



Wise Traditions



IN FOOD, FARMING AND THE HEALING ARTS

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President's Message


So many people think that the Wise Traditions diet advocated by the Weston A. Price Foundation is a high-protein, low-carb diet. True, we advocate the inclusion of animal protein in the diet and urge people to avoid refined carbohydrates, but we have also consistently warned about consuming too much protein; and we have never advocated cutting out all the carbohydrate foods. After all, most of the cultures Dr. Price visited consumed some kind of complex carbohydrate—rye in the Swiss Alps, oats on the Outer Hebrides, quinoa and potatoes in South America, cassava in the South Seas.

Still, the perception persists that our bodies have no need for carbs—another myth that needs addressing. We do so in this issue, with an article on why we need carbs by Chris Masterjohn, as well as a piece by Kim Schuette on what she sees in her clinical practice when her patients try to cut out all carbs.

So we do need some carbs in our diets—but this is not an invitation to overdose on sugar and refined grains—as discussed by Tiffany Wright in her article on sugar addiction.

The Wise Traditions diet is a wisely balanced diet. It includes adequate high-quality animal protein, lots of nutrient-dense fats and an individualized portion of properly-prepared grains and legumes, and cooked tubers and starchy vegetables. The amount of carbs you eat depends on your age, activity level and tendency to gain weight, but the danger of avoiding carbs altogether is low energy, low body temperature, low libido, and just a general droopiness.

We are not feeling low energy about our upcoming conference. We have included many back-to-the-basics talks, since our message will be new to many participants. We will have tracks on food preparation; fertility/pregnancy/healthy babies; men's health; holistic dentistry; and elder care. We will have more advanced tracks presented by popular speakers Chris Masterjohn, Stephanie Seneff and Tom Cowan. Natasha Campbell-McBride will present her gut and psychology workshop on Friday. And we are proud to present Nina Tieholz to give our keynote address, as well as presentations on men's health and weight loss. Nina is the author of the excellent and influential book, *The Big Fat Surprise*, and has an abundance of information to share with us on the sordid history of animal fat demonization.

The chef we are working with is first-class and is very excited to be preparing food for our attendees. There's also a farm tour, a homeopathy seminar, a workshop on adrenal "fatigue," an all-day cooking class, and a movement workshop on Monday. And don't forget our wonderful child care program. In short, we are gearing up for another terrific conference. See you there! 

Letters

ON THE WISE TRADITIONS JOURNEY IN KENYA

"I know and I promise that there will be a very huge u-turn for my community. We will be turning to where we came from." Dickson Gisa, a leader in his Maasai village, spoke these words to me in a conversation in his home this past May. Dickson, you may remember, is the Kenyan who took the initiative to contact the Weston A. Price Foundation (WAPF) a few years ago. He had come across the WAPF Wise Traditions principles and they resonated with him to such a degree that he asked WAPF to send someone to his community because, as he put it, "We are all getting sick." So WAPF honored his request, and in 2015, as part of the WAPF international outreach program, they sent Mary Gerke and me to his remote village in Matapato, Kenya, not far from the Tanzania border.

This past May, I returned to Kenya and to Dickson's community to follow up. There I was able to observe the changes they had already implemented as a result of the previous year's visit. Nowhere was this more evident than in Dickson's own home. In the past year, his wife Joseline had given up her job as a preschool teacher to cultivate an extensive garden on their land. (Dickson told me that Joseline made this choice very deliberately so that their family could avoid purchasing food from the shops and grocery stores.) On their land, she grows traditional greens, kale,

peppers, tomatoes, carrots, bananas, cassava and much more! Her harvest is so abundant that she has enough for her own family and then some. Members of her community often buy her surplus food to sell at market.

There were more promising signs everywhere I went. On Saturday morning, the community's youth group, comprised of eighteen- to thirty-year-olds,



Hilda Gore with Kenyans interested in the WAPF educational materials.

affirmed that they wanted to continue the traditional foods "campaign." That afternoon, following a presentation, the pastor stood up and suggested that all women present begin cooking traditional foods again "starting now." And the next morning at church, the pastor spoke of incorporating Wise Traditions principles into their church programs. There was general agreement, and a church elder even stood up to show his support, saying, "Just like we need to change our attitude toward God, we need to change our attitude toward feeding and health."

Shortly after my visit, Dickson

agreed to become a chapter leader for WAPF in his village. I am convinced that he will navigate the u-turn well, and will lead his Maasai brothers and sisters toward better health.

Back in Nairobi, I found more opportunities to spread the word about WAPF. I addressed a group of Rotarians from East Kenya at the Nairobi Club. The Rotarians were intrigued by my message about wellness through traditional diets and promised that their next meeting would be over a more traditional meal. They peppered me with questions and at the end of my talk, they urged me to become a Rotarian to gain a broader audience around their country and the world.

Later that week, I caught wind of an organic farm that made weekly deliveries to the capital. I knew I had to visit it. When I arrived at Mlango Organic Farm, it seemed like paradise to me. The glorious rainbow of vegetables covered the hillside, which was green and lush—quite a contrast from dusty, dry Nairobi. A Kenyan, Kamande and his Dutch wife Els established this farm in 2007. At Mlango, they are committed to organic, sustainable practices. They use no chemical pesticides or synthetic fertilizers. Visitors to the farm can harvest a basketful of veggies for a flat

Gifts and bequests to the Weston A. Price Foundation will help ensure the gift of good health to future generations.



Letters



(affordable) rate. We reaped a cornucopia of fresh vegetables to share with our friends in Nairobi. And from that day forward, we spread the word about this wonderful resource to our Kenyan friends.

I made other wonderful connections before leaving Kenya but a highlight was definitely my time at By Grace, a boarding school and orphanage about an hour from the city. There, elementary-aged students through high school-aged receive instruction and guidance. When the lead educators asked which group I wanted to address, I pleaded for both, and thankfully, they conceded. I read Sandrine Love's book *The Adventures of Andrew Price* to the younger students and used it as a visual aid with the older ones. Adults and children alike were interested in what I had to say.

The truth is, wherever I went in Kenya, I felt their signature *karibu* welcome. And it made me happy to have something to give them in return. I spread WAPF brochures (and podcast postcards, too) far and wide! I can say with certainty that many Kenyans are now benefiting from WAPF resources. Thanks to your donations and membership contributions, I'd say that the Wise Traditions journey in Kenya is off to a tremendous start.

Hilda Gore, chapter leader
Washington, DC

BRINGING BACK THE MILK CURE

I first became interested in a dietetic career after my father was diagnosed with prostate cancer about eighteen years ago. With the advice of a local naturopathic doctor in my

hometown, he adopted a diet of raw fruits and vegetables, grass-fed meat and raw dairy products while eliminating carbonated, sugary drinks; he also cleaned his digestive tract fairly well by incorporating colonic cleanses. His prostate cancer went into remission, and his PSA count decreased from 5.5 to 1.1 in several months.

Current technology and medicine have a role to play in today's world of health care, but society has become too dependent on their limited successes in dealing with chronic diseases. I must confess my increasing frustration with the lack of education our medical system is receiving and in the teaching of sound nutritional principles. True story: a registered nurse went to her doctor seeking medical advice on her pre-diabetic condition. The doctor's response was that she "didn't need to do anything until she had diabetes." Then, once a person gets diabetes, the doctors insist that it is progressive and irreversible. Another example: an "experienced" dietitian found my discussion on lactose intolerance and raw milk "concerning," dismissing the peer-reviewed scientific research on raw milk reducing asthma and allergy risk among a sample size of over twenty-three thousand children as "controversial."

It is my desire to work in a setting that will allow me to provide healthy, real-foods nutritional advice to bring about true healing, an area where I can promote solid, WAPF/PPNF principles; mainstream hospitals just do not seem to support this ideology at this time, though there are signs of improvement.

What we need is a return to the old ways, the true ways, the healing ways,

of our wise ancestors and their generation of highly intelligent doctors (in actuality, nutritionists) to bring about effective yet inexpensive treatments like the milk cure. We also need health practitioners to use their clinics and clinical experience to produce solid scientific proof that the milk cure, which uses one of God's greatest comestibles, may truly be our saving medicine.

Does anyone know of a clinic or sanitarium already in existence (somewhere in the U.S., preferably on the East Coast) where this protocol is currently in action? If so, I would very much like to hear from you and see what can be done (and possibly join your team) about putting this sustaining, non-toxic protocol on the medical map again.

Daniel Andras, MS, RD
Greenville, South Carolina

A TREATMENT FOR CONCUSSION

I recently noted *Wise Traditions* had an article on concussions. As a natural health practitioner for many years I want to share what I have used for numerous concussions with success. Simply have the injured person hold a zinc-plated bolt (preferably a five-inch one) in their right hand for ninety minutes. The concussion generally heals within that time frame. The person notes a dramatic difference.

Of course this is anecdotal. This is not scientifically validated. It has only been my experience. One example: A child fell about four feet onto pavement. The mother heard the skull crack and could see the child was not eye-tracking well, which is evidence of one or more concussions. She held the bolt in the

Letters

child's hand as the child was too young to be trusted to do this herself. Follow-up CT scans showed nothing—to the amazement of the doctor.

I have used zinc-plated bolts as therapies for many situations. The results have been excellent when appropriately used and very consistent for concussions. If it doesn't work you aren't out much. If it does and no one believes you, that is okay too. The issue is about getting well, not waiting on the studies to see whether it works! Zinc-plated bolts appear to change the energy field of the body to increase the potential for healing greatly. I have also used this remedy to clear up skin problems and to offset exposure to uranium. There are many amazing stories!

Connie Newcome
Inman, Kansas

LOVE THOSE PODCASTS!

Thank you for producing such great podcasts. Listening to the Wise Traditions podcast is definitely my "Monday treat" and something I love to share about. I thought it might be fun for you to know how our pasture-based Botany Bay Farm has promoted your podcasts recently.

In every carton of eggs we sell we include a paper insert that fits neatly under the carton lid. These inserts are different each week and they always incorporate some sort of health concept or quote that I (the "Farm Mom") illustrate. The more folks listen to your podcast, the more they are encouraged

to look for farmers like us. When your listeners thrive, farmers thrive. It's a win-win! Thanks again for your interesting, informative and helpful work.

Cherie Sturtevant
Brush Prairie, Washington



Wise Traditions 2016
Nutrition for All Seasons of Life

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For conference details, see page 10.

REAL PURPOSE

I am a retired FDA employee. I have a friend I worked with at the FDA—also now retired. He is a PhD microbiologist. His opinion is that the real purpose of vaccinations is to dumb down the population in order to make the population easier to control.

Name withheld

LAWSUIT

I am a California resident and recently read about the lawsuit against SB277. I can't even begin to express my heartfelt gratitude for the Weston A. Price Foundation stepping up as one of the founding plaintiff organizations supporting this lawsuit. There has never been a more important time than this to protect our individual rights for health

freedom.

With this in mind, many of us are wondering how we can support you in this effort. There have been so many scam fundraising activities around various campaigns we want to make sure we put our money to good use and we trust the Weston A. Price Foundation more than anyone else. Do you have a fundraising campaign that we can contribute to supporting these lawsuit activities? If so, please let us know so that the information can be sent to all California chapters.

Many blessings to all of you for standing up for us in this important fight.

Stephanie Vargo
Los Altos, California

CHLORIDE

I read the letter to the editor called "Thyroid Malfunction," by Roger A. Wacek (Summer 2016). He says that fluorine, chlorine and bromine (all halogens) will replace iodine in a chemical reaction. This is true but we need to realize that in the body chlorine (or chloride, in its inorganic state) will not try to "push" iodine out of the thyroid, like bromine and fluorine do. The reason is that chloride is used to make hydrochloric acid in the stomach ($H+Cl^-$), so it never really gets a chance to get all the way up to the thyroid and cause havoc, like bromine and fluorine can and will do. Just a minor point; otherwise the letter is correct.

