable and durable meat products has been developed for centuries" (Bogataj, 2008).

Soup was one of the most frequently served and most varied of all dishes, which was enjoyed every day for breakfast or dinner. Bone broth was a main type of liquid base used for various soups. Among the most common ingredients used for soups are beef, pork, prosciutto, pig head, tripe, lung, fish, potato, pea, bean, egg, cottage cheese. Soups are routinely thickened with brown roux.

Meat soup was required at Sunday lunch and was made mostly from pork or sometimes only from bones. *Glavinova zupa* was made from the pig head. For holidays and for the sick, the housewife cooked chicken soup, which was considered the tastiest and most healthy soup of all. With the holiday soup, rice or homemade noodles were served, along with cut up chicken or egg (as in egg drop soup).

For Easter the typical soup, called *fuj* (pronounced fuee) is made from the prosciutto bones. Fish soup is usually made from trout cooked in water, to which is added onion, garlic, parsley, marjoram and pepper. The onions and garlic are sautéed in olive oil or lard and added to the fish and vegetables. This soup is usually served with homemade noodles. Fish stew (*brodet*) is made from sea fish and local vegetables and herbs.

Cookbooks at the beginning of the twentieth century offered two categories of soup: soups for non-fast days and soups for fast days (Kalinsek, 1912, Turk, 1922).

To give an idea of how intimately the Church was involved in everyday life, consider the "fast days." Fast days were associated with the Church which dictated the foods that could and could not be eaten on Fridays, during the Advent time preceding Christmas, and the Lenten time preceding Easter. These fast days were strictly enforced by Church authorities and serious sanctions were imposed upon those who did not conform. Avoiding meat and some meat products was considered a sacrifice, although the Pope allowed butter only by dispensation early on to specific towns rather than be subject to the angry congregations. Vegetable oils (sunflower, olive, rape seed and nut oils) were allowed on meatless days (Montanari, 1994), and the fasting soups were made only with oil. Lard was an indulgence and thus forbidden at this time, much like it is today by the "diet dictocrats."

SOUPS FOR FASTING DAYS

A standard winter soup and soup for fasting days was *prezganka*, which was served almost every day, mostly for breakfast, and on days with bad weather.

A brown roux is made from browned flour and fat, usually lard or butter (or oil during fasting soup), and then added to boiling salted water. Caraway seed is added and possibly eggs and chervil at the end (Adamlje, 1997). Cooking experts of the times believed that the best brown roux was made with wheat. The dish was often also on tables of the poor or in lean times. The term *prezganka* in dialect was *ajmoht*, which indicated a soup with brown roux, usually made with veal or chicken. This term traveled to America and appeared in Slovenian American cookbooks (Slovenska Druzba, 1995). The brown roux is used in many soups and stews. This soup is still popular and a regular feature in modern cookbooks.

Fasting soups were also made with milk and rice. Other fasting soups contained a variety of vegetables, or one vegetable, such as potato, in a meat broth. Sometimes they were based only on a broth to which chopped garlic was added. There are also recipes for beer or wine soups. Fasting soups could be made from fruits, such as apples, plums, and strawberries (Turk, 1922; Kalinsek, 1912).

SOUPS FOR NON-FASTING DAYS

The Slovenian Cookbook (Kalinsek, 1912) lists the most commonly served soups as beef stock made with bones and liver, boiled chicken soup, liver soup, brain soup, tripe soup, bone broth from veal or chicken

bones, minestrone, veal sour soup, and soup with pig's head. All of these are still popular today. Pig's heads can be purchased at farmers markets. Modern Slovenian cookbooks provide recipes for mushroom soup, bean soup, barley soup, chicken soup with liver dumplings and beef soup.

A special soup, Styrian sour soup, made from the organ meats, legs, tail, and ears of the pig, and soured with vinegar or white wine, is the most popular dish for after-party nights, New Year's Eve parties and wedding receptions. People believe it provides renewed health and energy.

A special accompaniment to soups, liver dumplings are a great way to use organ meats (see recipes below).

CHARCUTERIE

Koline is a special holiday ritual that usually takes place from November through January. During Koline, the pig was slaughtered and all parts were made into many kinds of charcuterie products. These included many kinds of sausages, such as klobasa, made with pork, fat, garlic and seasonings; blood (or black) pudding, made from a mixture of blood, intestines, millet or buckwheat porridge and seasonings; prosciutto; and *zelodec* (filled pork stomach). Every part of the pig was preserved for future use. Traditionally, neighbors worked together at Koline and exchanged sausages, because each farm family had its own unique recipe (Bogataj, J., personal communication). At Koline many products are made which are later used in soups, stews and casseroles.

Specific regions of the country made slightly different pork products during Koline, such as in the Prekmurja region, near Hungary (Minnich, 1979) (Bogataj, 2008). Those parts not made into a specific products were preserved, sometimes potted in pork fat, and used sparingly to flavor soups and stews. In fact, entire hams were preserved in pork fat. This specialty is called *prleška tunka* (Bogataj, 2008).

Pig fat was the staple for eating and preserving other foods. A highfat diet was considered a sign of wealth. Peasants consumed little fat. In 1884, rural Hungarians ate an average of forty-four pounds of pork fat per year while city dwellers consumed an average of fifty-six pounds. Cooking with melted fat, rather than preserved pieces, was an eighteenth-century innovation, a refinement for the upper classes. The thick outer layer of pig fat was preserved with salt, then smoked or air dried (Kurlansky, 2002).

ONE-POT MEALS

Golaž (goulash) could be made from sausages, salami, prosciutto, liver, lungs, sheep, wild game, and rabbits. Most golaž was prepared according to a general recipe; it contained meat (usually pork), lard, onion, garlic, sweet and hot paprika, wine, flour, salt and cumin seed (Bogataj, 2008). Bograč, a variation of Golaž, is a stew using beef, pork, bacon with potatoes, onions and garlic, flavored with caraway and sweet paprika, and comes from the Prekmurje region of Slovenia, bordering on Hungary. It is similar to the universally known dish variety of goulash. Toči (tochee) is a type of goulash from western Slovenia, into which diners dip polenta or bread. Toči was a staple diet for breakfast or dinner.

Minestre (minestrone) is a one-pot dish and basic staple of the Primorska region near the seaside. It is cooked every day or at least once a week. In the past it was served often for breakfast. Differences in the ingredients manifest themselves during the seasons. In the spring and summer seasons, the dish was made with squash, corn, beans, pears, vegetables and barley, all cooked outside in a special black kettle. Therefore the traditional *minestra* is called a *crni lonec* (black pot). In fall and winter it was cooked with turnips, barley, corn, chestnuts and beans, and served with bread or polenta (Reja & Sirk, 1997).

Pork bones, ribs, sausage, bacon and cut

LIVER DUMPLINGS (Beef or Veal)

1/2 pound liver
1 tablespoon chopped parsley
2 egg yolks
salt and pepper to taste
1 tablespoon melted fat
1 cup bread crumbs
2 egg whites, beaten stiff
1 tablespoon chopped parsley

CHICKEN LIVER DUMPLINGS

- 2 chicken livers
- 1 teaspoon chopped parsley
- 1 egg
- 1 teaspoon grated onion
- 1 1/2 cup flour, or more if needed
- 2 tablespoons bread crumbs

Grind livers; add egg, bread crumbs, parsley, onion and flour. Blend well; add more flour, if needed, so mixture is firm. Shape into small balls and drop into boiling soup. Boil 15 to 20 minutes.

Recipes from Kuharice iz Willarda, (Cookbook from Willard), pg. 35

Grind liver or put through food chopper. It should be the consistency of pulp. Add beaten egg yolks and fat and mix well. Add bread crumbs, parsley and seasoning. Fold in egg whites and mix. Drop in boiling soup or stew with a teaspoon. Simmer for 15 to 20 minutes. up meat (pork, beef or mutton), sautéed in lard and onions, make up the stock. All *minestres* are seasoned with chopped bacon, which gives "power" to the dish. In the Slovenian culinary language *zabeliti* means "to lard, butter, put drippings into." An expression, *ne zabeljen ne soljen* translates as "without fat and salt, food is flat and tasteless" (Reja & Sirk, 1997).

The pear *minestre*, not often made today, consisted of ripe, peeled and cut-up pears, which are cooked with potatoes, to which marjoram and lard were added, and a little wheat flour for thickening.

One of the most beloved dishes from the western part of Slovenia and the Karst region is *jota* (yota), a "thick, smoky-flavored, sweet and sour hotpot," made with sauerkraut (or sour turnips), bacon, kidney beans, onion, garlic and potatoes (Bogataj, 2008). A brown roux can be added to the pot at the end of cooking. My dad had his own version of *jota* which I really love to make. He cooked a cut of pork with bone in to make a broth, then used this broth as the basis for the *jota*, adding mashed potatoes, cooked beans and sauerkraut, with lots of garlic and bay laurel. The meat was removed from the bone and shredded into the broth.

Chef Emeril LaGasse has a version of *jota* which calls for olive oil, pork chops or smoked ham hock, pancetta, prosciutto and sauerkraut, but no potatoes or roux, and this is similar to our recipe. *Jota* is popular in the region of Italy called Fruili near the Slovenian border (Food Network, 2012).

A favorite product made from the broth from soup bones for Christmas and Easter was *žolce* (meat jelly, or aspic). It was made from prosciutto and beef or pork bones, to which was added some meat, garlic and bay laurel leaves. The mixture was cooked eight to nine hours and after cooling, the gelatin thickened into a mixture which could be cut into servings. The *žolce* is served with vinegar. *Žolce* was believed to have special curative properties for the sick and to be good food for pregnant and nursing mothers (Reja &Sirk, 1997).

The cuisine of Slovenia is based on a tradition of hearty and nutritious broths, using bones and organ meats. Soups and stews are the heart of Slovenian traditional foods, which live on in kitchens in Slovenia and in the U.S., especially around holiday time. Many childhood memories were formed around meals at home begun with hot, filling soups. As an old saying goes, "Love, it's in every Slovenian" (Onusic, 2011).