John Garbarini
Canar, Ecuador



Letters



RAW MILK DOES NOT SPOIL

Thank you Cindy Ashy for writing the article on raw milk in Humboldt County (Winter 2015). It is very informative for all those who were not there. One minor point: the article states that milk has to be frozen to “prevent spoilage.” Good raw milk does not spoil, but sours into a wonderful new product.

There is a woman in our milk circle who had severe osteoporosis in her late seventies. She joined our circle and began drinking clabbered milk. About three years later she brought me her test results and they showed great improvement! Personally I pretty much only drink fermented or clabbered milk. It is great for my long travels and one of the best foods on the face of the earth. For my husband though, I have to put his milk on ice for the four-hour pick-up journey and then freeze once I get home, as he does not like the taste of sour milk.

Judith Mudrak, chapter leader
Southampton, New Jersey
and Bern, Switzerland

NUTRITION AND DENTAL ARCHES

I just returned from a visit to my home town in Minnesota. Going home stirs up emotions, especially when I see the unhealthy people there. It makes me sad. Looking at the children, even those in my family who have fish and venison in the diet, I see narrow arches, not enough room for the teeth, and girls who are all legs, but have narrow faces, glasses and even scoliosis.

I have talked with them about this, but they just don’t get the fact that this is nutritional. Also we have an additional

challenge, which Price did not witness, and that is the toxins in kids today from so many vaccines. These prevent proper nutrient absorption, especially of the fat-soluble vitamins.

Since Price’s main discovery was about teeth, dental arches and bone structure, I would love to see more articles with photos of today’s kids, with good and bad development, which I can then show my family. The parents just don’t get it that these structural problems can be prevented with diet, and are not genetic. Maybe along with healthy babies, we should show children with less than optimal structural development—then clearly list foods to eat and not to eat.

Laura Snyder
Bridgeman, Minnesota

BIRTHDAY FEAST

Many years ago when we were living on the Queen Charlotte Islands, British Columbia, Canada, one of our neighbors was an Inuit family. As things turned out Jacob, the father in this family, was raised by his grandparents who were still living the traditional Inuit lifestyle. He had polio and was sent to live in a hospital for several years. When he finally came home, he couldn’t relate to the noise and confusion of his big family and his parents sent him to live in the “bush” with his grandparents. There he was an only child, a treasure. Jacob was the lucky one living the traditional life of his ancestors. For this reason, Jacob knew that on his son’s first birthday, he would need to hunt a seal and prepare it for this important milestone in his precious son’s life. Carefully he carved a beau-

tiful wooden harpoon and prepared himself for hunting. He also took his twenty-two rifle. This celebration called for raw seal liver. He did this without a word outside his family.

On the day of the celebration, a potluck, I sent our two sons, two and four years of age, to trundle on over the trail that led to Jacob’s house. The boys were raised walking the trails and knew exactly where they were going. I was to follow with our potluck dish shortly. Walking up to the house, I could hear gleeful laughter, happy chatter and hurried on in to join our friends. What I saw is etched in my mind forever. Jacob, quiet, gentle soul that he was, was holding his son on his lap. On either side of him, all the neighborhood children were crowded together sitting at the long wooden table, their faces smeared with bright red blood. Jacob had his side knife, a huge blade as was valued by wilderness folks, with a small thin dark red piece of seal liver. He had two candles lit and was carefully inspecting the raw meat. Then he deftly held the blade over his son’s mouth and dropped it in. All the children were begging to be next, like little birds lined up to receive their share, mouths gaping wide. No hands, no touching the giant knife and they all clamored for more. Jacob seemed to know the right amount and each child was happily slurping the liver. It was a sight to behold!

Victoria Schneider, chapter leader
San Miguel de Allende, Mexico



Caustic Commentary

Sally Fallon Morell takes on the Diet Dictocrats

THEY ARE ALL SAFE

An interesting study on cod liver oil has come to our attention. In the double-blinded randomized controlled study, subjects were given capsules containing highly oxidized cod liver oil, cod liver oil with low oxidation, or sunflower oil. The results showed no significant differences in blood markers of oxidation products between the three groups, nor any significant difference between these markers at the beginning and the end of the study (*Atherosclerosis Supplements* 2011;12(1):13-184). These results confirm what we have been saying, that taking small amounts of any type of cod liver oil, even highly oxidized cod liver oil, is safe. One explanation for these results is the fact that cod liver oil provides highly protective vitamin A.

PREVENTING MALARIA

The UK's Department for International Development and the Bill & Melinda Gates Foundation will spend more than four billion dollars over five years from 2016 in an effort to end deaths caused by malaria. Current eradication efforts include toxic spraying for mosquitos and expensive medications that can have serious side effects. But what if an effective preventive measure for malaria has existed all along—before highly-educated scientists tried to solve the problem without considering native wisdom? In Djibouti, the natives brew a partially lacto-fermented, partially alcoholic beverage from palm sap. “It is very nutritious, even for children,” explains camel guide Houssain Mohamed Houssain. “You can put it in their sorghum cereal. It's full of vitamins. That way, they don't get malaria. The mosquitos bite them, but they don't get the disease” (tinyurl.com/zsl9nhn). It's likely that the beneficial bacteria and high levels of B vitamins and vitamin C in palm wine provide significant protection. Certainly, fat-soluble vitamins from foods like insects and camel liver also play a role. What an easy solution to the scourge of malaria! Just encourage na-

tive peoples to consume the traditional foods of their ancestors—but of course there is no money in that.

THE FITTEST SENIOR

Charles Eugster currently holds several UK sprinting records, coming close to a world record for the sixty-meter sprint in a recent race. He's also a body builder, public speaker, writer, rower, wakeboarder, entrepreneur and a budding fashion designer, planning his own line in elderly couture. He is ninety-six years old. In an interview with

vice.com, Mr. Eugster credits his vigor partly to his exercise regime, and partly to his diet. “I avoid sugar and eat lots of meat, especially fat. I've been on a fat trip lately. Fat! Piles of fat.” Eugster is perplexed by the idea of yogurt with zero fat. “Humans are so unbelievably stupid that we have begun to tinker with food. Our theories of nutrition have resulted in a pandemic of obesity. Can you imagine a hunter-gatherer enjoying a lowfat yogurt” (tinyurl.com/j4babdp)? Interestingly, ar-



Charles Eugster, age ninety-six, eats a diet full of fat!

ticles about Eugster at today.com and the BBC News do not mention his high-fat diet.

THIRD WORLD DIET

The USDA dietary guidelines basically promote a Third World diet, with a lot of carbs and little meat, milk or eggs. The people in Zambia eat a Third World diet—more so with every passing year. Data from the Food and Agriculture Organization of the United Nations show a decrease in per capita consumption of animal foods and an increase in starchy roots, primarily cassava. According to an article published in *Food and Nutrition Bulletin*, such a diet is “vitamin and mineral-deficient [and] leads to stunted growth and slowed brain development, shortened life expectancy, increased rates of infant mortality, vulnerability to disease and illness, and inability of mothers to nurse.” Reseachers in

Caustic Commentary

Zambia compared four different diets with the same number of calories. The first added eighteen ounces of whole cow milk each day to the baseline diet; the second added sixty grams of beef, thirty grams of chicken and five grams of beef liver; the third added both the milk and meat foods; and the fourth added locally available plant foods such as cassava, cornflour, wheat, sweet potato, sugar and vegetable oils. Not surprisingly, the best diet in terms of providing adequate amounts of vitamins and minerals was the diet that provided both milk and meat foods. The article is entitled, “The importance of animal source foods for nutrient sufficiency in the developing world: The Zambia scenario.” It goes without saying that animal source foods (including liver and whole milk) are needed for nutrient sufficiency in the developed world as well (tinyurl.com/zhrq7z4).

WILL CHEESE KILL YOU?

Cardiologists often tell their patients not to eat cheese, claiming that it will kill them because the saturated fat in cheese will raise their cholesterol levels. In a study published in the *American Journal of Clinical Nutrition* (August 24 2016), subjects ate eighty grams of regular-fat cheese, eighty grams of reduced-fat cheese, or ninety grams of bread and jam. After twelve weeks, there was no significant difference in concentrations of LDL-cholesterol, glucose or triglycerides, and blood pressure and waist circumference remained the same. The wonderful thing about full-fat cheese is that it is one of our best sources of vitamin K₂ in the American diet, and K₂ (supported by A and D) is the main vitamin that protects us against heart disease. So when your cardiologist tells you that full-fat cheese will kill you, you can tell him, “I’m eating full-fat cheese so I can live to attend your funeral.”

DO STATINS CAUSE HEART DISEASE?

“Statins stimulate atherosclerosis and heart failure: pharmacological mechanisms” is the title of a 2015 article published in *Expert Reviews in Clinical Pharmacology* [(2015 Mar;8(2))]. The authors Peter Langsjoen and several Japanese researchers argue that in contrast to the current belief that cholesterol reduction with cholesterol-lowering statin drugs decreases atherosclerosis, statins may *cause* coronary artery calcification and heart failure through several mechanisms. Statins deplete coenzyme Q10 and ‘heme A’, and thereby inhibit ATP generation, needed for healthy heart function.

Statins also inhibit the synthesis of vitamin K₂, the cofactor for matrix Gla-protein activation, which in turn protects arteries from calcification. To top it off, statins inhibit the biosynthesis of selenium-containing proteins, needed for a healthy cardiovascular system. Thus, say the authors, “the epidemic of heart failure and atherosclerosis that plagues the modern world may paradoxically be aggravated by the pervasive use of statin drugs. We propose that current statin treatment guidelines be critically reevaluated.”

OVERCOMING “VACCINE HESITANCY”

An article in the January 2016 issue of *Vaccine* provides advice to doctors and other health officials on how to deal with parents suffering from “vaccine hesitancy.” Doctors should listen to parents’ concerns respectfully, not be paternalistic or dismissive, and not introduce the “fear factor.” But they should not open the door to discussion either; rather, they should “start with a statement that assumes vaccination will occur.” Doctors should say, “Today we are going to give Jo her shots to keep her fit and healthy,” rather than ask “Do you have any questions about today’s vaccines?” They should “reinforce the norm of vaccines”—everybody’s doing it—and “set an appointment for the next shots right away.” Doctors should “use facts sparingly,” maintain their authority, minimize the pain of vaccines, and have simple responses for concerns—such as “There is more formaldehyde in a pear than in all the vaccines a child receives” (except that we do not inject pear juice into our children’s blood streams). The article tells physicians that concerns about ingredients may be “rooted in a ‘natural’ world view.” Vaccine deniers who believe in a conspiracy are likely to believe in other conspiracies and have feelings of “powerlessness, disillusionment and mistrust in authorities.” The article promises more to come “on understanding public trust in vaccination programs” (*Vaccine* 34(2016) 1989-1992).

DESTROYING HERD IMMUNITY

Herd immunity occurs when a disease goes through a herd of animals, after which they are all—including the very young—protected against further outbreaks of the disease. Vaccine manufacturers have latched onto this term to promote the premise that almost everyone needs to receive vaccines (not the disease itself) in order to achieve “herd immunity.” This is the theory—unfortunately the opposite

Caustic Commentary

is true. Take pertussis or whooping cough. According to a recent article in the journal *Pediatrics* and reported in the *New York Times*, the primary source of pertussis (whooping cough) infection in infants is older siblings who had received the DTaP vaccine (tinyurl.com/j94b92l)! That's because when you are vaccinated against the whooping cough, you can carry the microbes in the throat for many days, infecting any unvaccinated infants you come in contact with. This is the opposite of herd immunity! The fact is that vaccines destroy natural immunity, and this is particularly true with pertussis. Far from creating immunity, pertussis vaccines have enabled the spread of the disease. The proof: growing rates of pertussis—including many very serious cases—in America, in spite of aggressive vaccination campaigns. How has the medical profession reacted to these findings? By promoting pertussis vaccination in pregnant women—a practice for which no safety studies exist whatsoever.

COLONEL SANDERS' SECRET RECIPE?

According to a report in the *Chicago Tribune*, a nephew has found a hand-written recipe in a 1940s scrapbook owned by the widow of the Colonel (tinyurl.com/zr6hnd3). The recipe calls for dried thyme, dried basil, dried oregano, celery salt, dried mustard, paprika, garlic salt, ground ginger, salt and pepper mixed with flour. The chicken pieces are soaked in buttermilk and then dredged in the flour-spice mixture. Now here's the kicker: according to newspaper reports, the chicken pieces are to be cooked in canola oil! Canola oil did not exist in the 1940s. The chicken was most certainly cooked in lard—but that would not be a politically correct thing to print in a modern newspaper.

GLYPHOSATE VERSUS ZIKA

Scientists blame an outbreak of the birth defect microcephaly in Brazil on the Zika virus, but researchers Anthony Sam- sel and Stephanie Seneff relate the weed killer glyphosate (Roundup) to these and other defects. Their report notes that glyphosate can penetrate past the placenta, and its use correlates to an increase in birth defects such as microcephaly, anencephaly, cleft palates and other facial defects in regions of South America and Paraguay where Roundup is heavily used. The U.S. Centers for Disease Control and Prevention has reported on an excessive number of anencephaly births in Yakima, Washington, at four times the national average.

This increase coincided with a large increase in the use of glyphosate to control waterway weeds. And more recently, microcephaly has arisen in Brazil following the heavy use of the herbicide (farmwars.info/?p=15001).

THE LUNCH BOX POLICE

It seems that the next target for the nanny state is your children's lunch boxes! The “nutrition” standards for pre-K lunch require milk (this would be lowfat milk), two servings of fruit or vegetable, bread or grains, and a meat or meat alternative. When homemade lunches don't meet the guidelines, the pre-K school gets low grades and pressure to make parents conform. Take the case of a Fayetteville, North Carolina, mother who sent her daughter to school with a homemade lunch of turkey and cheese sandwich, a banana, apple juice and potato chips—not the best lunch in the world, but superior to the one she was given when a government inspector determined that the girl needed a vegetable—chicken nuggets, milk, a fruit (not necessarily fresh) and a vegetable to supplement her sack lunch (apparently potato chips don't qualify as a vegetable). The girl ate the chicken nuggets instead of her lunch, but still declined to eat the vegetable. According to the mother, her daughter—like most four-year-olds—doesn't like vegetables. “I can't put vegetables in her lunchbox. I'm not a millionaire and I'm not going to put something in there that my daughter doesn't eat.” The mother has “gone round and round” with the school, asking them not to make a fuss about the vegetables, but the school continues to give things like vegetable soup (filled with MSG) to her daughter, which she is concerned will lead to a cafeteria fee (tinyurl.com/h4t7s8e). ☹☹

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.



Wise Traditions 2016

SEVENTEENTH ANNUAL INTERNATIONAL CONFERENCE OF THE
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NUTRITION FOR ALL SEASONS OF LIFE

Friday, November 11 – Monday, November 14

with special events on Thursday, November 10

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Natasha Campbell-McBride, MD, author of *Gut & Psychology Syndrome (GAPS)*
Ann Childers, MD, expert on psychiatric care, sleep & metabolism management
Tom Cowan, MD, author of *The Fourfold Path to Healing*
Hannah Crum, kombuchakamp.com
Sally Fallon Morell, MA, author of *Nourishing Traditions*
Ben Greenfield, fitness expert
Will Harris, expert on humane animal husbandry & sustainability
Laura Hayes, expert on vaccine safety
Beth Lambert, author of *A Compromised Generation*
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Leah McCullough, author of *Freedom from Fibromyalgia*
Kelly Moeggenborg, KellytheKitchenKop.com
Ken Morehead, DOM, expert on musculo-skeletal disorders

Richard Morris, author of *A Life Unburdened*
Ramiel Nagel, author of *Cure Tooth Decay* and *Healing Our Children*
Frank Niceley, Tennessee state senator
Tetyana Obukhanych, PhD, author of *Vaccine Illusion*
Daphne Olivier, LDN, RD, CDE, CLT, expert on metabolic disorders
Alan Phillips, JD, leading vaccine rights attorney
Laura Schoenfeld, RD, expert on adrenal health
Pam Schoenfeld, RD, co-director Healthy Nation Coalition
Kim Schuette, CN, expert on nutritional & biotherapeutic drainage therapies
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Raymond Silkman, DDS, holistic dentist, dento-facial orthopedics
Lorie Stevens, DMD, holistic dentist
Nina Teicholz, author of *The Big Fat Surprise*
Kim Thompson, RYT, movement instructor
Veronica Tilden, DO, expert on fertility and hormone health
Sandra Van Gilder, DPT, FAFS, creator of *The Move Method*
Carrie Vitt, deliciouslyorganic.net
Cilla Whatcott, PhD, HD, RHom, CCH, author *There Is a Choice: Homeoprophylaxis*
Louisa Williams, MS, DC, ND, author of *Radical Medicine*
Will Winter, DVM, expert on pastured livestock
Jereme Zimmerman, author of *Make Mead Like a Viking*

LOCATION AND ACCOMMODATION

The conference hotel is the Renaissance Montgomery Hotel; 201 Tallapoosa St, Montgomery, Alabama 36104.
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PRE-CONFERENCE AND POST-CONFERENCE ACTIVITIES



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MONDAY, NOVEMBER 14

Will Winter: Guided Farm Visit
Sandra Van Gilder:
Movement Workshop
Carrie Vitt:
Nutrient-Dense Family Cooking

Cilla Whatcott:
Support Immunity with the Perfect Disease Prevention
Kate Birch: Homeopathy for the Early Years
Laura Schoenfeld: Workshop on "Adrenal Fatigue"

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* Student/Seniors must show ID. Senior is 62 and older.

If you are attending as a daily registrant, please indicate the day(s) you will be attending:

- ☐ Friday November 11 Registration includes conference materials, Friday sessions & Friday lunch
☐ Saturday November 12 Registration includes conference materials, Saturday joint sessions & Saturday lunch
☐ Sunday November 13 Registration includes conference materials, Sunday sessions & Sunday brunch

Friday Seminar Choice – please select one for planning purposes only, not binding.

☐ Nourishing Traditional Diets ☐ GAPS ☐ Human Health ☐ Farming & Gardening ☐ Cooking/LifeStyle

Saturday Choice – please select one for planning purposes only, not binding.

☐ Main General Session: Pregnancy & Children ☐ Wellness Track ☐ Weight Loss/Diabetes

Sunday Seminar Choice – please select one for planning purposes only, not binding.

☐ Elder Care ☐ Men's Health ☐ Dental ☐ Vaccination ☐ Practical/Lifestyle

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- ☐ I am a chapter leader.
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 Thursday, Nov 10, 10 am - 4 pm

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Wise Traditions 2016

Montgomery Schedule

THURSDAY NOVEMBER 10

10:00-4:00 Chapter Leaders Meeting
06:00-9:30 FTCLDF FundRaiser Dinner (tickets sold separately)

FRIDAY NOVEMBER 11

07:00-07:45 Kim Thompson: Gentle Movement
08:00-08:45 Kim Thompson: How to Sit Comfortably

Track I: Nourishing Traditional Diets - Sally Fallon Morell

09:00-12:00 Characteristics of Healthy Diets, Part I
01:30-03:00 Characteristics of Healthy Diets, Part II
03:30-05:00 How to Change Your Diet for the Better

Track II: Gut & Psychology Syndrome - Natasha Campbell-McBride, MD

10:00-12:00 Gut & Psychology Syndrome, Part I
01:30-03:00 Gut & Psychology Syndrome, Part II
03:30-05:00 Gut & Psychology Syndrome, Part III

Track III: Weston A. Price and the Fat-Soluble Activators - Chris Masterjohn, PhD

10:00-12:00 Ancient Wisdom/Modern Science and the 20th Century
Attack on Wholesome Food and the 21st Century Food Revolution
01:30-03:00 The Fat-Soluble Trio and Their Synergistic Partners
03:30-05:00 Practical Applications to Nourish Our Soil and Human Health

Track IV: Farming and Gardening

10:00-12:00 Will Winter DVM: How to Make Your Farm Less Efficient
01:30-03:00 Alvin Bey & Calvin Bey, PhD: Chemical-Free Yards and Nutrient-Dense Vegetables
03:30-05:00 Will Harris: One Family, One Farm, Five Generations, 150 Years

Track V: Cooking/Lifestyle

10:00-12:00 Hannah Crum: Fermented Drinks, Nature's Healthy "Sodas"
01:30-03:00 Jereme Zimmerman: Make Mead Like a Viking
03:30-05:00 Carla Bartolucci: Einkorn: Nature's Original Wheat

Friday Evening Activities

8:00-10:00 Leah McCullough: Natural Recovery from Fibromyalgia
8:00-10:00 Ask the Practitioner Panel
with Kim Schuette, Tom Cowan, MD, Natasha Campbell-McBride, MD, Ann Childers, MD
8:00-10:00 Dean Bonlie, MD, DDS The True Cause of Heart Disease and Miracles of Magnetism
8:00-10:00 Film Vaxxed (Free to the Public). Followed by Q&A with Producer Del Bigtree

SATURDAY, NOVEMBER 12

06:00-06:45 Kim Thompson: Gentle Movement
07:00-07:45 Kim Thompson: Release Low Back Tension

Plenary Session: Healthy Pregnancy & Children

09:00-09:30 Sally Fallon Morell, MA: Introduction to the Work of Weston A. Price
09:30-10:45 Kim Schuette, CN: Mindful Conception
11:00-12:15 Sally Fallon Morell, MA: Bringing Up Baby—Foods for Optimal Growth and Development
01:45-03:00 Beth Lambert: Documenting Hope: Redefining Children's Health in the 21st Century
03:15-04:30 Mandy Blume: Real Food Recovery – Courageous, Simple, Practical, Success with Kids

Morning Wellness Track - Stephanie Seneff, PhD

09:00-12:15 Stephanie Seneff, PhD: Microcephaly in Brazil, Is it Really Just Zika?

Afternoon Wellness Track - Tom Cowan, MD

01:45-04:30 Tom Cowan, MD: The Adrenal Heart Connection

Wise Traditions 2016

Montgomery Schedule

SATURDAY NOVEMBER 12 (Continued)

Weight Loss/Diabetes

- 09:00-10:30 Daphne Olivier, LDN, RD, CDE, CLT: Breaking Down the Nutrition of Diabetes
- 10:45-12:15 Richard Morris: Winning Strategies for Life-Long Weight Loss
- 01:45-03:00 Nina Teicholz: Fat, Your Best Friend for Weight Loss
- 03:15-04:30 Ann Childers, MD, FAPA: Stone Age Body, Space Age Diet

06:30-10:00pm Awards Banquet

Nina Teicholz: The 'Real' Food Politics

SUNDAY NOVEMBER 13

06:00-06:45 Kim Thompson: Gentle Movement

07:00-07:45 Kim Thompson: Relieve Neck and Shoulder Tension

Track I: Elder Care

- 09:00-10:20 Ken Morehead, MSOM : Aging Well with Vitality
- 10:30-11:50 Pam Schoenfeld, RD: Preventing Malnutrition in the Elderly
- 01:20-02:40 Ann Childers, MD: Type 2 Diabetes in the Elderly: Occurrence and Dietary Management
- 03:10-04:30 Sally Fallon Morell, MA: Our Seniors: Dumping Grounds for Drugs?