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2-3 pig's feet	enough spring water to cover bones, about 7-8 cups		
bay laurel leaf	1/2 pound sauerkraut or pickled turnips		
1/2 pound dried cranberry beans	3 1/2 ounces rindless smoked streaky bacon, diced*		
1 onion chopped	2 cloves garlic, crushed		
1 tablespoon tomato purée, optional	1 pound potatoes, diced		
1 1/2 pounds sauerkraut, drained and rinsed in cold water			

Roux: 4 tablespoons lard, olive oil or butter and 4 tablespoons wheat flour

Soak the cranberry beans overnight in cold water. Drain and place in pan with plenty of cold water. Bring to a boil and cook rapidly for ten minutes. Reduce heat and cook until tender.

Peel potatoes, cut into pieces and cook separately. Mash potatoes.

Cook chopped onion and garlic in fat.

Cook the sauerkraut with the pig's feet and water for two hours. Remove the bones. Into the sauerkraut mixture put sautéed onions and garlic, cooked chopped sausage (klobasa), cooked cranberry beans with some mashed beans for thickening, as well as mashed potatoes and tomato purée.

Prepare the roux by heating the olive oil, butter or lard, adding wheat flour, and cooking until slightly thickened. The roux is added to the *jota* and the stew is cooked an additional 1/2 hour. Season to taste. The *jota* is much better the second day.

*Variations: some recipes call for bacon, which is fried with the onions and garlic and added to the stock. Pickled turnips can be used in place of sauerkraut.

Recipe courtesy of Chef Tomaž Kavčič of Gostilno pri Ložetu (Inn at Louis's) at the Dvorec Zemono in Vipavska Dolina. http://www.prilojzetu.com/ index.php Many consider his restaurant the finest for 'slow food' and traditional food. (Digital Studio Slak, 2007). Penn State University. Sylvia is a member of the American College of Nutrition. While a Fulbright Scholar to the Republic of Slovenia in the field of public health, she completed research working there at the National Institute of Public Health, and later was employed at the Ministry of Health for six years. Sylvia will lead a food tour to Slovenia May 16-23, 2013. For more information, see: www.foodtourslovenia.wordpress.com She can be reached at sponusic@ gmail.com.

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The DVD "Slovenija Gastronomija (Slovenian Gastronomy)" in English is available by contacting Sylvia Onusic at sponusic@gmail.com. For more information about Slovenian food and the DVD visit the website "Taste of Slovenia:" www. foodtourslovenia.wordpress.com.

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THE STEWS OF SLOVENIA

POLŠJA OBARA, or dormouse stew, from the Notranjska region is still popular. Yes, this stew is made from the dormouse, which was a popular figure in *Alice's Adventures in Wonderland*. The Romans considered it a delicacy. It can grow up to eight inches long and weigh ten ounces. They are also valued for the fur and the fat is used for medicine.

ŠARA a pork and vegetable stew, is made from pigs' feet, tail and ear, along with root vegetables and herbs.

RIČET is cooked on top of the stove using barley (the whole grain), pigs' feet, garlic, bay leaf, fava beans, carrots and cider vinegar.

PIŠČANČJA OBARA is a chicken stew with chicken, onion, white wine, carrots, garlic, parsley, thyme, marjoram, lemon juice and brown roux, cooked slowly on top of the stove.

POHORJE PISKER is a meat and vegetable stew made of pork, beef and lamb with the addition of buckwheat and mush-rooms in season.

BUTJE REPA is a one-pot dish of Prekmurja made in the winter season, cooked with pickled turnips, pig's head, neck and skin, along with millet. A roux is used, as well as herbs, onion, bay leaf, pepper, garlic, and paprika. *Butja repa* can be served as an entrée or side dish with buckwheat and millet sausages (Bogataj, 2007).
Soy Alert! MORE GOVERNMENT PROMOTION OF SOY-BASED INFANT FORMULAS By Sylvia P. Onusic, PhD

Over the past several decades, many infants have received soy-based formulas. According to the American Academy of Pediatrics, "the use of soy-based formula has nearly doubled during the past decade to achieve 25 percent of the market in the United States."¹ Many mothers say that they have fed soy to their babies on the basis of their pediatrician's recommendation. "High utilization rates," which could not be accounted for due to the vegan lifestyle or galactosemia, were "presumably because of . . . perceived or real allergy to cow's milk protein (CMP) and perhaps due to lack of lactose-free CMP formulas, of which there are now plenty."²

The American Academy of Pediatrics' (AAP) policy on feeding soy formula (2008) states that that there are "few indications for the use of soy protein-based infant formula in place of cow milk-based formula." According to the AAP, the only real indications for soy formula use are for infants with congenital galactosemia, for use by families who are strict vegans, or infants who are truly lactose-intolerant.³

PROBLEMS WITH SOY FORMULA

The main concern regarding use of soybased infant formula is the amount of phytoestrogens, "plant-derived substances with estrogenic activity," which are present in "relatively large amounts in the formula," and may "mimic the actions of estradiol or alter estradiol metabolism, and modify the processes influenced by estradiol." Infants who consume soy formula have isoflavone plasma concentrations approximately 13,000 to 22,000 times greater than those infants fed breast milk or cow's milk formula.² Kaayla Daniel, PhD, author of The Whole Soy Story: The Dark Side of America's Favorite Health Food, describes calculations indicating that these babies are consuming the estrogenic equivalent of three to five birth control pills per day.⁵

A new 2011 paper on infant feeding, "Developmental Status of 1-Year-Old Infants Fed Breast Milk, Cow's Milk Formula, or Soy Formula," is another attempt to equate formula from soy beans with human milk and milk-based formula. It contains data from the on-going study on child development, "Beginnings," originating at the Arkansas Children's Nutrition Center (ACNC) in Little Rock, Arkansas, one of six Human Research Centers in the U.S. The study is funded by public monies in the form of two USDA Agricultural Research Service grants from the United States Department of Agriculture (USDA), Agricultural Research Service (ARS).⁶⁻⁸

The Badger study was highly anticipated, reported in the major media and lauded at soy symposia, even as far back as 2005. Often a speaker at these symposia, Badger was always presented as the great white knight who was in the process of clearing up all the confusion about soy formula, hopefully proving soy infant formula to be safe and good. Even supporters of soy spoke quite candidly at the symposia about the wretched quality of the one earlier study on soy formula, by Strom and others, and the need for well-designed quality work.

However, Thomas M. Badger, director of the ACNC Center in Little Rock, Arkansas, and professor in the College of Medicine at the University of Arkansas, wears several hats. In addition to his position at the USDA, he is "on staff" at the Department of Pediatrics at the University of Arkansas. Much like Mark Messina, another soy promoter, whose name appears in many articles on soy, Badger is not a physician.

Dr. Badger reports that he is a member of the Science Advisory Board of the Soy Nutrition Institute, a corporation with assets that seeks exemption from federal taxes according to the "Articles of Incorporation." Its mission is to conduct programs to assist the United States



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soybean industry and the United Soybean Board in collecting and disseminating soy-related nutrition information based on responsible scientific research."⁶⁻¹⁰

In "The Health Consequences of Early Soy Consumption (2002)," a paper presented at the Fourth International Symposium on the Role of Soy in Preventing and Treating Chronic Disease, funded by Monsanto, Central Soya Company, Protein Technologies International, United Soybean Board, Archer Daniels Midland, Cargill, and others, Dr. Badger explains his research goals: "Recent data suggest that there are no long-term adverse effects of early exposure to soy formula through young adulthood. It is as yet unknown whether soy formula consumption by infants will result in health problems or benefits upon aging, but multigenerational animal studies with diets made with SPI have not revealed any problems."11

The name of Thomas M. Badger, PhD, as an author of a scientific article about infant formula should be an immediate red light to any reader or reporter. Although he is an employee of the USDA Agriculture Center in Little Rock, Arkansas, a public institution, a review of his papers published in academic journals shows that Dr. Badger is focused on the agenda of promoting the use of soy infant formula through journal articles,^{6,11-17} many via the "Beginnings" Study as a source of data and funding, and as quoted in numerous web articles, such as "Infant 'Smarts' Similar With Different Types of Formula," by Carina Storris for Healthwoman.org.¹⁸

According to Storris, the "study is very important because it shows that the growth and development of children in the U.S. who are fed soy formula is the same as children who are fed milk formulas..." She also quoted Thomas Badger: "Researchers did find a difference in brain development between breast-fed babies and those of cow's milk or soy formula, but is was so small that it will probably not affect long-term ability. I don't think parents should be worried at all if their kids are on formula."

Rarely mentioned is the fact that currently more than 90 percent of soy grown in the USA is genetically modified.¹⁹ Soy formula contains soy protein isolates, produced by processing the soy bean (likely genetically modified) using chemicals like hexane.²⁰ According to the Occupational Safety and Health Administration, hexane is a neurotoxin, causes embryotoxic effects and is cytotoxic in mammals.²¹ The FDA considers GE soy (and other food-like GE products) "substantially equivalent" to conventionally produced products.²²

Even though a few infant formulas are "organic" they still may contain laboratory produced GMO oils, which resemble but are not the same as the DHA and ARA needed by the infant brain for growth and development (see Sidebar, opposite).²³

In addition to isoflavones, soy beans contain many "anti-nutrient substances" which interfere with digestion, reproduction and thyroid function. Over two hundred fifty citations for articles describing these anti-nutrient functions are listed in the FDA's Poison Plant Data Base.²⁴

THE "BEGINNINGS" STUDY

In the "Beginnings" study, the plan is to follow human infants for six years. But according to the National Institute of Environmental Health Sciences (NIEHS), at the National Institutes of Health (NIH) website, "the health effects resulting from a soy-based diet may not be apparent until years later."25 Animal studies indicate that health effects of possible concern include early onset of puberty in females and alterations in the basic development of breast tissue. The phytoestrogens in soy are listed in the NIEHS website as "endocrine disruptors (ED)" where ED is defined as "naturally occurring compounds or man-made substances that may mimic or interfere with the function of hormones in the body. They may turn on, shut off, or modify signals that hormones carry, which may affect the normal functions of tissues and organs. Many of these substances have been linked with developmental, reproductive, neural, immune and other problems in wildlife and laboratory animals."26

Dr. George Kent, author of *Regulating Infant Formula*, wonders about cohorts after the six-year termination point. "What happens to them after six years when health concerns with a soy diet become more apparent? Assessing the impact of diet on development at one year of age, or even younger makes little sense. Development refers to changes over time."²⁷

The name of Thomas M. Badger, PhD, as an author of a scientific article about infant formula should be an immediate red light to any reader or reporter.