Track II: Men's Health

- 09:00-10:20 Ben Greenfield: Fueling the Ancestral Athlete
- 10:30-11:50 Nina Teicholz: Red Meat and The Masculine Ideal Through History
- 01:20-02:40 Chris Masterjohn, PhD: Nourishing Testosterone
- 03:10-04:30 Veronica Tilden, DO: Treating Male Infertility

Track III: Dental

- 09:00-10:20 Louisa Williams, MS, DC, ND: Mercury Amalgam Detoxification
- 10:30-11:50 Ramiel Nagel: Heal & Prevent Tooth Decay & Gum Disease the Natural Way, with Food
- 01:20-02:40 Raymond Silkman, DDS: Dental/Cranial Developments - Its Impact on Overall Health
- 03:10-04:30 Lorie Stevens, DDS: Holistic Dentistry, Your Family's Dental Health: Extracting the Truth

Track IV: Vaccination

- 09:00-10:20 Laura Hayes: Vaccines: What is There To Be "Pro" About?
- 10:30-11:50 Tetyana Obukhanych, PhD: The Immune System
- 01:20-02:40 Alan Phillips, JD: Vaccine Politics & Your Legal Rights
- 03:10-04:30 Del Bigtree: Media: Pushing the Vaccine Agenda

Track V: Practical/Lifestyle

- 09:00-10:20 Celeste Longacre: Ferments, Ferments, Ferments!
- 10:30-11:50 Sandeep Agarwal: Traditional Indian Cooking Using Ghee, Spices & Herbs
- 01:20-02:40 Kelly the Kitchen Kop: Help for Parents: Getting Kids to Eat and LOVE Real Food
- 03:10-04:30 Louisa Williams, MS, DC, ND: Removing the Five "Obstacles to Cure"

Closing Ceremony (4:40-5:40): Frank Niceley, Tennessee State Senator: Restoring the Family Farm

MONDAY NOVEMBER 14

- 07:00-06:00 Will Winter, DVM: Guided Farm Visit
- 09:00-04:00 Carrie Vitt: Nutrient-Dense Family Cooking
- 09:00-04:00 Sandra Van Gilder, DPT: Movement Workshop
- 09:00-04:00 Laura Schoenfeld, RD: Treating "Adrenal Fatigue"

Homeopathy Workshops

- 09:00-12:00 Cilla Whatcott, PhD: Support Immunity with the Perfect Disease Prevention
- 01:00-04:00 Kate Birch, RSHom(NA), CCH: Homeopathy for the Early Years

Why We Need Carbs

By Chris Masterjohn, PhD

One of the lessons that comes across most clearly from the studies that Weston Price documented in *Nutrition and Physical Degeneration* is that, although traditional diets all emphasized nutrient-dense foods, the specific mix of animal and plant foods was widely variable. Since it is primarily plant foods that provide carbohydrate, the carbohydrate content of traditional diets was also widely variable. In groups that lived in the Arctic, it was very low; in groups that lived close to the equator or that relied on grains, it was much higher.

This observation implies that humans can thrive on a wide range of carbohydrate intakes, but it does not imply that anyone in any circumstance can live on a diet that is virtually free of carbohydrate, and it does not imply that carbohydrate is not important. In fact, carbohydrate is essential to our physiology. In this article, I will discuss the essential roles of carbohydrate in the body,¹ and then derive some practical conclusions about how we can manage our own carbohydrate intake.

STRUCTURAL ROLES OF CARBOHYDRATE

Carbohydrates play a variety of essential structural roles in our cells. Each repeating unit of DNA and RNA contains the sugars deoxyribose or ribose, which we make from glucose. These sugars are also essential structural components of the energy carriers we derive from niacin (vitamin B₃), riboflavin (vitamin B₂), and pantothenic acid (vitamin B₅), which we use throughout every aspect of energy metabolism. They are also an essential structural component of ATP, the main energy currency of the cell.

Our tissues are composed of cells that reside within an infrastructure known as the extracellular matrix. All extracellular matrices are built largely from proteoglycans, which consist of a core protein that binds to glycosaminoglycans. In less technical terms, these are combinations of carbohydrate and protein that heavily favor carbohydrate. They are typically 95 percent carbohydrate and 5 percent protein. Popular supplements to support joint health typically contain the predominant glycosaminoglycans in joint fluid, chondroitin sulfate and glucosamine sulfate.

Glycoproteins are another way in which carbohydrates and proteins can be combined. Compared to proteoglycans, they tend to have less carbohydrate and more protein. Nevertheless, the carbohydrate content is widely variable. Antibodies such as IgG are glycoproteins, and contain as little as 4 percent carbohydrate, whereas mucin, the main constituent of mucus, is a glycoprotein that contains 80 percent carbohydrate. Cells are often coated in a glycoprotein structure known as the glycocalyx that allows cells to recognize one another, and to communicate and interact with one another.

The health value of these roles is obviously vast: without them, energy metabolism would fail, and with it, the vast array of energy-dependent processes within the body; without them, our ability to read our own genetic information or to pass it on to our offspring would fail; without them, immunity and digestion would suffer. We could expand the list of such negative health consequences endlessly. Most of the carbohydrate we take in each day is used for energy, and the role of carbohydrate in energy

metabolism is a more productive area of focus if we are trying to understand the potential consequences of consuming too little of it.

CARBOHYDRATE AND ENERGY METABOLISM

Like proteins and fats, we break carbohydrates down into two-carbon units known as acetyl groups that then enter the pathways we use to break them down fully into the carbon dioxide that we exhale and the hydrogen ions and high-energy electrons that we use to synthesize ATP.

Since carbohydrate is richer in oxygen than fat, its metabolism requires 25 percent less water and generates 50 percent more carbon dioxide. Protein is intermediate. The more carbon dioxide we make, the more we need to breathe. A low-carbohydrate, high-fat diet is a useful way to decrease the stress on the lungs in patients requiring artificial ventilation. Outside of that context, however, carbon dioxide plays valuable roles. For example, it facilitates the delivery of oxygen to our tissues, and it activates vitamin K-dependent proteins. It is possible, then, that dietary carbohydrate could assist oxygenation of tissues for such purposes as healing from injury or enhancement of athletic performance, and it is possible that dietary carbohydrate could be an important synergist with vitamin K.

In the presence of oxygen, there is little difference between fully breaking down carbohydrate for energy and fully breaking down fat for energy. They each have an advantage over protein in that their breakdown does not require us to manage the disposal of leftover nitrogen, but this is just as true of fat as it is of carbohydrate.

Carbohydrates, however, have a unique advantage over the other macronutrients in that we can break them down for energy even in the absence of oxygen. We do this by splitting glucose in half and converting it to two molecules of lactate, which is known as anaerobic glycolysis.

Anaerobic glycolysis only generates a small amount of energy compared to fully oxidizing glucose to carbon dioxide. However, tissues that use anaerobic glycolysis can utilize the Cori cycle to greatly amplify the energy produced. In

Carbohydrates have a unique advantage over the other macronutrients in that we can break them down for energy even in the absence of oxygen.

The potential downside to chronic carbohydrate restriction is in the set of compensations we make to prevent a deficiency of glucose.

the Cori cycle, a lactate-producing tissue sends the lactate to the liver; the liver uses energy to convert the lactate back to glucose, and sends the glucose back to the lactate-producing tissue. The net result is that energy is transferred from the liver to the lactate-producing tissue and that the lactate-producing tissue meets its energy needs even in a relative absence of oxygen.

There are a few cases where anaerobic glycolysis is especially useful. Red blood cells lack mitochondria and are thus completely unable to fully break down macronutrients for energy using oxygen. This requires them to rely exclusively on anaerobic glycolysis. A small collection of other tissues rely substantially on anaerobic glycolysis simply because they do not take up enough oxygen from the blood, and these include the lens and cornea of the eye, the kidney medulla and the testes. In acute stress and high-intensity exercise our demand for energy temporarily exceeds the oxygen supply, and the deficit is made up with anaerobic glycolysis.

The brain uses oxygen to produce about 90 percent of its ATP and uses anaerobic glycolysis for the other 10 percent.² Cells known as astrocytes perform most of the anaerobic glycolysis. Rather than delivering the lactate to the liver, however, they deliver it to neurons. Neurons burn the lactate for energy and that helps them conserve glucose for antioxidant defense.

ANTIOXIDANT DEFENSE AND NUTRIENT RECYCLING

In addition to anaerobic glycolysis, there is a second pathway that has an absolute demand for glucose known as the pentose phosphate pathway. In this pathway, instead of using the energy from glucose to make ATP, we use it for the synthesis of larger molecules, for antioxidant defense, and for nutrient recycling.

With the help of thiamin (vitamin B₁), niacin (vitamin B₃), and riboflavin (vitamin B₂), this pathway takes energy from glucose and uses it for the following processes: the synthesis of fatty acids, cholesterol, neurotransmitters and nucleotides; the recycling of glutathione, the master antioxidant and detoxifier of the cell; and the recycling of vitamin K and folate.

GLUCONEOGENESIS, CORTISOL AND THYROID

Since we have an absolute need for glucose to support anaerobic glycolysis and the pentose phosphate pathway, we have a very robust system for ensuring we always have enough glucose even under conditions of dietary carbohydrate deprivation: gluconeogenesis. This is the production of glucose from non-carbohydrate precursors. Gluconeogenesis is primarily supported by protein but is also supported to a minor degree by fat.

While it is conceivable that someone on an extremely low-carbohydrate intake could suffer from a deficiency of total glucose, particularly if subsisting on a diet that is also very low in protein and deficient in nutrients needed for gluconeogenesis, this is likely to be very rare. When we chronically restrict carbohydrate, our bodies will naturally do everything in their power to conserve glucose, and in most cases gluconeogenesis will be sufficient to meet these lower needs.

The potential downside to chronic carbohydrate restriction is in the set of compensations we make to prevent a deficiency of glucose. Gluconeogenesis is primarily stimulated by the adrenal hormone cortisol. Cortisol antagonizes thyroid hormone and, when chronically elevated, impairs immunity. As we move away from burning glucose and toward greater reliance on fat, free fatty acids elevate. Cortisol augments this rise even further by causing us to release free fatty acids from adipose tissue. High levels of free fatty acids can impair thyroid hormone's ability to carry out its physiological functions within our cells even if blood levels of thyroid hormones remain normal.

Interpreting blood, saliva, and urinary hormone testing is complicated and should be done under the supervision of a qualified practitioner. Nevertheless, we can note a few useful guidelines here.

Elevated cortisol could be a sign of inadequate carbohydrate intake. However, prolonged chronic elevation of cortisol can ultimately lead to long-term changes that bring cortisol to normal or low levels. Additionally, the rise in cortisol may occur at times that are difficult to detect. For example, if carbohydrate stores are

inadequate to maintain stable blood sugar through the night, cortisol could spike in the early morning hours to stimulate gluconeogenesis. Cortisol normally spikes once you wake up and are exposed to light, and you cannot measure your cortisol when you are asleep, so it would be difficult to detect an early pre-waking rise in cortisol in this context.

If blood levels of thyroid hormone are affected, low T3 is the most likely result.³ However, T3 can be normal and elevated free fatty acids could still be impairing its cellular function.

If thyroid hormone activity is low, whether from low T3 or from interference with its activity by elevated cortisol and free fatty acids, one of the likely consequences is high LDL-cholesterol with low sex hormones. I consider the combined pattern of total cholesterol in substantial excess of 220 mg/dL, a high total-to-HDL-cholesterol ratio in substantial excess of 3.0, and total or free sex hormones toward the lower ends of the reference ranges to be a potential sign of low thyroid activity regardless of blood levels of thyroid hormones.³

HOW MUCH CARBOHYDRATE SHOULD WE EAT?

Carbohydrate demand is going to vary from person to person and is going to depend on physical activity level, but we can derive some general guidelines. The liver stores about 90 grams of carbohydrate, skeletal muscle stores 300 grams, and bodily fluids contain 30 grams.⁵ A completely sedentary person will primarily be tapping into the liver's glycogen stores in order to stabilize blood sugar between meals. In the absence of physical activity, then, it makes sense to use about 100 grams per day as an initial target.

Someone whose physical activity is no more intense than walking is unlikely to begin tapping

ATHLETIC PERFORMANCE

For athletes,⁴ the potential downside of chronic excessive carbohydrate restriction is impaired performance or impaired performance gains for activities that require anaerobic glycolysis.

There are three energy systems that fuel activity during exercise: creatine phosphate, anaerobic glycolysis and oxidative phosphorylation. Oxidative phosphorylation refers to the complete oxidation of carbohydrates, fats or proteins.

During a bout of continuous high-intensity physical activity, we fuel the first fifteen to thirty seconds with energy from creatine phosphate. The period from thirty to ninety seconds is dominated by anaerobic glycolysis. Anaerobic glycolysis remains significant through the first thirty minutes, but diminishes in importance after ninety seconds when oxidative phosphorylation begins to take over. Oxidative phosphorylation becomes the overwhelming factor after thirty minutes.

Chronically restricting carbohydrate will shift the body toward using fatty acids and ketones (small, water-soluble derivatives of fatty acids) for fuel. This can shift the post-ninety-second demand for fuel from the oxidation of carbohydrate to the oxidation of fat, but it cannot reduce the demand for glucose in the thirty to ninety-second mark. We rely on anaerobic glycolysis during this period because our demand for energy temporarily exceeds the delivery of oxygen to our tissues, and eating a high-fat diet is not going to increase the speed at which we can suddenly drive oxygen to our muscles during the acute onset of intense activity.

Athletic training itself could reduce the demand for glucose in the thirty-to-ninety-second mark by making us more effective at oxygenating our tissues and more efficient in our use of energy. But all athletes train, so no athlete can rely on this alone for a competitive edge. Even after ninety seconds, glucose will be the limiting factor for maximum intensity simply because any intensity above and beyond what the supply of oxygen can accommodate can only be met through anaerobic glycolysis.

Many athletes supplement with creatine in order to boost the amount of energy available in the first thirty seconds or extend the creatine supply somewhat beyond thirty seconds. This is especially valuable for weight training, where a set often lasts thirty to sixty seconds. Consuming a large amount of creatine from meat or supplements might reduce the demand for anaerobic glycolysis by extending the use of creatine beyond the thirty-second mark. Nevertheless, it is not going to extend the dominance of the creatine phosphate system through ninety seconds or provide the edge needed for maximal intensity thereafter.

Sprinting, track-and-field events, gymnastics and most team sports rely on short bursts of energy that depend on anaerobic glycolysis. There is currently a paucity of controlled studies investigating the degree to which these sports can maximally adapt to fat-burning on carbohydrate-restricted diets.

It is important to realize, however, that the primary variables at risk are maximal performance and stress hormone adaptation. Maximal performance is primarily important in a competitive context, where a marginal increase in speed in a particular instant could make the difference of winning or losing. Stress hormone adaptation is relevant to everyone regardless of athletic status, but since athletes have a greater need for carbohydrate, they would be more likely to experience negative adaptations than someone enduring a similar level of carbohydrate restriction but living a sedentary lifestyle.

into their muscular glycogen supply. Greater intensities, however, such as running or weight lifting, will do so. It is almost impossible for someone to more than guesstimate how much muscular glycogen they would burn through with any particular physical activity pattern, but it is reasonable to say that a very active person could add another 300 grams of carbohydrate on top of the initial 100 grams. In fact, the primary metabolic consequence of consuming 500 grams of carbohydrate in an otherwise healthy person, regardless of physical activity, is to shift that person's metabolism almost entirely toward burning carbohydrate for energy.

These numbers should not provide more than an initial guideline. If someone wishes to restrict carbohydrates to less than 100 grams per day for a specific purpose, a prudent approach to safety would be to monitor stress, thyroid, and sex hormones, to ensure they all remain in optimal range. Physically active people should be aware that they may need considerably more than 100 grams to prevent these hormones from going out of range.

TRADITIONAL DIETS

We may be left wondering, but what about the Inuit? Didn't they eat far less than 100 grams of carbohydrate per day?

When we look at traditional diets, we have to be careful of emulating the tails of the distribution. Most traditional diets contained plenty of carbohydrate. Diets traditional to the Arctic are the exception, and they are adaptations to that specific environment. The inhabitants of the Arctic most likely adapted to that environment with a suite of genetic and cultural adaptations that may have to work in concert to produce optimal health.

Consider what Price himself wrote of the reproductive diets in the Arctic:


For the Indians of the far North [reinforcement of fertility] was accomplished by supplying special feedings of organs of animals. Among the Indians in the moose country near the Arctic circle, a larger percentage of the children were born in June than in any other month. This was accomplished, I was told, by both parents eating liberally of the thyroid glands of the male moose as they came down

from the high mountain areas for the mating season, at which time the large protuberances carrying the thyroids under the throat were greatly enlarged.

It could well have been that consumption of moose thyroid was an important means of maintaining fertility in the face of the level of carbohydrate restriction that the Arctic environment forced on its inhabitants.

We know that there are genetic variations in fat metabolism common to Arctic populations that likely lead their fat metabolism to be different than other populations,^{6,7} but it is too early to fit these into a coherent explanation of how these populations adapted to the specific demands of the Arctic environment.

It is safer ground to emulate the preponderance of traditional diets that contained plenty of carbohydrate than to emulate the lower tail of the carbohydrate distribution found in the Arctic because we don't fully understand how the particular suite of genetic and cultural adaptations allowed Arctic populations to thrive on such a low carbohydrate intake.

Nevertheless, we do as humans contain a remarkable degree of metabolic flexibility. It makes the most sense to emphasize nutrient density above macronutrient composition, but to also be conscious of the need for carbohydrate to minimize hormonal dysregulation and support athletic performance. This will allow us to gravitate intuitively toward the amount of carbohydrate that works best for us, and to modify our carbohydrate intake as needed to best support our health. 

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Recovery from a Low-Carb Diet

By Kim Schuette, CN, CGP

As with many aspects of life, extremes can be a challenge. Balance of nutrients is an important key for vibrant health. There is no question that those who have grown up on a diet high in refined carbohydrates experience tremendous benefits from eliminating them and adopting a diet high in animal fat and moderate amounts of protein, with a wide variety of vegetables and some fruits.

At the other extreme is a diet very low in carbohydrates, often promoted for weight loss and immune disorders. However, problems result for many when complex carbohydrates are avoided long term. The result is often seen in conditions related to low thyroid and adrenal function.

One's
oxidative level
is easily
assessed using
hair analysis.

Do any of these symptoms sound familiar?

- Are your hands and feet typically cold?
- Is excess weight creeping up on you?
- Has your average body temperature dropped?
- Is your ability to handle stressful situations not what it used to be?
- Do you have symptoms of osteoarthritis?
- Are you experiencing hearing loss?
- Appearance of xanthomas (lipid deposits under the skin)?
- Eyelids dropping?
- Sluggish reflexes?
- Acne?
- Low libido?
- Challenged by infertility?

A SHIFT IN METABOLISM

The best explanation for the appearance of these symptoms is that as we age—we begin aging around age twenty-one—we shift from being fast oxidizers to slow oxidizers. In a nutshell this means that our ability to burn fuel slows down a bit and requires a little prodding. The result is a shift toward hypothyroidism, although often it is only sub-clinical, meaning thyroid hormone levels appear to be “normal.” Nonetheless, the symptoms are ever present.

The body's metabolism is like a fireplace fueled by three critical components: fat, protein and carbohydrates. Fat, which provides longer burning, sustaining energy, is the body's preferred fuel. Protein is secondary and carbohydrates come next—carbs are critical for creating quick energy. Fat represents the large logs in the fireplace; protein represents the smaller logs; and carbohydrates can be seen as the twigs and kindling. When we are young and healthy, we have so much vitality that we easily function on a very high-fat diet, effortlessly breaking down and efficiently utilizing fats such as butter, cream, egg yolks, animal fats and fatty meats.

This is due to being in a state of fast oxidation. As the aging process takes place and we find ourselves under more environmental stress, we shift into slow oxidation. Being in a state of slow oxidation requires more glucose to stoke the metabolic fire. It is for this reason

most people after childhood (and even older children) require greater amounts of complex carbohydrates.¹

NOT TOO SLOW BUT NOT TOO FAST

As a person grows older, his or her oxidation rate typically begins to slow down. These days it is rare for even young adults to be fast oxidizers. Factors that slow oxidation rate include aging, nutritional deficiencies and overconsumption of refined carbohydrates. Additional causes of slow oxidation are toxic metal accumulation, lack of regular sleep, exposure to medications and vaccines, chronic emotional and mental stress, as well as inadequate exercise or excessive exercise. Stimulants such as caffeine, loud music, EMFs (electromagnetic fields) and stimulatory drugs also propel the body toward slow oxidation prematurely by straining adrenal function.

It is possible to be in a healthy state of slow oxidation just as one can be in an unhealthy state of fast oxidation. The goal is always to be in a balanced state of oxidation and overall health. One's oxidative level is easily assessed using hair analysis. Slow oxidation is defined via a hair mineral analysis as a calcium/potassium ratio greater than 4 and a sodium/magnesium ratio less than 4.17. The higher the calcium-potassium ratio or the lower the sodium-magnesium ratio, the slower the oxidation rate.

Indications that one is in an unhealthy slow oxidation state include sluggish adrenal and thyroid activity, constipation, gut dysbiosis and leaky gut syndrome, depression, difficulty digesting fats and vertigo, while those in a less-than-optimal state of fast oxidation often experience high blood pressure, a tendency to have diarrhea, anxiety and excessive perspiration. A slow oxidizer has decreased activity of the thyroid and adrenal glands. The hormone levels of these endocrine glands may be indicated by low levels on blood or salivary tests but it is not unusual to see ratios in hair analysis decline months to years before measurable declining levels are detectable via blood or saliva.

The adrenal and thyroid glands are typically depleted of nutrients, especially minerals, due to prolonged states of stress. Chronic stress can leave a person's sympathetic nervous system in what Hans Selye, MD, described as the exhaus-

tion stage of stress. The sympathetic nervous system is what allows us to enter a state of “fight or flight.” Unfortunately, due to hectic lifestyles, unresolved emotional conflicts, unrealistic paces of living, environmental toxic exposures (chemicals, pesticides, glyphosate, vaccines, toxic metals, toxic personal care products, etc.) and nutritional deficiencies, many individuals live in a state of sympathetic dominance of the autonomic nervous system, rather than parasympathetic dominance, and the average person living in this modern world enters Dr. Selye’s exhaustion stage early in life.

Using hair analysis, in addition to assessing one’s oxidation rate, we can see patterns of low or high thyroid and adrenal function at the cellular level. Thyroid activity is assessed using the calcium-to-potassium ratio, with 6.67 being ideal. Adrenal status is determined by sodium to magnesium (4.17 is the ideal ratio) and sodium to potassium (2.5 is perfect). Once these levels are understood, along with oxidation rate, a food plan and nutritional protocol can be created. Thankfully, we have access to a wide range of unrefined carbohydrates that can be prepared in a manner that is easily digestible and beneficial to humans.

While low-carbohydrate diets may be useful initially to balance blood sugar dysregulation and insulin resistance, as well as promote weight loss, prolonged avoidance of complex carbohydrates can push one to a state of extreme slow oxidation, adversely affecting thyroid and adrenal functions even further, and may interfere with the production of hormones, especially progesterone and thyroid hormones. Initially many people on a low-carb diet experience weight loss after eliminating refined carbohydrates but soon find that their metabolism declines, leading to more challenges with weight management, lethargy and decreased energy.

THYROID CHALLENGES

In my own practice, my colleagues and I see many young women struggling with infertility after going on a prolonged diet very low in carbohydrates. Central to most cases of infertility is clinically or sub-clinically low thyroid function. Research indicates that a low-carb diet can cause free T3 thyroid hormone to decrease and

reverse T3 thyroid hormone to increase, blocking biologically active thyroid hormones.^{2,3} The result is lower levels of free T3, which results in lower metabolism. Symptoms occur such as fatigue, cold extremities, constipation, depression and many of those mentioned previously.