JUST ANOTHER REASON TO BREASTFEED. POTENTIALLY HARMFUL DHA AND ARA ARTIFICIAL OILS IN BABY FORMULA.

The infant formulas fed to the babies in the "Beginnings" study are Similac Advance, and Enfamil Lipil, or Similac Soy Isomil or Enfamil Prosobee. All these formulas contain added artificially-derived docosahexaneoic acid single cell oil (DHASCO) and arachidonic acid single cell oil (ARASCO) which attempt to model the DHA and ARA (arachidonic acid) in human breast milk. They are advertised as "closest to human milk."

DHA (docosahexaneoic acic), an omega-3 fatty acid, and ARA (arachadonic acid), an omega-6 fatty acid, naturally found in human breast milk, are extremely important components of the human brain and eye development and function. However, these products in formula are not natural; they are made in the U.S. by Martek Biosciences Corporation and Mead Johnson Nutritional, from hexane- extracted laboratory grown-algae and fungus that have been linked to many serious side effects. Residues from hexane have been found in edible food products.

On the label the DHASCO shows up as "crypthecodinium cohnii oil," and ARASCO as "mortierella alpine oil." The Alps, however, are not the origin of the ARASCO. Fungus is the actual source. These oils contain only 40-50 percent DHASCO and ARASCO respectively, with the balance being sunflower oil, diglycerides, and nonsaponifiable materials. Some of these components are not found in human breast milk, and the triglycerides carrying DHASCO and ARASCO are not identical to those found in human breast milk and thus have not been part of the diet for human infants. Despite the fact that these ingredients are grown in the laboratory, they have been given the USDA "Organic" classification. The patent application states that Martek may genetically engineer the algae and fungus to make more oils, while the website tells consumers that the oils are not GMO.

Organic baby formulas such as "365 (Whole Foods)," contains Martek Biosciences oils. For a list of all other products, including baby foods, formulas, dairy and dairy alternatives, that contain Martek DHASCO and ARASCO, see www. cornucopia.org/dha-guide.

Martek has not affirmed the safety of its DHASCO and ARASCO oils added to infant formulas. When fed to rats, these oils resulted in statistically significant increased liver weights compared with rats that were fed a high fat diet without the oils, as well as increased spleen weight, a decrease in albumin levels and/or total protein levels. The FDA is aware of the safety concerns and has never approved the oils as GRAS (generally recognized as safe). But, the FDA's position on additives is that "companies that want to add new additives to food bear the responsibility of providing FDA with information demonstrating that the additives are safe."

These ingredients are possibly implicated in the digestive problems of infants consuming these formulas. "When I worked in the hospital's neonatal ward, the nurses all called it 'the diarrhea formula,'" says Sam Heather Doak, LPN, IBCLC, from Marietta, Ohio. "We've seen infants, tiny little humans, with diarrhea that just wouldn't stop after being given this formula." For infants, long-term diarrhea is a serious and life-threatening condition involving dehydration and malabsorption or non-absorption of nutrients.

"This report presents a disturbing look at the addition of novel ingredients into infant formula," says Marsha Walker, Executive Director of the National Alliance for Breastfeeding Advocacy. "The FDA has received scores of reports on the adverse effects of these ingredients, but, to date, the public's only access to these is through Cornucopia's Freedom of Information Act request. This report will help alert the health care community and federal agencies to some of the adverse effects of added DHASCO and ARASCO in infant formulas."

"Hundreds of reports of adverse reactions to these oils have been filed, and the Cornucopia Institute obtains a sampling of these reports through the Freedom of Information Act request. Reports of severe gas, diarrhea, vomiting, constipation, colic, gastric reflux, and bowel obstruction have been recorded, yet scientific studies show little or no benefit in cognitive development from the DHASCO and ARASCO in formula."

FDA officials were aware of studies that reported diarrhea, flatulence, jaundice, and apnea in infants fed the Martek oil-supplemented formula, but allowed the addition of the oils to baby formula in 2001. Martek says that 90 percent of U.S. formulas contain these DHA and ARA oils.

The Martek "Life's DHA" TM is not restricted to baby formula. DHA supplements, especially those marketed as "vegetarian products," "vegetarian DHA liquid for children and adults," and "EPA/DHA vegetarian," contain Martek DHA. Fish oil concentrates, highly processed products, which are "solvent free," contain natural forms of DHA and EPA but are manipulated through processing ("Pure Encapsulations September 2012 Product List").

SOURCES: The Cornucopia Institute. Replacing Mother: Imitating Human Breast Milk in the Laboratory. January 2008. pp. 1-15. http://www.cornucopia.org/replacing-mother-infant-formula-report/ accessed November 2012; Regulating Infant Formula by George Kent, Hale Publishers, 2011; *Genetic Roulette: The Documented Health Risks of Genetically Engineered Foods* by Jeffrey Smith. 2004. Chelsea Green Publishers.

The BSID is not an adequate indicant of specific cognitive skills that may be affected by interventions or exposures, nutrition or otherwise, and so its use to evaluate the construct of infant cognition is seriously deficient.

A LOOK AT THE STUDY

In this 2011 paper, infants fed breast milk (BM), cow's milk formula (MF), and soy-based formula (SF) are compared at three, six, nine and twelve months to assess developmental status in mental, motor, and language areas. Milk formulas included Similac Advance or Enfamil Lipil; and soy formulas, Similac Soy Isomil or Enfamil Prosobee formulas. All formulas were supplemented with synthetic docosahexaenoic acid (DHASCO) and synthetic arachidonic acid (ARASCO) made from algae and fungi.⁶

Infant developmental status was assessed by the Bayley Scale of Infant Development (BSID) (second edition) using two "derived" sections, the Mental Development Index (MDI) and Psychomotor Development Index (PDI). A separate instrument, the Preschool Language Scale-3 (PLS-3), supplied the "expressive communication and auditory comprehension subscales."⁶

PROBLEMS WITH MEASUREMENT

Tests such as the BSID-2 are usually carefully scrutinized for reliability and validity by pre-testing with various groups, as a whole test, or sections of tests in relation to the whole. In this case two "derived" sections from the BSID, the MDI and PDI were used with the babies. Were these derivations pilot-tested and can they actually be used independently of the main instrument? What other sections were not used and why not? How was the scoring for these "derived" sections determined?

Unfortunately, how the measures were scored is not made clear in the study. According to the text, "Results are presented as standard scores with a mean of 100 (SD = 15)." Is the mean for each test 100 (in points)? The MDI, PDI, and PLS-3 (expressive communication and auditory comprehension subscales) were assessed by group with results shown in Tables 3-5 in the paper.²⁸ The scores given are "estimated means" so there is no way to determine the range of actual scores for each cohort at each time interval.

We can glean that the scored ranged from eighty-five to one hundred fifteen because the authors explain that "delay" is a score below eighty-five and "accelerated" is a score greater than one hundred fifteen, and that there were several of these scores in the sample, but we don't know in which groups. We don't know how the tests were combined for scoring, or how "delay," below a score of eighty-five, was determined, or how a score above one hundred fifteen for "accelerated" performance was determined.²⁹

The BSID is basically designed to identify "developmental delay" (not developmental status as indicated in the title of the paper) and is only "modestly related to school-age cognitive development—the outcome that is most meaningful to investigators in this field," says John Columbo, PhD, and Susan Carlon, PhD, from the Department of Psychology, at the University of Kansas. A recent study found that the BSID is *not* predictive of IQ of term infants at six years.³⁰

Further, "the BSID is not an adequate indicant of specific cognitive skills that may be affected by interventions or exposures, nutrition or otherwise, and so its use to evaluate the construct of infant cognition is seriously deficient in the context of recent advances in developmental science."³⁰

How did the babies fare developmentally in the study based on their feeding method? According to the conclusions in the study abstract: "This unique study showed that all scores on developmental testing were within establish normal ranges and that MF and SF did not differ significantly. Further this study demonstrated a slight advantage of BF infants on cognitive development compared with formula-fed infants."³¹

But exactly how slight was the advantage of BF infants over those who were SF and MF? The means for BF babies are higher for each cohort, (three, six, nine and twelve months) for each time period, in all categories of the test measures, MDI, PDI and PLS-3. Specifically BF infants scored significantly higher than formula-fed infants (MF and SF) on the Mental Developmental Index (MDI) at six, nine and twelve months; significantly higher than formula-fed infants on the PDI at three and six months; and significantly higher than formula fed (MF and SF) on the PLS-3 at three months and six months. Overall the BF infants had a cognitive developmental advantage compared with the formula-fed infants.³²

We must also consider the fact that for the infants in the category for BF, 53 percent of the infants were breastfed for 12 months, 10 percent of mothers started mixed feeding after six

months, and the remaining forty-eight babies were breast fed until six months of age, and then fed milk-based formulas.³² These infants were not considered in separate categories but all "clumped" together for analysis.

If they all were exclusively breastfed their "mean" scores could potentially have been higher. In a study by Slykerman and others, longer periods of breastfeeding were associated with higher intelligence scores.³³

In addition, in the "Beginnings" study, complementary foods could be introduced after age four months for all three diet groups (BF, MF, SF). There is no explanation of the amounts, types and kinds of foods that were or were not supplemented or the possible effect of foods on the scores.