In an effort to compensate for low thyroid hormone levels, your body will increase its production of stress-handling hormones like adrenaline and cortisol. Initially, you’ll feel fantastic. And then comes the depletion of these hormones, followed by a metabolic crash.

DON’T FORGET YOUR LIVER

A main role of the liver is storage of sugar in the form of glycogen. Glycogen provides quick energy when needed. It also helps stabilize blood sugar levels between meals. In order for the liver to have adequate stores of glycogen, carbohydrates must be consumed on a regular basis. This is especially important for those under stress. One of the consequences of a long-term low-carb diet is that the liver suffers from a lack of glucose, diminishing its ability to regulate blood sugar.

As a result of poor blood sugar regulation, the body produces more stress hormones, like cortisol and adrenaline. These hormones break down muscle to create more glucose for brain function. Additionally, cortisol interferes with the liver’s ability to convert free T4 to free T3, thus compounding this already existing problem. As stress hormones rise, they create reverse T3, which further drives thyroid hormones low. The end result is a vicious cycle that ends in fatigue, weight gain, low sex hormones, disrupted sleep patterns, premature aging and physical degeneration.

One last point about the liver: the liver not only plays a key role in blood sugar regulation but it also is responsible for detoxification of excess estrogen, which is suppressive to the thyroid hormones. In order to detoxify excess estrogen effectively, the liver needs glucuronic acid. Glucuronic acid is formed from glycogen. This gives one more reason to have carbohydrates in the diet. Estrogen is metabolized ideally by the liver via the 2-hydroxy estrone pathway and eliminated through the colon. When this pathway is overloaded or damaged,

In my own practice, my colleagues and I see many young women struggling with infertility after going on a prolonged diet very low in carbohydrates.

Butyric acid in butter is known to increase the number of thyroid hormone receptors on cells, allowing for delivery and utilization of more thyroid hormones.

the liver will use two other pathways via bile to eliminate estrogen. When estrogen passes in this way through the colon, it is likely to be re-absorbed. For this reason, Raymond Peat, PhD, recommends eating one to two grated raw carrots daily. Raw carrots have been found to absorb estrogen efficiently.⁴

Remember, chronic stress leads to constant production of the stress-handling hormones, cortisol and adrenaline. This disrupts the production of the calming hormone progesterone and interferes with the production of thyroid hormones, particularly free T3, and the clearance of estrogen, setting the stage for estrogen dominance and increasing the risk for developing autoimmune Hashimoto's, just one more reason for including healthy, properly-prepared unrefined carbohydrates in the diet.

STOKE YOUR METABOLIC FIRE

The first step in reversing the vicious cycle brought on by a diet too low in carbohydrates is to add a little kindling to your metabolic fire. This is best done by introducing properly prepared complex carbohydrates with each meal.

This includes root vegetables, winter squashes, soaked legumes and grains. Those who are truly gluten-intolerant should stick with brown rice and quinoa.

Begin with one-fourth to one-half cup of complex carbohydrates with each meal. Always include a generous serving of animal fat or coconut oil with the carbohydrates. Coconut oil is especially beneficial to the thyroid gland. Pay special attention to grain and legume preparation. In addition to speeding up one's slow oxidation rate, grains offer the benefits of many valuable nutrients, provided grains are prepared in a manner that makes those nutrients available for absorption.

Traditionally grains were consumed whole and after soaking or fermentation. Modern science has been able to discover the importance of this ancient practice. All grains contain phytic acid (an organic acid in which phosphorus is bound). Unreleased phytic acid binds to certain minerals such as calcium, copper, iron, magnesium and zinc preventing their absorption in the intestinal tract. Over time this can lead to conditions such as irritable bowel and leaky gut

PROPER PREPARATION OF GRAINS

Soak 1 cup grain in 2-3 cups warm filtered water plus 2 tablespoons yogurt, whey, fresh lemon juice or raw apple cider vinegar for seven to twenty-four hours. For whole grains, prior to cooking drain water and proceed to cook per recipe. For rolled or cut grains (such as rolled or steel cut oats), you don't need to pour off the water as it will be completely absorbed.

Rice and millet are the lowest in phytic acid and therefore their soaking times are lowest. However, millet is suppressive to the thyroid and not recommended for those with signs of hypothyroidism. Cooking in bone broth will also help neutralize the mineral-binding effects of phytic acid. Quinoa contains saponins, which can be extremely irritating to the gut, so be sure to rinse quinoa at least once during its twenty-four-hour soaking time.

Unsoaked grains in the form of commercial breads, pastries, granola and dry cereal are never recommended. True sourdough breads are a nice alternative to homemade bread. Gruels and porridges made from properly soaked grains provide a healthy replacement for boxed dry cereals. Don't forget the butter!

SOAKING TIMES:

Rice and millet: 7 hours minimum

Quinoa: 24 hours minimum and rinse at least once

All other grains: 12-24 hours

NEUTRALIZER AND WATER AMOUNT:

For most grains, use a 1:2 ratio grain:water and 2 tablespoons acidulator.

For quinoa, use a ratio of 1:3 and 1 tablespoon acidulator

COOKING TIMES:

Whole (intact) grains: 45 to 60 minutes

Rolled grains: about 20 minutes

Cracked or steel cut grains: about 30 minutes

syndromes, and eventually much more serious disorders. Soaking allows enzymes and probiotic organisms to break down and neutralize phytic acid. Soaking also neutralizes digestion-blocking enzyme inhibitors, breaks down irritating lectins and helps digest difficult-to-digest complex starches.

It is important that soaking occur in warm acidulated water. This can be accomplished through the use of real yogurt, homemade whey, lemon juice or raw apple cider vinegar. Likewise, legumes like beans and lentils require careful preparation.

DON'T FORGET THE BUTTER

Butter and ghee (clarified butter) contain high concentrations of butyric acid. Butyric acid

in butter is known to increase the number of thyroid hormone receptors on cells, allowing for delivery and utilization of more thyroid hormones.⁵ Include one or two teaspoons of butter or ghee or more at each meal, and especially at breakfast.

Coconut oil is another good source of butyric acid. Butyric acid will help deliver thyroid hormones to every receptor site throughout the body, including the brain. The addition of daily coconut oil is highly recommended.

VITAMIN A'S ROLE

The liver and thyroid gland need vitamin A in order to convert cholesterol into the anabolic (anti-aging) hormones pregnenolone, progesterone and DHEA. Vitamin A is found only in animal fats, including raw cream, butter, liver and egg yolks, as well as unrefined fish liver oils. Daily inclusion of these fats is imperative to recover from the ill effects of a diet too low in carbohydrates. In my practice we use Green Pasture fermented cod liver oil to address hormonal challenges.

PREPARATION OF LEGUMES

Legumes such as lentils and beans, are a rich source of minerals; they should be soaked for seven to twenty-four hours, changing the water every seven hours. Soak in a neutralizer (also known as a "deactivator") such as homemade whey, lemon juice, raw apple cider vinegar or baking soda.

NEUTRALIZER GUIDELINES:

Lentils and garbanzos: Use whey, raw apple cider vinegar, or lemon juice. Add 2 tablespoons of neutralizer to one cup of lentils or garbanzos.

Kidney-shaped beans (kidney beans, pintos, Anasazi, navy, white, black bean): Use baking soda; 2 tablespoons baking soda for one cup of kidney-shaped beans.

1. Do not use cold water for soaking legumes. Bring purified water to a simmer so that you begin with room temperature or slightly warm water.
2. Rinse legumes in a colander every seven hours and at least one to three times during the soaking process when soaking more than seven hours. Each time you rinse, add newly simmered water and another dose of the neutralizer.
3. The longer you soak your legumes, the shorter your cooking time.
4. Avoid using a pressure cooker. The extremely high temperature and pressure will denature the protein and can destroy other nutrients in the legumes.
5. Be sure to skim and discard the scum that may appear after beans are first brought to a boil. Lower the heat and simmer. Do *not* boil beans. This will cause them to become tougher and more difficult to digest. A slow cooker is perfect for cooking beans at a simmer.
6. Do *not* add salt to the cooking water as it will toughen the beans.
7. A strip or two of kombu seaweed can be added to the cooking water, especially for kidney-shaped beans; this will help break down the oligosaccharides, minimizing gastric distress. Kombu also adds minerals to your legumes.

SOAKING GUIDELINES:

Lentils: soak for 7 hours or more

Kidney-shaped beans: 18-24 hours

Garbanzos: 24-48 hours

COOKING GUIDELINES: All legumes should be cooked until very soft

Lentils: cook 45-60 minutes

Kidney-shaped beans: cook at least 4 hours or until very soft

Garbanzos (also known as chickpeas): cook 4-6 hours or until very soft

Carbohydrates offer excellent sources for minerals and energy, fuel for the brain and support for the liver's important task of blood sugar regulation and estrogen detoxification.

FRESH ORANGE JUICE

I do not typically recommend fruit juices; however, the use of fresh squeezed orange juice in the morning is advocated by Raymond Peat for those recovering from hypothyroidism and has proven to be very reparative for those recovering from low thyroid and adrenal function. Orange juice, an excellent source of magnesium, supports the liver's ability to convert free T4 to the biologically active form, free T3. Orange juice should be fresh squeezed and organic, as commercial oranges are subjected to high levels of pesticides, many of which are endocrine disruptors.

CELTIC SEA SALT

As fatigue from prolonged stress sets in, cell function decreases tremendously. Nutrient depletion robs the body of precious electrolytes.⁶ The use of Celtic sea salt supports low thyroid, adrenals and progesterone while helping increase metabolic rate. Celtic sea salt should be used at each meal. In addition, add one-fourth teaspoon Celtic sea salt to one pint spring or purified water and consume two to three times daily.

CARBOHYDRATES: HOW MUCH IS TOO MUCH?


One benefit of hair analysis is that the mineral ratios allow for a clearer understanding of a person's ideal amount of carbohydrates. Without the use of hair analysis, we must keep in mind that we are all metabolically unique. Also, portion sizes will vary depending upon one's size and activity level.

A typical plate will look like this: one portion animal protein (meat, seafood, poultry, always with the fat or skin); one or two portions of non-starchy vegetables; one portion of a starchy vegetable (grains, legumes, tubers or roots); and at least one tablespoon of healthy fats in the form of butter or other fat on the vegetables, or a sauce containing butter, egg yolks or cream. Observe energy level, sleep, elimination, body temperature, mental outlook and adaptability to stress. Then make dietary adjustments accordingly.

Graphing one's temperature daily is an easy way to understand one's metabolic status. By

charting or graphing one's temperature along with a food diary, it is much easier to notice the metabolic effects your diet is having. To learn more about temperature graphing, visit my website at biodynamicwellness.com.

IN CONCLUSION

Carbohydrates offer excellent sources for minerals and energy, fuel for the brain and support for the liver's important task of blood sugar regulation and estrogen detoxification. Carbohydrates are indeed beneficial when they are carefully grown, properly prepared and accompanied by adequate protein and a variety of other nutrient-dense foods high in vitamins A, D, K₂ and a wide range of minerals—all in accordance with the principles established by Weston A. Price. 

Kim Schuette, CN, certified GAPS practitioner, has been in private practice in the field of nutrition since 1999 teaching the importance of real food for optimal health. In 2002 she established Biodynamic Wellness (biodynamicwellness.com) where she and her staff specialize in nutritional and biotherapeutic drainage therapies to support gut/bowel and digestive disorders, detoxification, mindful preconception, hormonal imbalances, ADD/ADHD challenges, and children's health concerns. Additionally, Kim serves on the board of directors for the WAPF and co-serves as the WAPF chapter leader in San Diego, where she resides with her husband and youngest son.

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Is Sugar Addiction Real?

By Tiffany Wright, PhD, the Skinny Coach

Sugar is in almost everything. In fact, of the six hundred thousand products in the grocery store, 80 percent have added sugar, and since 60 percent of the American diet is made up of processed food, the amount of sugar the average American is consuming is phenomenal.