Soy-fed infants scored lowest on the MDI and the PDI for almost all categories. Scores at twelve months on the PLS-3 were similar among the groups. SF infants had significantly lower PDI scores compared with BF infants at six months.³⁴

But Badger's main message is that although the BF infants showed advantages in all areas of testing, and SF scored lower or lowest in all measures except PLS-3 scores, all three groups were "within established normal range"³⁶ and, as he told Carina Storris, the development is about the same with the two formulas. The breast fed infants have only a very small advantage.^{18,29}

A DIFFERENT CONCLUSION

Regarding this conclusion, Dr. George Kent, author of *Regulating Infant Formula*, focuses on the "alarming inadequacy of studies relating to the impacts of soy-based infant formula on children's health and development. . . This recent study's findings should not be taken as a reason for complacency but as a cause for alarm. A slight difference might signal the beginning of a steadily widening gap. Overall, there seems to be a skew in that study in favor of soy-based formula, at the expense of the children and the adults that they will become."³⁵

Dr. Kent has worked as a consultant with the Food and Agriculture Organization of the United Nations, the United Nations Children's Fund, and several civil society organizations. He is part of the Working Group on Nutrition, Ethics, and Human Rights of the United Nations System Standing Committee on Nutrition.³⁶

STATISTICAL FLAWS

As far as design and statistical methods used in the study, this paper has several strikes against it. Firstly, "Beginnings" was not a randomized, controlled trial, which is the gold standard for testing an intervention. It originates from a "nonprobability" (not random) grouping. The feeding method was predetermined so the researchers could not "randomly" assign a human baby to one of the three feeding groups. Instead, they assigned the baby to the feeding group determined by parental choice: BF, MF, or SF. Martin Stein, MD, of *Journal Watch Pediatrics & Adolescent Medicine* says of the study, "These findings should be interpreted with caution because the study was not randomized."³⁷

Secondly, it is an observational study. As J. M. Utts and R. Heckard write in their textbook, *Mind on Statistics*, "the most common mistake made in reporting research studies is to imply that a cause and effect relationship can be concluded from an observational study. With an observational study, it is difficult, perhaps impossible, to separate the effects of confounding variables from the effects of the main explanatory variables of interest."³⁸

And lastly, the study has inherent bias because of the method of obtaining subjects. The moms with their babies were recruited by staff from the local community and thus they do not represent all babies living in the U.S., just babies living in that area. In fact, there are few African American, Asian, or babies of other races in the study. Caucasian babies predominate (131 BF, 131 MF, and 128 SF babies) with only 4 percent African American (5 BF, 8 MF and 13 SF) and 5 percent "other" race babies (6 BF, 11 MF, and 4 SF) in the group, certainly not representative of the numbers of these ethnic groups in the actual U.S. population.⁹ This is called "a sample of convenience."

"If the sample does not represent a larger population for the question of interest, and randomization to treatments was not used, no inferences can be drawn."⁴⁰ What this means is that you can't apply the results of this study to all babies in general, just the Caucasian babies Soy-fed

infants scored

lowest on the

that were volunteered for the study.

A serious flaw is the fact that we don't get a real look at the groups, BF, MF and SF, because gestational age, parity, birth weight, mother's age and IQ data are presented as means, standard deviations and percentages represented as "Cohort Characteristics."⁴¹ We don't actually see the range of scores for the MDI (Table 3), PDI (Table 4), and PLS-3 (Table 5), but are given "estimated" computer generated scores using "fitted mixed models," adjusted for variables such as socio-economic status, mother's age, mother's IQ, gestational age, child's race, child's gender, child's age and so on.³⁴

The mean is the average of all scores for babies in the group. For socioeconomic status (SES) for example, scores ranged from eight to sixty-six, so the mean of 49.8 (BF), 45.6 (MF), and 45.9 (SF) presented in Table 1 of the study tells us little. Perhaps use of a "median," the middle of the range of scores for babies in that group, or the socioeconomic levels broken down into categories with scores ranking babies in each category, controlling for specific variable (quintiles), would have been much more useful tool. But the authors tell us that "the quintile analysis showed no significant effect of diet on PLS-3 and no significant difference between SF and MF infants on any of the three developmental measures." Interesting, but no data or quintile tables are shown.³⁴

To better look at the distribution of the cohorts, a scatter plot showing data points for each baby in the cohort on the chart would be necessary, to see what the distribution actually looks like for the individual cohorts and for comparing cohorts, and the general grouping. Where the points are falling (located) on the chart will describe the distribution of the data. A scatter gram plots points for one, two, or more groupings of interest on the same chart or singular charts to show visually how the data relate (correlate), be it positive, negative, or nonexistent.⁴³ But that is not given in the study. Instead, Figure 1 (a composite of Tables 3-5) merely shows standardized scores of BF, MF and SF during the first year of life.

THE BELL CURVE

A true parametric distribution is random and usually fits a bell curve, with most data falling within two standard deviations (SD) from the mean. The mean is the center point (average) and the standard deviations that are calculated using the data, fall on each side of the mean.⁴⁴

A most important piece of the puzzle, data on how the three groups fared "under the curve" compared to one another, is not provided. Area under the curve" refers to the symmetrical normal "bell-shaped curve" associated with random distributions.⁴⁴ The "areas under the curve were similar for all infants, BF, MF and SF, on all three behavioral measures," say the authors, but that data is not shown in this paper.⁴⁵ "If this statement is true it means that the three feeding groups don't vary too much from one another on developmental scores. But we don't know much about the distribution unless we see the bell curve.

Most data that are similar fall under a bell curve (within three standard deviations). The bell has normal tails (the left and ride sides of the curve are identical in shape). . . . Whereas in skewed data (asymmetrical), the curve "leans" which does not represent the random population, or left or

right sides of the tails can be elongated indicating extreme scores, or shortened, in respect to the distribution of the scores.^{44,46}

PROBLEMS

Due to the lack of data, analysis and problems with study design and subject selection, the findings of the "Beginnings" study cannot be applied to infants who are fed with breast milk, milk-based formula or soy formulas. We agree with the authors that this study is "unique," unique because so much data is missing. We request that all the information be supplied, not just cherry-picked or extracted, so that careful conclusions can be made regarding the actual role of soy formula in development. We also recommend that "Beginnings," in order to become a true "longitudinal" study of some value, extend their "longitudinal" analysis of their subjects not to six years as is currently planned, but to twenty-five years of age or older, in order to actually capture the effects of soy formula on the subjects during and after puberty and into early adulthood. Until there are some coherent results which track the safe use of soy formula from infancy until adulthood, the use of soy formula is not recommended.

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A symmetrical bell curve, showing three standard deviations. The Badger Study states that all the scores "fall under the curve," but does not show us where they are actually placed.



Legislative Vpdates

POLICY UPDATE: STATE RAW MILK BILLS, FARM BILL AND GMOS By Judith McGeary, Esq.

STATE RAW MILK BILLS AND MORE

As we head into 2013, the state legislatures are gearing up for their legislative sessions. Although a few state legislatures meet year-round, most of them meet for only a few months at the beginning of the year, and some only every otheryear. So the window for working on state bills is very short!

Texas has kicked off the legislative season by filing a bill to legalize the sale of raw milk at farmers markets. HB 46, filed by Representative Dan Flynn, is the second attempt to expand raw milk access in Texas and has already garnered significant attention. A raw milk bill is in the works in Montana, and discussions are occurring about potential bills in other states as well.

In addition to raw milk bills, there are other legislative options to help improve access to nutrient-dense foods. From cottage food laws to reducing regulations on farmers market, there is increasing recognition that all food is not created equal and that the law should distinguish between food in the industrial food system and the local food system.

At the same time, we can expect that Big Ag will introduce bills in several states, aimed at topics from restricting raw milk access to preempting local control of genetically engineered crops to imposing new burdensome regulations on farmers.

Whether it is raw milk or the right to sell local foods, it is vital to be well prepared for the industry's arguments, both with strong factbased responses and strong grassroots support. The first step for each and every member is to get to know your state legislators. Meet with your state representative and senator, and talk with them about how important raw milk and highquality local foods are to you and your family. There are tips for how to schedule and plan for a meeting with your legislators posted at http:// farmandranchfreedom.org/sff/tips-meetinglegislators.pdf. We can provide materials to help prepare for your meetings; email activism@ westonaprice.org for more information.

In many states, you can monitor the bills being filed by using the state legislature's website or at http://legiscan.com. Share the information with your state's chapters, and let the WAPF office know about any bills of concern, to help spread the word more broadly. While we can never match the other side's money, we have power in numbers.

FARM BILL

In the Fall 2012 issue of Wise Traditions, we discussed the various paths down which the federal Farm Bill could go. Ultimately, Congress took one of the less likely paths, and simply let the Farm Bill lapse on October 1. Technically, this meant that the law reverted to the law from the 1940s. However, because of the way most programs are budgeted, most of the actual effects have yet to be felt as of the time this article goes to press in December. But should Congress fail to act during the post-election lame duck session, the repercussions could be dramatic. Since one of the results would be to revert from the subsidy system to parity payments, which would require industrial agriculture companies to pay fair, inflation-adjusted prices for raw agricultural products, it is very unlikely that Congress would allow this to happen.

Given the issues that Congress faces in this lame duck session, including the highly publicized "fiscal cliff," it is unlikely that they will be able to pass a full Farm Bill. The most likely scenario is that Congress will pass a short-term extension of the 2008 Farm Bill, maintaining the subsidy system, and take up the difficult task of crafting a full, five-year Farm Bill early next year.

There are increasing calls to truly reform the agricultural subsidy system, and not merely to replace it with an equally flawed crop insurance

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program. The 2013 Farm Bill might provide more opportunities for reform than the 2012 attempts, although, as always, that remains to be seen.

GENETICALLY ENGINEERED FOODS

California's Proposition 37 called for labeling on genetically engineered foods—a basic concept that should not require a battle. But after a forty-five million dollar advertising campaign by giant chemical and processed food companies, Prop 37 narrowly lost with 47 percent of the vote.

Pesticide companies led by Monsanto and DuPont, and processed food corporations led by Pepsi and Kraft spent an unprecedented amount of money to confuse and deceive Californians into voting against their right to know what's in their food. Although they won this round, some positive things did come from the campaign to pass Prop 37. Most directly, there are now millions of people who are aware, for the first time, that there are genetically engineered ingredients in their food. In addition, the determination of activists to see GMO labels become a reality is stronger than ever, and we will continue to build a national grassroots campaign to push for mandatory labeling across the country.

The grassroots activists in many states around the country are gearing up for bills and ballot initiatives in 2013 to demand labeling. Other states, which may not have strong enough grassroots networks to realistically work on bills at this time, are working to create the necessary foundation for the future.

In more encouraging news, a ten-year ban on genetically modified foods in Peru went into effect in late November, when Peru's chief executive approved the regulations for the law that prohibits the importation, production and use of GMO foods in the country. Violating the law can result in a maximum fine of about fourteen million dollars. The law, which was passed last year, is aimed at preserving Peru's biodiversity and supporting local farmers.

Besides protecting Peru's export industry in organic products, the ban protects Peru's exceptionally varied native plant species, particularly its famous diversity in corn and potatoes. But while the ban will curb the planting and importation of GMOs in the country, a test conducted by the Peruvian Association of Consumers and Users at the time of the ban's implementation found that 77 percent of supermarket products tested contained GM contaminants.

The fight to stop GMOs anywhere in the Americas will be a long and difficult one, and we must be prepared for many ups and downs along the way.



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PERSONAL ACCOUNT OF THE TRIAL OF ALVIN SCHLANGEN By Susie Zahratka and Kathryn Niflis Johnson

BACKGROUND

The case the State of Minnesota has built against Alvin Schlangen dates back to June 2010, when the Schlangen farm was searched following the raid and subsequent closure of the Traditional Foods Warehouse. In 2011, the Minnesota Department of Agriculture (MDA) inspected Schlangen's farm vehicle without a warrant. The MDA then illegally seized food owned by members of the private food club, Freedom Farms Co-op. The food was valued at thousands of dollars. The charges against Mr. Schlangen include lack of food labeling provisions, distributing unpasteurized milk, operating without a food handler's license, and handling adulterated food.

Alvin himself is an egg farmer from Freeport, Minnesota, who founded and manages Freedom Farms Co-op, a private food-buying club. For some time the MDA has been cracking down on raw milk farmers around the state and although the purchase of raw milk in Minnesota is legal on the farm, the agency is systematically finding ways to shut down raw milk producers and scare consumers away from seeking its purchase.

The question of whether a food-buying club, owned by the members themselves, can function both as a privately contracted entity and act as an agent of an individual for the purpose of obtaining raw milk is addressed in the case of the State of Minnesota versus Alvin Schlangen.

THE TRIAL

Smiling faces, hugs and children happily playing—is this the scene of a family reunion or a playgroup? No, this is the scene each of the four days outside the courtroom where friend, farmer and buying club manager, Alvin Schlangen, sits, listens and waits as a jury of six decides whether or not his efforts to connect families with nutrient-dense foods will land him in jail.

On Monday, September 17, the trial begins. The courtroom is packed as Judge Robert M. Small reviews court processes and procedures. Defense lawyer Nathan Hansen and prosecution lawyer Michele Doffing work out specifics to do with wording allowed to be presented to the jury.

The food labeling provision charge against Alvin is dropped and Alvin is offered a plea bargain that includes a reduced jail time as well as two hundred dollars in court fees if he pleads guilty to any one charge. Without hesitation, he responds, "No."

As jury selection begins that day, there is a strong sense of optimism in the air. This trial, we know, is one that will make history. As the jurors are chosen many of us retire to the hallway just outside the courtroom to allow our children to play, call supporters with news, and share in some food.

By the end of the day, the jury is selected and the trial begins with the prosecution calling on the arresting officer and also James Roettger of the MDA, who is involved in this case as well as the one against farmer Michael Hartmann (see *Wise Traditions* Fall and Summer 2012 for background on Hartmann's case). Both witnesses are expected as they serve to structure the argument against Alvin.

In the evening, supporters, friends and members gather at a nearby park for a potluck supper. Many of us know one another from past events. We share stories about the day and compare notes regarding jury selection and the prosecution witnesses. As we leave the park that evening we feel confident that the goodness and integrity of the man and the honesty of his mission will prevail.

THE PROSECUTION

Tuesday is a big day for the prosecution. The MDA is called upon to educate the jury about

the dangers of raw milk. The prosecution tries to paint Alvin as a money-hungry businessman intent on creating a comfortable cash flow for himself by selling expensive (and dangerous) food. In her opening statement, prosecutor Michelle Doffing stated, "This case is about a man. A man who chose his business over public safety."

As Alvin sits there in his Farm-to-Consumer Legal Defense (FTCLDF) tee-shirt and jeans, I have doubts that the jury buys the story. Even so, as two Freedom Farms Co-op members take the stand to establish the ways and means of the co-op, many of us wonder how their testimonies will stack up against those of the MDA.

Before we break for lunch, the judge remarks that he has never seen so many "unfidgety" children in his courtroom. One supporter couldn't help but respond, "It's the raw milk!" The judge replies, "I didn't hear that." But he did. He notices. The jury notices. We notice. Where else would one find a gathering of equal parts children to adults to support a man on trial?

THE DAYS GO ON

Most of the same faces gather day after day, sitting in the courtroom, convening in the hallway or playing on the grassy knoll outside. It is a clear indication that this is not the trial of someone who is in it for the prosperity. This is the trial of a man who knows the law and, recognizing its shortcomings, created a volunteer-owned club that serves its members through private contracts between people who hold in common the value of nourishing food.

The day ends with Nathan calling Alvin Schlangen himself to the stand. Alvin patiently sorts through countless pictures taken by the MDA during the searches of his delivery truck, his farm and the warehouse space where the food for the buying club was stored. He identifies those he can and rejects those he can't. A number of times he is presented with pictures that show the sign on the side of his van as well as that on his rented warehouse space, which reads "Private." At first I wonder about the purpose of these questions but as Nathan proceeds, I realize that Alvin is having the chance to explain his mission, the background of the co-op, its focus and procedures of operation. The jury is finally receiving a glimpse of the man we all know and love, not the greedy business owner as painted by the prosecution who is unconcerned about the effects of his choices. The protection that he builds into the co-op for the farmers whose milk we drink makes certain that if anyone is to "go down" for this, it will be Alvin himself and not the Amish dairy farmer just trying to support his family in a sustainable way.

Again that evening we gather to recap the day. As many supporters are unable to attend the trial, our end-of-the-day celebrations give the chance for people to connect with those in court and show their support for Alvin. Day two ends and we all go home, a little more tired than the day before, but still hopeful.

Before we know it, it is day three, the last scheduled day of the trial. As Mr. Hansen concludes and the defense rests, Ms. Doffing questions Alvin, pointing out what she sees as inconsistencies from the co-op website: Alvin's claims of selling organic eggs and yet not being certified organic, asking how prices charged for milk and eggs compare with those of the grocery store, the website showing a picture of chickens roaming in the grass versus in the empty cage that was found at the warehouse. Alvin attempts to explain that certified organic isn't the gold standard; rather, beyond organic is his vision and that he has no idea what grocery store prices are because "I don't shop at the grocery store" and that yes, sometimes chickens are kept in cages with sawdust at the bottom when they are temporarily on display for an event. The prosecution then rests also.

I catch the expression of one of the jurors and it mirrors my thoughts. That's it? Where's the case for blatant disregard for the law? Where are the complaints? Where is the proof of harm? Although I feel fairly confident that none of these allegations exist, I assumed there would be some attempt at showing that the co-op is a danger to society or, at the least, in violation of the law.

JURY DELIBERATIONS

The jury begins deliberations on Wednesday afternoon at about three. Supporters and friends surround Alvin in the hallway and Alvin, as usual, is upbeat and calm as he proclaims that no matter the verdict, the co-op will keep running on The jury is finally receiving a glimpse of the man we all know and love, not the greedy business owner painted by the prosecution.

With the country watching, our responsibility is of the utmost importance to educate peacefully and spread the positive messages about clean, traditional eating, sustainable farming, and building community.

volunteer hours. He contends that he can easily live, even thrive on raw milk for the duration of any jail time he receives, but he also gives credit to the jury, fully expecting them to be fair.

Just a few minutes after deliberations begin, the lawyers are called back into the courtroom to answer the question posed by the jury, "Are cow leases legal in Minnesota?" The prosecution answers that she has no idea and Nathan offers his opinion if the judge will allow it. The judge, however, declines Nathan's offer and responds that the jury "has all the laws they need in front of them." Some supporters interpret this response as unfair as there is currently no law concerning cow lease arrangements in Minnesota. However I interpret it as giving careful clarity. Since cow lease by members is part of the defense argument, the lawfulness of it is critical to the case.

There is no verdict reached by four thirty that afternoon and the jury goes home with a plan to reconvene at nine thirty the following morning. The potluck this evening is intimate with just a few of us in attendance. Still the discussion is lively as we plan our next moves as a community. It is clear as we hug one another goodbye that no matter the verdict, the friendships that we have fostered are stronger than ever, and our trust and respect for each other are unbreakable.

THE VERDICT

On Thursday morning at nine thirty we form a support circle in the hallway. Children play with Legos as the adults hold hands and offer prayers, thoughts, and visions for the outcome of the trial as well as for the food freedom movement itself. Lunchtime comes and goes. As usual for this group, people share what they've brought from home: dried meat, hard-boiled eggs, ferments, veggies and, of course, raw milk.

At one twenty that afternoon one of the two reporters in attendance exits the courtroom with the words we are waiting for: "They have your verdict." The clerk comes out and makes it official. As we gather up the children and our belongings, we all realize that this is it. Aware that the entire country is waiting along with us, we sit as the jury files in and the clerk stands to read the verdict.