Americans consumed a mere four pounds of sugar per year in the 1700s; today Americans consume one hundred sixty-eight pounds of sugar yearly. Put another way, in the 1700s, we consumed the amount of sugar in one can of soda every five days, while today we eat that much sugar every seven hours.¹ At this rate of increase, by 2600 sugar consumption would be 100 percent of the American diet—although it is hard to see how the amount of sugar we eat could get any higher than it already is.

Sugar is loaded into your soft drinks, fruit juices, and hidden in almost all processed foods from deli meat to chips—even in salt! There are over 60 different names for sugar listed on food labels, including common names like sucrose and high-fructose corn syrup to other lesser known names like barley malt, maltose and dextrose.

HYPER-PALATABLE FOODS

This increase in sugar consumption is not accidental. The food industry has structured the creation of food products into a multi-billion dollar industry, turning food into a theoretical killing machine. They achieved this by making food “hyper-palatable.” Hyper-palatable food basically means that it tastes very, very good and is incredibly easy to chew. Once it is processed in this form, it is far more rewarding to your brain chemistry. In fact, hyper-palatable foods actually alter your brain chemistry, making you addicted to them.²

The goal of the food industry is to design food to a point—often referred to as the “bliss point”—at which you are physically unable to eat just one. To be clear, the food is scientifically engineered to make sure you have to keep eating once you start. This ensures that the food industry makes the biggest profits possible, and that you never stop putting food into your mouth.

These food-like substances are incredibly “yummy” and are typically a combination of several powerful brain stimuli: sugar, salt and industrial vegetable oils. This combination creates a food that is categorized as a super-stimulus. These super-stimuli food-like products literally flood the brain with the feel-good chemical dopamine. This over-stimulation alters your brain chemistry so that you begin to interact differently with the food you’re consuming. Eventually, you can’t help but think about food all the time; which in turn causes you to repeat the eating behavior to get the payoff. Over time, this solidifies that neural pathway into what you might call a “habit.”

HOOKED ON SUGAR

Neural pathways are brain pathways that have evolved to respond to natural rewards. These pathways are also activated by addictive drugs, like heroin, alcohol and cocaine. Sugar and white flour cause chemical reactions in your brain that are similar to those caused by drugs. It would

follow that if sugar causes the same reaction as drugs in your brain, you would have the same response to them: addiction.

Sugar lights up the pleasure and reward centers of our brains. The same reward centers are activated when someone smiles at you or when you are falling in love. It makes perfect sense that when you eat sugar you want more, since you have activated your reward center. And your brain will “crave” as much reward activation as you’re willing to give it.

Fast foods or hyper-processed packaged foods have some of the strongest reinforcing effects because they are super-stimuli. Numerous studies have shown that sugar floods the reward system with dopamine, particularly a brain area called the nucleus accumbens, which is strongly implicated in addiction. Sugar also affects opioid pathways within the brain, the same system manipulated by drugs like heroin and morphine, and causes powerful cravings.³

A popular belief holds that cravings are about satisfying your body’s need for energy, but that is not true. Cravings happen when your brain is calling for reward. In other words, your brain drives you toward that dopamine-opioid signal. The more you reward your brain, the more your brain will “crave” the substance that is rewarding it.

Studies have compared the brains of people hooked on sugar to those hooked on drugs, and

SOME OF THE MANY NAMES FOR SUGAR

| | | | |
|--------------------------|---------------------------|---------------------------------|--------------------|
| Agave syrup/Agave nectar | Demerara sugar | Golden sugar | Mannitol |
| Barbados sugar | Dextran | Golden syrup | Muscovado |
| Barley malt | Dextrose | Grape sugar | Panocha |
| Beet sugar | Diastatic malt | HFCS (High fructose corn syrup) | Powdered sugar |
| Brown sugar | Diatase | Honey | Raw sugar |
| Buttered syrup | Ethyl maltol | Icing sugar | Refiner’s syrup |
| Cane sugar | Free flowing brown sugars | Invert sugar | Rice syrup |
| Caramel | Fructose | Lactose | Sorbitol |
| Carob syrup | Fruit juice | Malt | Sorghum syrup |
| Castor sugar | Fruit juice concentrate | Malt syrup | Sucrose |
| Corn syrup | Galactose | Maltodextrin | Sugar (granulated) |
| Corn syrup solids | Glucose | Maltose | Treacle |
| Confectioner’s sugar | Glucose solids | | Turbinado sugar |
| | | | Yellow sugar |

Note: Natural sweeteners like raw honey, molasses, evaporated cane sugar juice (Rapadura), maple syrup, maple sugar, coconut sugar and dried stevia leaves were a part of traditional diets and can be used in very moderate amounts by those who do not suffer from sugar addiction!

Also to avoid: artificial sweeteners like aspartame, sucralose, xylitol and stevia extract.

found startling similarities. Research on rats has shown that sugar is as addictive as cocaine. Specifically, the sugar in an Oreo cookie (a super-stimulus) stimulated more neurons in the pleasure centers of the rat's brains than cocaine!

Researchers have also taken cocaine-addicted rats and given them a choice between cocaine and a sugary drink and the rats still preferred the sugar. In other words, sugar stimulates the brain in the same way that drugs do and stimulates the pleasure center in the same way drugs do. These stimulations in your brain are what make drugs and sugar so addictive. Furthermore, studies are beginning to show that sugar may be the most addictive drug of all.⁴

Brain scans of obese people and those of cocaine addicts are strikingly similar—and different from the scans of normal brains in the same way. Studies show that the brain of a sugar addict is highly aware of sugar because it has learned that it feels extremely rewarding.

Sugar meets other criteria for addiction as well. It produces high tolerance levels because of regulation, loss of control, cross-sensitization and desensitization and withdrawals.

SUGAR'S EFFECT ON THE BRAIN

In the part of the brain that is stimulated when we experience pleasure we have dopamine receptors. Dopamine is the brain chemical that is released from receptors when we feel pleasure. In brain scans, obese people have very few receptors. Why? Because the effect of sugar causes a rush of dopamine. Over time, use reduces the number of receptors. This phenomenon is called down-regulation and it is the result of the brain trying to keep things in balance. This leads to the user needing more sugar to get the same pleasurable feeling. Addicts call this “chasing the high” and eventually it leads to needing more sugar just to feel normal. This is called tolerance and is why people binge. Binging is the result of the brain needing to feel normal.

Cross-sensitization is another phenomenon known in the drug community, when drug addicts switch from their drug of choice to another drug. This is demonstrated with sugar in lab studies with mice and common knowledge in the addiction community. If you ever go to

an AA meeting you can see for yourself. As a coach over the last eight years I would say that a good 10 percent of the people I talk to who say they are addicted to sugary food were once alcoholics.

Of course some people may be more susceptible than others to developing a sugar addiction. But given the food industry's extreme overuse of sugar, even people who are not predisposed can become addicted.

The reason for tolerance, down-regulation, cross-sensitization and, ultimately, the degeneration that accompanies sugar addiction is that the brain is very malleable. The brain is able to create new neurons and form new neural pathways—this is called neuroplasticity. Think of it this way; the brain forms neural pathways in the same way a well-traveled hiking trail is formed. The more we travel a path the faster, easier and more familiar the path becomes.

Over time, the brain forms familiar neural pathways and those become habitual routes. New neural pathways are formed as the addiction develops because addiction chemically alters the brain's communication systems.

Now we know that the brain adapts to the strong effects of sugar because sugar releases feel-good neurotransmitters and those brain changes make repeated use very compelling.

We know that sugar causes new brain pathways to form and leads to a reduction in dopamine receptors.

Additionally, because the brain's communication system permits specific areas of the brain to interact rapidly with other brain regions, it makes sense that anything that alters the brain's communication system will alter the way the brain functions. The brain reacts very strongly to the effects of sugar and other addictive drugs and activities. The problem, in this case, is that when it does change, the change occurs in several brain regions that perpetuate the addiction—these changes to our brain make the repeated use of addictive substances very compelling. For example, overuse of sugar causes damage in the pre-frontal cortex, which regulates decision-making and impulsivity. It damages the amygdala causing habit formation, craving and withdrawal symptoms, as well as relapse triggers, and it can damage the hypo-

Studies have compared the brains of people hooked on sugar to those hooked on drugs, and found startling similarities.

The nutrients
contained
exclusively in
animal fats
can help our
bodies make
feel-good
chemicals
in the right
way so that
we don't
need sugar to
feel normal
and happy.

thalamus, which regulates stress and causes withdrawal effects.

The reason addiction is said to be degenerative is because the addiction leads to structural changes in the brain, making the addiction even worse—even more compelling, even more inescapable.

ADDICTION IN DAILY LIFE

Now that we have discussed the implications of sugar and food on the brain, let's talk about how it manifests in daily life. Because sugar addiction has such a profound effect on the brain it appears in clear behavioral changes. Signs of addiction—for sugar addicts and for all addicts—include persistent urges to consume more, a lost capacity for self-regulation, repeated use in dangerous circumstances, creation of a daily routine that centers around the substance, a need to consume increasing amounts of the substance, and withdrawal that appears when the brain's minimal substance intake levels are not reached.

Food and sugar addicts eat more than they intend. For some people, there is no such thing as a bite of chocolate or a single piece of cake. Telling sugar addicts to eat in moderation is like telling an alcoholic one shot of tequila once in a while is okay.

When I was one hundred pounds overweight through my twenties, I would go to the kitchen and get a small bowl of ice cream and go in the living room and eat it, then immediately get another bowl. Then I would spend the next three hours eating a scoop, waiting a few minutes, tortured in my mind trying not to think about the ice cream, get up for one more and do the same thing. Eat, wait, obsess. . . until all the ice cream was gone. All addicts have similar stories.

Food and sugar addicts are known for trying and failing to control their eating. I find my career very rewarding but it is also heartbreaking. Before I take a client, I talk on the phone with them for about an hour about their eating issues and what is going on with them. I ask them questions about how their weight has affected their health, their relationships, their work life and their social life. I ask them why they are where they are and what they have

done to change and why they think it failed. I have talked to thousands of people about weight over the last ten years and everyone I work with feels exactly the same way: they can't control what they put in their mouth. It is psychically devastating when you cannot control something so fundamental as what you consume—in fact, it is a kind of torture.

Food and sugar addicts experience guilt and shame after eating. The shame and guilt happen because of the daily lying and disappointment people feel when they say they are going to do something and can't. For instance, promising themselves they will eat healthier and don't. Let's be real here: if a person's best friend or mate lied to them as much as an addict lies to himself or herself, that person would end the relationship. Food addicts lie about starting a diet, not eating fast food, not eating after six o'clock in the evening, a million little lies every day, week, month, year. The guilt comes from the inability to keep one's word.

Sugar addicts eat to deal with emotions. Stress eating, unhappiness, happiness, anticipation, any number of emotions are centered around food. When food addicts feel bad, they want to eat because eating makes them feel better, as they are releasing some pretty powerful "feel good" neurotransmitters when they eat sugar. There are also the association with pleasant memories. I spoke to a woman who said the only happy times in her family were when they would sit around the table and eat ice cream. She was sixty-one, was just diagnosed with type 2 diabetes. Her mom had just died the previous year of type 2 diabetes but she still eats ice cream when she is unhappy, sad or lonely.

Food addicts experience an interference with life due to their eating behavior. Disruptive eating behaviors might include eating in the closet, leaving the house under the guise of getting gas, going to pick up groceries, running an errand but in reality going through the drive-thru, staying home to have a binge, going to the movies only to eat the popcorn, or only doing activities that allow eating rather than a hobby—not to mention the mental interference and the health interference. There is nothing like amputation due to a diabetes-related complication or heart attack from obesity to interfere

with your life.