Charge one: not guilty. Charge two: not

guilty. Charge three: not guilty. Stunned silence for a second and then gasps and cries of joy as we surround Alvin in the biggest group hug most of us have ever been a part of. A few of the little ones, unsure of what was happening but wanting to be a part of it, throw their arms around each other, hugging and kissing. We walk out of the courthouse into the open arms of more supporters. Phones come out and the good news spreads like wildfire. Alvin calls his wife and in that moment of complete joy, Alvin smiles, his blue eyes twinkling and reports, "Well, somehow she knew already. She's. . . happy."

What a surreal moment for us; a group of people accustomed to operating outside of the societal norm by standing up for what we believe, trying to educate others and bring back the ways of eating that we know can nurture and heal an undernourished population. That we had a group of six individuals with no vested interest in our cause make the decision that yes, we do have this right to nutrient-dense foods from the food co-op and that the state's interpretation of Alvin's actions are subjective, is not just a victory for us but proof positive that people are awake. They are opening their eyes to what is happening in our state and country.

This is great news for us, of course, but it's also a reminder that the gravity of the food situation in this country is bigger than us. With the country watching, our responsibility is of the utmost importance to educate peacefully and spread the positive messages about clean, traditional eating, sustainable farming and building community. This noble and responsible task cannot be taken lightly. Leaving the courthouse that day, we all brainstorm about how best to fulfill these responsibilities.

So what do foodies do when they celebrate? Why, they eat of course! For the fourth and last time that week, we gather for an impromptu party at the park. The energy we bring to that potluck cannot be matched. Hugs are both our greetings and our goodbyes. We went into the courthouse on Monday as friends and acquaintances. We came out on Thursday united as family.

THE MDA'S REACTION

Of course the story doesn't end here. Shortly after the acquittal of Alvin, the MDA issued a

statement in response to the jury's decision: "We respect the role of the jury in the legal process. However, we strongly disagree with this ruling. The law on this matter is clear, and the jury was tasked with making a narrow finding of whether, in their view, the state had provided sufficient evidence to show beyond a reasonable doubt that the actions of Alvin Schlangen violated state law. This is the highest burden of proof in the legal system, and the fact that the jurors deliberated for as long as they did shows that they found the decision a difficult one to make. This narrow ruling does not wipe away the fact that many children and adults have gotten dangerously sick from consuming raw milk. It also does not wipe away the other legal rulings that have upheld MDA enforcement actions. Protecting the integrity of our food supply remains our top priority, and Minnesotans expect us to do that job using modern science and the law as our guide. We will continue to work in their best interests."

OUR REBUTTAL

Although we, as a traditional foods and freedom-supporting community, may have issued a similar statement had Alvin been convicted of the charges, there is one huge difference. In their statement, "we" represents a relatively small group of bureaucrats while the jury, by design, represents the general population. If a sampling of people from the general community felt that the law was clear, why did deliberations only take three to four hours? What is the narrow ruling to which the MDA is referring? If the decision was based on the majority, which means four of the six jurors voted to acquit on all charges. If you do the math, the minimum percentage of agreement to acquit is 62.5 percent. That's worst case scenario. I'm not sure in what case that percentage equates with a narrow margin.

The tide is turning here in Minnesota and, I believe, across the nation. Will we see these as headlining news stories or front-page articles? Probably not. Or at least not for long. The reason of course is because stories like Alvin's are proof of the human spirit; proof that in a society where many people don't even know their neighbors, and certainly aren't willing to stand by them in times of crisis, there is a slowly but steadily increasing number of people who are changing the paradigm. Seek out those who you stand with in your freedoms, food or otherwise, and join us. We would love to meet you.

AN APPEAL FROM ALVIN SCHLANGEN:

"We are working to send the transcript of the Hennepin County trial to the Admin Law judge for consideration in his decision to make summary judgment on this complaint from MDA, regarding the private versus business aspect of our club. FTCLDF is involved in this case as well as the Stearns County case that is very similar to our recent win. A pre-trial hearing was set for November for the Stearns County case, with a plan to enter a motion to dismiss for lack of cause as the similarities between the two cases, even though almost a year apart, are numerous. It is my hope that before Christmas of 2012, we will have moved away from the entanglement of this energy-draining, yet challenging situation that came from a collective movement toward health independence, and concentrate on sharing our lives and spirit with our extended family. Please, consider your part in the growth and reach of FFC. As we approach two hundred members, we plan to split this club into two and move forward with an unlimited potential for building a new food system in this country and adding economic security to this foundation for food security. We could use some help with communications, bookkeeping and just plain research of new sources and options for products and services that will support our growing family of members. If you are able and willing, we will offer incentives (such as food at cost) for those who volunteer their talents. As we move forward with an eye on access for all, without regard for financial equity, we allow those with abundant resources to help those on their way. Thank you all, Alvin." 969

Susie Zahratka is a stay-home mom of two children, ages five and nearly three, with a third child due in May. She has been active with her family in the real foods community in Minnesota since 2010, including lobbying for raw milk legislation change and hosting traditional foods events to build community.

Kathryn Niflis Johnson BSN, RN is a natural health educator in Woodbury, Minnesota. Please see her website www.optimalhealthconnection.com. The tide is turning here in Minnesota and I believe across the nation.



EXCITING RESEARCH

Blaine and Mark McAfee with Professor Danielle LeMay, head of the milk genome project at the University of California at Davis. The project is discovering many secrets about real raw milk!

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RAW MILK UPDATES by Pete Kennedy, Esq.

MINNESOTA – ALVIN SCHLANGEN

In a great victory for freedom of food choice, a six-member jury found Freeport, Minnesota farmer Alvin Schlangen not guilty on three criminal misdemeanor counts for violations of the state food and dairy code.

The case was referred by the Minnesota Department of Agriculture (MDA) to the Hennepin County District Attorney's office. MDA alleged that Schlangen illegally (1) sold raw milk, (2) sold food without a food handler's license, and (3) distributed adulterated and/or misbranded products. A fourth charge on a labeling violation was dropped at the beginning of his criminal trial.

Schlangen, a volunteer manager for the Freedom Farms Coop (FFC), was raided by MDA twice in 2010 and once in 2011; the department seized thousands of dollars worth of the members' food. The charges against Schlangen stemmed from a March 2011 raid in which MDA impounded Schlangen's truck and confiscated all of the club members' food on it. The cooperative has leased farm animals and pays for their care. As the managing member of the co-op, Mr. Schlangen provides a service by delivering nutrient-dense food to FFC members.

The courtroom was packed with members of FFC throughout the three-day trial. At one point, Judge Robert Small commented how well behaved the children in the courtroom were. When a spectator at the trial responded, "It must be the raw milk," the judge said, "I didn't hear that."

In an interview with journalist David Gumpert, jury foremen Eric Hemingway stated that the prosecution did not prove its case, noting that Schlangen distributed but did not sell food and that no one became sick from the food he distributed. Also significant was the fact that when the jury asked during its deliberation whether cow shares (referring to the FFC's herd lease agreement) were legal neither the judge nor prosecutor Michelle Doffing could give them an answer.

Schlangen still faces a second criminal trial in Stearns County, Minnesota, on six misdemeanor counts for alleged violations of the state food and dairy code. The courageous farmer is also in the middle of an administrative case with MDA in which the department is seeking an order to stop his deliveries.

Schlangen has never wavered in his determination to connect families with nutrient-dense food; none of the enforcement actions against him has stopped the farmer from pursuing this goal. His acquittal has galvanized the food rights movement across the country.

MINNESOTA – MICHAEL HARTMANN

On October 15, Gibbon dairy farmer Mike Hartmann pled guilty in Sibley County court to two misdemeanor counts of illegally selling raw milk and raw milk products and selling other foods without a food handler's permit. Under the plea bargain he reached with the county district attorney, Hartmann also was to pay a \$585 fine and be put on six months unsupervised probation. Further, the farmer was to comply with all state food licensing and labeling laws within sixty days. As part of the agreement, all charges were dropped against Hartmann's wife Diane, his brother Roger, and alleged dropsite coordinator Linda Schultz; all four individuals had been charged with eight misdemeanor counts and one gross misdemeanor count for violations of the state food and dairy code.

Hartmann has been battling the Minnesota Department of Agriculture (MDA) the last twelve years, continually frustrating the department in its efforts to stop the sale of nutrient-dense foods to consumers in the Twin Cities area; going after his wife and the sixty-eight-year-old Schultz showed the level to which MDA was willing to stoop to shut him down. The department's shameful tactics haven't been limited to Hartmann either. In Alvin Schlangen's administrative case, an MDA employee implied in an affidavit that she ordered and received food from Schlangen even though she wasn't a member of Freedom Farms Coop (FFC), the private buyers club for which Schlangen is a volunteer manager. While the employee placed an order on FFC's website, she never actually paid for the order nor did she receive any product. It's time for the Minnesota state legislature to take notice and put a stop to MDA's actions by clarifying the law on the sale and distribution of raw dairy products with the passage of new legislation.

MISSOURI – MORNINGLAND DAIRY

On September 27, a Missouri appellate court affirmed the judgment of the Howell County Circuit Court in ordering that all cheese at Morningland Dairy's facility should be destroyed. The dairy's cheese manufacturing plant has been shut down since August 2010 when the Missouri State Milk Board embargoed fifty thousand pounds of cheese at the facility after two samples of cheese seized in a June 2010 raid of the Rawesome Food Club in Venice, California, tested positive for both *Listeria monocytogenes* and *Staph. aureus*. On February 23, 2011, the circuit court issued the destruction order [see *Wise Traditions* Fall 2010, Winter 2011 and Spring 2011 issues for background].

Morningland has appealed the appellate court ruling to the Supreme Court of Missouri on two grounds: first, that only the Missouri Department of Health and Senior Services had the authority to embargo the dairy's cheese under Missouri law and, second, that there was no proof of adulteration to legally justify the embargo since none of the cheese stored at Morningland's facility was produced on the same dates as the cheese that was seized during the Rawesome raid. While the Missouri Supreme Court has not yet decided whether to grant the appeal, it has submitted a number of questions about the case to the milk board. Morningland has never been accused of making anyone sick with it products; the Supreme Court needs to scrutinize the actions of the State in putting a dairy with a thirty-year track record out of business.

Morningland's owners, Joe and Denise Dixon, have suffered tremendous financial losses and other hardship due to the failure of the Missouri State Milk Board to follow the rule of law; the court should hold the milk board accountable.

WASHINGTON – ESTRELLA FAMILY CREAMERY

One of the greatest injustices ever perpetrated by the government against a raw dairy producer continued when a federal district court judge, Benjamin H. Settle, granted a motion for summary judgment filed by the United States on behalf of the U.S. Food and Drug Administration (FDA) against Estrella Family Creamery ("Estrella") permanently enjoining Kelli and Anthony Estrella from selling cheese. The judge's ruling gives FDA the authority to conduct inspections of the Estrellas' facility and allows the creamery to resume cheese sales only if it meets numerous and burdensome requirements imposed by the agency.

In October 2010, when FDA executed a seizure order against Estrella, the agency embargoed all cheese stored at the creamery facility on the grounds that the cheese was adulterated since some of the cheese produced by Estrella had tested positive for *Listeria monocytogenes* earlier in the year. While the Estrellas conceded the government was entitled to a judgment against the creamery for producing adulterated food based on the positive pathogen tests, they sought a remedy in which the creamery would only be subject to FDA's jurisdiction if the creamery engaged in interstate commerce; therefore, if the creamery were to reopen for business, the Estrellas planned to sell only within the state of Washington and obtain all ingredients it used within the state.

In granting the government's request to have free rein to inspect the Estrellas' cheese business, Judge Steele held that "the inspection authority needed by the government to ensure that the Defendants are complying with the terms of the injunction should be more extensive than the statutory authority granted the Government to determine whether the Federal Food, Drug and Cosmetic Act . . . is, in fact, being violated."

Adding insult to injury, the judge issued a condemnation order against the seized cheese and awarded FDA costs associated with the condemnation when the agency hadn't spent a dime on the actual destruction of the seized cheese. The Estrellas had already destroyed the cheese in the winter of 2011 after FDA did not respond to requests from their attorney to get rid of the product. At the time of its destruction, the cheese had long passed its shelf life and, therefore, was considered by the Estrellas to be a health threat.

Judge Settle's decision means the Estrella Family Creamery will remain shut down, possibly permanently. Estrella has won numerous domestic and international awards for the quality of its cheeses and has never been accused of making anyone sick. The creamery does not have resources to comply with the requirements FDA will impose and wants nothing more to do with an agency that has single handedly put it out of business. The Estrellas are appealing the judge's decision.

WISCONSIN – VERNON HERSHBERGER

On November 27, a hearing was held in the Sauk County Courthouse to determine whether three reporters would be forced to testify at the upcoming criminal trials of Loganville dairy farmer Vernon Hershberger. Hershberger is charged with four misdemeanor counts for alleged violations of the Wisconsin food and dairy code. Wisconsin Department of Justice (DOJ) attorneys filed a motion with Judge Guy Reynolds requesting that he order *Capital Times* reporter Jessica Van Egeren, WISC-TV News reporter Marc Lovicott and WMTV NBC reporter Chris Woodward to testify at Hershberger's trial.

The three reporters covered Hershberger shortly after seals were broken that had been placed at Hershberger's on-farm store by employees of the Department of Agriculture, Trade and Consumer Protection (DATCP) after a June 2010 raid of the farm by the department.

In ruling against the state's motion, Judge Reynolds had held that DOJ had not shown that the information sought from the reporters was not available from another source; Wisconsin's shield law only permits the subpoena of reporters if the information sought cannot be had from anyone else. Reynolds did say that if DOJ could not get the information elsewhere, he could reconsider his decision at the trial.

DOJ's request for subpoenas to be issued the reporters was far from a typical use of the subpoena power to compel journalists' testimony. Subpoenas are usually issued to reporters for more serious crimes like murder, not for misdemeanor violations. Reporters subpoenaed usually have information about a matter no one else has; in Hershberger's case any number of people were at the farm when the reporters were and saw the same things.

The state's actions showed how far it was willing to go to convict Hershberger and how little confidence it had that anyone else with the same information as the reporters would testify against Hershberger.

WYOMING – NEW HERDSHARE REGULATION

An attempt by the Wyoming Department of Agriculture (WDA) to ban herdshares wound up resulting in Governor Matt Mead ordering the department to issue a rule expressly legalizing herdshares. The rule WDA had proposed stated that the prohibition on the sale of raw milk "does not apply to individuals who obtain milk from animals solely owned by them, members of their family, or their employees and who furnish raw milk or products made from raw milk only to members of their family or non-paying guests."

After raw milk producers and their herdshare owners became aware of the proposed rule and the use of the word "solely" in it, the department was forced to hold four public hearings around the state. According to rancher Frank Wallis who—along with his sister, State Representative Sue Wallis—led the opposition to the rule, not a single person spoke in favor of the new rule at any of the hearings; speakers warned that unless the word "solely" was removed, lawsuits would be filed against the government to seek compensation under the Wyoming Constitution for the taking of the use of their property.

In September WDA issued a press release notifying the public that the word "solely" would be removed from the proposed rule. WDA has not yet announced when the final rule will go into effect.

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.

Healthy Baby Gallery



Jayleigh Mount, pictured here at seven months gnawing a chicken bone, got our raw milk-based homemade formula when mother's milk did not suffice. Mom Jenny would like to thank her own mother, Leigh Davis, who taught her the Weston A. Price way. She has her own nutrient-dense food store in Kettering, Ohio, called Liberty Market of Kettering.

Beautiful Sia Gray Barry, daughter of James Barry and Margaret Floyd, is the result of four years of nutrient-dense food in her mother's diet, who had been a lowfat vegetarian with many digestive issues, crazy hypoglycemia, chronic headaches and three to four severe respiratory infections each year. During pregnancy, mom drank about a quart of raw whole milk daily and ate loads of butter and other good fats, lots of fish, grass-fed beef and veggies. She also ate a lot of seaweed, in salads and soups, at least several times a week. Now beautiful Sia is the beneficiary of mom's healthy diet while breastfeeding.

Vita Sage Snyder arrived January 29th, 2011, after thirty-six hours of tiring labor. Mom thought she had a healthy diet, but she had not yet discovered the principles set forth by the Weston A. Price Foundation. Although a healthy birth weight of eight pounds, Vita had severe GERD and colic. After converting to a WAPF diet (along with going gluten-free) everything started to get better; the GERD completely stopped, the crying lessened and as an added bonus, mom's postpartum depression lifted. Today at nineteen months, Vita is a happy, curious and gentle toddler with an impressive vocabulary. Her favorite traditional foods are salmon roe, raw milk, and grass-fed ribeye. She also continues to breastfeed. We are so grateful for the information put out by the Weston A. Price Foundation and look forward to many years of delicious and healthful meals to come.







Leeland Maximus Hume, pictured here with big sister, was born at home via a water-birth. He weighed 6 lbs. 10 oz. Due to an unavailability of breast-milk, he is thriving on homemade formula made with raw milk or bone broth, cod liver oil, and other real foods. He is growing well and likes to smile! His big sister, Noel, loves to drink raw milk and eat free range eggs. Leeland is now nearly five months old and is enjoying excellent health without any drugs, vaccines, or medicine. Mom benefited from real foods during her pregnancy, including daily doses of cod liver and nettle tea. Thanks to WAPF for all their advice and resources!

Please send photos of healthy babies to Liz Pitfield at liz@westonaprice.org. Photos must be labeled with the baby's first and last name and accompanied by an email with text.

Healthy Baby Gallery



Former New Zealand MP Rodney Hyde and wife Louise with their two girls Liberty (now 19 months) and Grace (10 weeks), who are fully Weston A. Price babies. Says proud dad: "Their resulting physical and intellectual development is a wonder to behold and stands in stark contrast to other babies on the standard American diet." Liberty loves bone broth, kefir, liver and sauerkraut. At playgroup she naturally avoids the biscuits and sweets and instead chooses fruit for herself. Louise had terrible morning sickness with Liberty, before she had fully transitioned to a Weston A. Price diet. Raw milk made the difference; with Grace, Louise suffered no morning sickness at all. "Thank you for all your work and for reaching out to new parents such as us so that we can do the very best for our babies. The difference has been profound."



Baranaby Smith, WAPF baby and son of Melbourne, Australia chapter leader Arabella Forge loves steamed brains and many other nutrient-dense foods. "He has a growing vocabulary and is really interested to engage with people and the outside world," says Arabella.



Elisa Joy Moody is the fourth child of chapter leaders John and Jessica Moody. With each birth, labor and delivery has become easier and recovery faster for mom, thanks to the wisdom of Weston A. Price and the great foods available to our family. Six pounds ten ounces at birth, Elisa is already over nine pounds at four weeks old! Says Elisa's dad: "Our family is incredibly grateful for the work of WAPF!"



Four-year-old Amalia has perfect teeth and has never been sick. Raised on cod liver oil, raw milk, organic food, fermented sauerkraut and kombucha tea, she is "bright, quick thinking and joyful in life!"

> Cassidy from Chicago was raised on our raw milk formula. She has silky hair and perfect skin.



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CHAPTER LEADERS MEETING

This year the annual chapter leader meeting was held on Thursday, November 8. Almost one hundred chapter leaders gathered to hear speakers on raw milk and get acquainted before the official start of Wise Traditions 2012.

To listen to the chapter meeting online go to: http://www.fleetwoodonsite.com/wise/2012chapterleaders

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CHAPTER RESOURCES

Resources for chapter leaders can be accessed at http://www.westonaprice.org/local-chapters/chapter-resources, including our trifold brochures in Word format, chapter handbook, and PowerPoint presentations.

LOCAL CHAPTER LIST SERVE

Thank you to Suze Fisher, a chapter leader in Maine, for setting up a local chapter chat group. New chapter leaders can sign up at http://groups.yahoo.com/group/wapfchapterleaders/

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of that number 459 serve every state in the United States, the District of Columbia and Puerto Rico, and 105 serve 24 other countries.

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	gmo free idaho

From left to right: Raine Irving Saunders and Boise, Idaho chapter leaders Sara J. Cobb and Juliana Benner staff a WAPF exhibit at the GMO Free Idaho screening of "The Future of Food."



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BOZEMAN, MONTANA FERMENTATION CLASS

Rebekah Mocerino and Kaelin Kiesel-Germann of the Bozeman, Montana chapter put on a fermenting class. Says Rebekah, "We had a great turnout and wonderful feedback! Someone told me after that this is so radical and they had never seen anything like this. Funny how traditional cooking and preserving is so out of the norm now it is radical." Thanks to the work of our chapter leaders, that idea is changing.

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GROUNDWORKS CONFERENCE OF THE INDIANAPOLIS CHAPTER



Over three hundred people attended the Groundworks Conference, sponsored by the Indianapolis chapter of the Weston A. Price Foundation, September 15 at the Indianapolis Harrison Center for the Arts.

LEFT: Chris Masterjohn explains the fundamentals of fat-soluble vitamins.

RIGHT: Don Huber, PhD, presents evidence on the dangers of GMOs.

Other speakers included Dr. Stephanie Seneff and Denise Minger.



WINTER 2012

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FRESH EXPO, CHARLOTTE, NORTH CAROLINA

Carolyn Erickson and her daughter Emily Erickson display WAPF materials at our booth at Fresh Expo.

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PUERTO RICO

Rocio Lopez, MD (787) 502-0607, lopezrmd@gmail.com



COMMON GROUND FAIR IN MAINE

Sponsored by the Maine Organic Farm and Garden Association (MOFGA), the Common Ground Fair attracted over fifty thousand visitors. Many stopped by the WAPF booth to learn who Dr. Price was, about his research and about the WAPF mission. Pictured here are chapter leaders David Plante (North Berwick and Sanford, Maine), Ellen and Harvey Ussery (Fauquier, Virginia) and Mary Margaret Ripley (Dover-Foxcroft, Maine). Harvey was one of the featured speakers at the fair.

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TEMECULA HEALTH AND WELLNESS FAIR

Kathy Lynch and Linda Frick, co-leaders of the Temecula, California chapter, at the Temecula Health and Wellness Fair.

International Chapters

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OUR VERY ACTIVE MANILA CHAPTER

Manila chapter volunteers organized longsimmered bone broth to serve to families who lost their homes due to typhoon Gener, which slammed Manila in August. Most

evacuation centers served only canned foods. Left, the bone broth brigade served by Melba Dixon and volunteers. Right: Tess Young, Manilla chapter leader, with special guest speaker Robin B. Navarro, MD. The chapter is presenting WAPF and GAPS



principles at chapter meetings and is also leading the way in opposing GMO foods in the Philippines.

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CA

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MA

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MI

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MN

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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.

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Belle Meade in Sperryville. Pastured livestock, hormone/antibiotic free: chickens, pork, grass finished beef, eggs; organic vegetables. (540) 987-9748 or tanya@bellemeadeschool. org. Join e-mail list to receive availability updates. Farm pick up; nearby locations; Fairfax County Government Ctr. www.bellemeade.net

Cow/Herd shares available, with Member in Local Kine (M.I.L.K.) Project in Fauquier County at Western View Farm, 2028 Laws Ford Rd., Catlett, VA 20119. For information call Martha Bender (540) 788-9663.

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Mount Vernon Farm 100% grass-fed beef & lamb, pastured pork & soy-free eggs. We have an on-farm store & buyers clubs throughout northern & central Virginia. Contact (540) 987-9559 or mtvfarm@gmail.com. www. mountvernonfarm.net & Facebook & Twitter

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If people let government decide what foods they eat and what medicines they take, their bodies will soon be in as sorry a state as are the souls of those who live under tyranny. *Thomas Jefferson* Grounding resources: products and info. Research shows grounding (a.k.a. "earthing") can help: reduce inflammation, normalize stress hormone levels, speed tissue repair, improve sleep patterns, and more. Simple, with powerful benefits. Check out the Project! Feel better! www.thegroundingproject.com.

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INVESTORS NEEDED

Launching the creation of WAPF-friendly food outlet for travelers (airports, rest stops, etc.) Seeking individuals with business expertise to assist in preparation of business plan. Looking for support in all domains (finance, marketing, operations, strategic planning, etc.) Experience in food industry especially helpful. All contributions of expertise are welcome. Contact Katharine Spehar: kjspehar@gmail.com

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INVESTORS NEEDED

LOVF is the dream of a local, sustainable, organic farm serving Virginia. We are raising funds to purchase land and we implore you to make a contribution to our cause. Visit www. gofundme.com/ehao8 or our facebook page Lovf for more details.

MAKE MIRACLES HAPPEN. Developing, innovative non-profit seeks R & D phase funding for environmentally-sustainable, economically viable production model of one of nature's perfect foods. Help others help themselves to better health. Make a difference. Contact (816) 724-1565.

LAND SALE/RENT

FOR RENT Farm land & barn, aprox 40 acres clear plus woodland with sugar bush. Must be organic, biodynamic preferred. Rent negotiable. NW Massachusetts. melodyhillfarm@ gmail.com.

HOMES and LAND—Looking for a farm or homestead in Virginia? Work with a 30-year veteran and WAPF member, Keith Hartke. Call National Realty, (703) 860-4600, ext. 444 or email keith@nationalrealty.biz.

Lot for sale in Berkeley County, WV. 360 acre organic farming community. Shared with 15 other organic farming enthusiasts. Property features natural balance of woods, ponds and fields; borders Back Creek. Many community features. For more information call Charla at (304) 279-0992 (ERA Liberty Realty – John Kilroy Broker) or www.15MarigoldWay.com.

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DVDS

DVD "Nourishing Our Children" recently launched a DVD that may be used for one's self-education or to present to an audience. You will learn how to nourish rather than merely feed your family nourishingourchildren.org/DVD-Wise.html **Free shipping**!

DVDS

Share your passion for food with friends and family! The Diet For Human Beings affirms our human requirement for fats, with less emphasis on starchy carbs. "An Hour To Watch – 30 Days To Try – Your Life Will Never Be The Same" www.ondietandhealth.com

TRAVEL

California Wine Country retreat in Mendocino County. GAPS consults by certified practitioner, delicious GAPS/WAPF meals, time to relax in serene beauty. Private accommodations in straw bale home, sauna, hiking among the oaks and rolling hills, driving distance to the coast, wineries and state parks. Email carolhume@comcast.net or call (612) 849 7551 for details.

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. Livestock & pet lodging. Experience natural farming and taste real food at its source! Our idyllic pasture-based farm raises beef, pork, lamb, poultry, eggs, small fruits and vegetables using sustainable methods. Elegant guest rooms with three course candlelight breakfasts or family friendly cottages with kitchens so you can collect fresh eggs and cook our meat and vegetables to create your own meals. Many clean food producers in our food-conscious community. Bucolic, peaceful retreat in a place that understands your family values! Walpole, NH. www. innatvalleyfarms.com.

Sunset Ridge VACATION HOME – Stocked with WAPF approved local foods! Enjoy the solitude in this 4+ BR, 3-bath, furnished luxury vacation home on Lewis & Clark Lake, Yankton SD. Sleeps 14. Spectacular lake view. Screened porch. DSS. Fireplace. Great for family, friends, business retreats or holiday parties. As you wish, can be stocked with WAPF approved locally produced organic foods: eggs, raw milk, beef, chicken, & vegetables. www.yanktonsunsetridge.com (605) 661-6726 retreat@ yanktonsunsetridge.com.

EMPLOYMENT OPPORTUNITIES

Put your passion for health, wellness & natural foods to work! Rewco, Inc seeks FT associate for northern Va.area to provide educational & support services to supermarkets. Main responsibilities include providing product training to store associates & assisting in new store set-ups. Job requirements include knowledge of natural/organic foods, presentation skills, self-motivation and strong work ethic. Retail merchandising experience a plus. Occasional overnights & weekends required. Also basic Microsoft office suite skills, ability to lift 30 lbs, reliable vehicle, valid driver's license, in-force car insurance & clean driving record. Benefits include competitive salary, option for mileage rate reimbursement or car allowance, medical/ dental insurance, 401K and generous vacation/sick/personal days package. Interested and qualified candidates send resume to carol. poliner@rewco.com

MiddleTN small farm is seeking an individual/s to assist with spring/summer farming. Duties include helping with livestock operations, electric fence maintenance, gardening and other farm chores. Offering Bedroom with bath and kitchen privileges. References required. Please call (931) 762-2847.
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Successful retiring farmer, seeking paid apprentice(s).110-acre rural forested/pastured land in S. Oregon Cascades. Organic pastured beef main operation. WAP Principles. Established customer base. Seek mature, responsible, teachable person/s, option for your poultry or other business. Opportunities for broad based skill/learning (ongoing construction projects, soil/pasture management, aquaculture, greenhouse, gardening, forest management, equipment operation, etc!). Looking for long-term potential partnership (short term interests don't apply). opportunity of a lifetime, email skyrock@peak.org.

Vermont Farm seeks helpers for 2012. 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 ouselves! 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.

Small RAW retail dairy in N. Texas looking for interns who want to learn how to run a small farm. You'll have the ability to learn all you want-milking cows, using farm equipment, carpentry, fencing, welding, plumbing. Learn basic animal husbandry, plus minor veterinary work. Previous work with animals a plus but not required. Honesty, a good disposition, and common sense ARE required. Private housing, good food and a weekly stipend. For more information contact Traci Christian moonryvranchdairy@yahoo.com.

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