One of the most profound illustrations of food addiction is the continued unhealthy eating despite negative consequences. But you might not grasp how drastic the negative consequences are. Did you know that losing just ten pounds could reduce the risk of a heart attack by 50 percent, the risk of developing osteoarthritis by 50 percent and the risk of getting diabetes by 60 percent?⁵

Study after study has documented the connection between sugar consumption and fatty liver disease, appetite stimulation, gout, diabetes, memory loss and of course obesity. Sugar systematically destroys our most vital organs without symptoms until it is too late, attacking first the liver, then the pancreas, then the kidneys, and ultimately the heart.

But people still eat and eat and eat until they die and they can't stop—that is addiction.

Addiction is a behavior and has beliefs and expectations associated with it. "I need this in order to be happy," or "My life would be meaningless if I could not have sugar."

These thoughts are inaccurate and need to be addressed with accurate beliefs.

"I'm hungry." Frankly, often people are not hungry, but instead are experiencing a craving, and cravings are just a feeling and they are limited and will go away. The food addict has to deal with the irrational thoughts and actions by changing his or her behavior. Eventually, as a result of changing these behaviors and thoughts, the biochemical brain damage can be reversed.

HELPING THE ADDICT

In my work, I utilize a set of psychological tools, behavior modification techniques and cognitive behavioral concepts to help fix the brain so that the food addict is able to continue to eat the way they want and to stay healthy. Emotional support and accountability are critical as well.

They have to be taught to think like a thin person. Behind every behavioral change there are a lot of thinking changes. And luckily, because the brain is malleable and can be re-wired and re-structured, it can be re-trained to be free from the food addiction.

In addition to re-wiring the brain to fight

sugar addiction, reducing consumption of processed hyper-palatable foods containing massive amounts of sugar and introducing nutrient-dense foods are key. For example, bone broths can help regulate the brain's dopamine levels, lessening the need for sugar.⁶

Adopting a diet high in animal fat and taking cod liver supplements for vitamins A and D is key to getting off sugar.⁷ The nutrients contained exclusively in animal fats can help our bodies make feel-good chemicals in the right way so that we don't need sugar to feel normal and happy. Meals rich in butter and other animal fats help regulate blood sugar so that we don't feel hungry between meals. An important step is learning to eat a breakfast high in animal fats—butter and scrambled eggs—rather than dry cereal and pastries.

Removing the highly processed foods from our diets and replacing them with the nutrient-dense foods of our ancestors can help break the cycle of food addiction.

SUGAR ADDICTION IS REAL

Currently, 68 percent of adults and 30 percent of children are overweight. The prediction is that by the year 2050, one out of every three Americans will have type 2 diabetes and that is due primarily to added sugar. Even worse, if nothing changes, 95 percent of Americans will be overweight in twenty years.⁸

Food addiction is real, recognized by world-class scientists. All the research that has come out recently has validated the fact that sugar is not only addictive but also dangerous. The FDA, EU, WHO and the UN, not to mention hundreds of individual research groups and nutritional centers, are considering drastic measures—everything from warning labels to special taxes to outright bans.

Yes, sugar addiction is real and it is time to take it seriously. ☯

Tiffany Wright, PhD, developed the Skinny Coach Solution. Utilizing the Skinny Coach diet and a set of coaching methods developed through her studies on behavioral modification and personality motivation Tiffany found a way to help women and men with food addiction lose weight permanently. SkinnyCoach.com

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Salt Intake in the U.S.

CDC Advocating a Dangerous Reduction

By Jack Cameron

On June 1, 2016, U.S. health officials announced a new set of recommendations regarding the salt content of processed foods. The stated goal is to help Americans reduce sodium intake to levels recommended by the Institute of Medicine (IOM) in 2004 and 2005, termed AI (for adequate intake), which were set at 1500 mg per day (3.7 grams salt) for adults up to age fifty, 1300 mg per day (3.3 grams salt) for adults between fifty and seventy, and 1200 mg per day (3 grams salt) for adults older than seventy. The maximum recommended sodium intake was set at 2300 mg per day (5.7 grams salt or slightly more than one teaspoon).¹

An AI is specifically defined as the intake found in a healthy population, but no First World population has a sodium intake anywhere as low as the 2004/2005 IOM targets.² In comparison to the sodium adequate intake of 1500 mg per day for adults, the average sodium intake in the U.S. and Canada is 3300 mg per day (8.3 grams salt or just over one and one-half teaspoons). Despite the Institute of Medicine's commitment to base its nutrient intake recommendations on the evidence, the 2004/2005 Dietary Reference intakes for sodium are *not* supported by evidence.

High blood pressure is a known risk factor for cardiovascular disease (CVD) and cardiovascular mortality, and reducing elevated blood pressure lowers that risk. These findings derived from studies on subjects with hypertension led to the theory that lowering sodium intake in nonhypertensive individuals would lower blood pressure in them as well and would thereby reduce the risk of heart disease. There are two components to this presumption: 1) lowering salt intake in normotensive individuals will lower blood pressure meaningfully, and 2) lowering salt intake in normotensive individuals will reduce adverse health outcomes. Both presumptions are false.

A key role of sodium is the maintenance of blood pressure. Adequate body sodium content is necessary for maintenance of blood volume and renal perfusion, and these variables are strongly defended by the body. When our salt consumption is too low, defense mechanisms include salt hunger to increase sodium intake and reduction of urine and sweat to reduce sodium losses. When salt intake is too high, salt receptors in the tongue “flip” from positive to negative, which tends to decrease intake of salty foods.

RECENT STUDY ON ADVERSE EFFECTS OF LOW SODIUM INTAKE

About the same time that U.S. health officials announced their new initiative to reduce salt intake, *The Lancet* published a large population-based study which showed persuasively that the risk of mortality and serious cardiovascular events increases significantly when salt intake drops below 3000 mg per day (two-thirds teaspoon) in an adult of average weight.³ The study also found that sodium intake in excess of seven grams per day (over three teaspoons salt) was associated with an increased risk in those with hypertension, but not in those without hypertension. The study included 133,118 individuals (63,559 with hypertension and

69,559 without hypertension), with a median age of fifty-five years, from forty-nine countries. The association between salt intake as estimated by twenty-four-hour urinary sodium excretion and the composite outcome of death and serious cardiovascular events was assessed over a median of 4.2 years for both groups of subjects. The lead authors, Mente, O'Donnell and Rangarajan, are associated with Hamilton Health Services of Ontario, Canada. (For details on the 2016 Hamilton study, see box below.)

It is instructive to compare the results of the 2016 Hamilton study with those of an earlier (2014) study by the same authors.⁴ The study included 101,945 participants (compared to 133,118 in the recent study). In this study, the researchers did not separately determine the effect of sodium on hypertensive and normotensives subjects. Compared to the sodium reference range of 4 to 6 grams per day, an increased risk of death and CVD events were associated with sodium excretion of over 7 grams per day (hazard ratio 1.15) and with sodium excretion of less than 3 grams per day (hazard ratio 1.27).

Most importantly, the study found that sodium excretion equal to the “adequate intake” promoted by health officials of 1.5 grams per day was associated with a large *increased* risk of death and serious CVD events compared to the average reference level of 4.5 grams per day

THE 2016 HAMILTON SALT STUDY

This important study found that in those without hypertension, the outcome of death or serious cardiovascular events occurred in 4.3 percent of the population whereas in those with hypertension, the outcome of death or serious cardiovascular events occurred in 10.7 percent of the population.

In those with hypertension, sodium excretion below 4 grams per day and above 5 grams per day was associated with increased risk of death and serious cardiovascular events. The reference range of 4 to 5 grams per day was used in assessing the risk of sodium excretion above and below the reference range. The risk was significant compared to the reference range when sodium excretion was less than 3 grams per day (hazard ratio 1.34) and when sodium excretion was greater than 7 grams per day (hazard ratio 1.23). The researchers determined that the increased risk of sodium excretion above the reference range was due to hypertension while the risk associated with sodium excretion less than 3 grams per day was due to other causes.

In those without hypertension, compared to 4 to 5 grams per day, the increased risk of death or serious CVD events was significant only when excretion was less than 3 grams per day (hazard ratio 1.26.) When sodium excretion exceeded 7 grams per day there was no significant change in risk (hazard ratio 0.90).

The study concluded that compared with moderate sodium intake of 4 to 5 grams per day (two to two and one-half teaspoons salt), high sodium intake, greater than 7 grams per day is associated with a significantly increased risk of death and serious CVD events in hypertensive populations only, but not in the normotensive population. The association of low sodium intake, less than 3 grams per day, with increased risk of the composite outcome was observed in those with or without hypertension.

A high percentage (about 40 percent) of the populations of the U.S. and Canada is already at significant *increased* risk of death and major CVD events due to *low* sodium intake.

(hazard ratio 1.80). It is noted that the average of the reference range of 4.5 grams per day, which approximates the optimum sodium intake of hypertensives, is three times the “adequate intake” of 1.5 grams per day promoted by U.S. health officials.

This study also looked at potassium excretion. Compared with potassium excretion of less than 1.5 grams per day, higher potassium excretion was associated with reduced risk of the composite outcome. Mean potassium intake was 2.1 grams per day.

The association of sodium intake with risk of death and CVD events was evaluated with respect to significant variables, including HDL/ LDL ratio, dietary factors including caloric and potassium intake, and the presence of heart disease, cancer, diabetes and high blood pressure. Adjusting for potassium intake reduced the risk of the composite outcome somewhat for both high and low sodium intakes. Adjusting for high blood pressure reduced the risk of high sodium intake but not low sodium intake. As with the 2016 study, the study authors concluded that the increased risk associated with sodium excretion above 7 grams per day was due to hypertension while the increased risk of intakes less than 3 grams per day was due to other causes. Elimination of subjects under treatment for heart disease, cancer and diabetes from the assessment did not significantly alter the composite outcomes.

The average sodium excretion of study participants was 4.9 grams per day, about 50 percent more than the average sodium intake of 3.3 grams per day in the U.S. and Canada. The higher average intake of study participants was due largely to the high intake of Chinese participants who comprised 49 percent of participants and whose average sodium intake was 5.2 grams per day. Canadians comprised 9.6 percent of study participants. None of the study participants were from the U.S. In the 2016 Hamilton sodium study, 11 percent of participants had sodium excretion of less than 3 grams per day and hence were at significantly increased risk of death and CVD. In contrast, it is estimated that about 40 percent of the population of the U.S. and Canada are at increased risk due to sodium intakes of less than 3 grams per day.

On the high end of sodium consumption, 11 percent of hypertensive study participants had sodium intake greater than 7 grams per day and were therefore also at significant increased risk. In contrast, a negligible percentage of the population of the U.S. and Canada are at increased risk due to sodium excretion of more than 7 grams/day.

Potassium intake of study participants averaged 2.1 grams per day compared to about 2.9 grams per day in the U.S. Compared to study participants, the higher potassium intake in the U.S. results in a modest reduction of risk among those with sodium intake of less than 3 grams per day but that reduction in risk is offset by somewhat lower average sodium intake. The increased risk associated with low sodium intake in the U.S. is estimated to be similar to the risk observed in the 2016 Hamilton sodium study participants (hypertensives hazard ratio 1.34, normotensives hazard ratio 1.26)

Thus, a high percentage (about 40 percent) of the populations of the U.S. and Canada is already at significant *increased* risk of death and major CVD events due to *low* sodium intake. Further sodium reduction will increase the numbers at risk and is therefore not advisable.

THE CDC WEIGHS IN

On June 1, 2016, the same day that CDC announced the new recommendations regarding the salt content of processed foods, the agency published an article, “Dietary Sodium and Cardiovascular Disease Risk: Measurement Matters,” which was an attempt to discredit recent studies (including the Hamilton sodium studies) showing that sodium intake of less than 3 grams per day significantly increases risk of death and serious CVD events, and to support their contention that sodium intake of 1.5 grams per day is adequate for adults.⁵

Under the heading “Lower Sodium Intake and Increased Cardiovascular Risk: Association or Causation?” the CDC article erroneously claims that the 2016 Hamilton sodium study found that “both low and high intakes of sodium as compared to ‘usual’ intake (defined as 3-5 grams per day) were associated with increased risk of cardiovascular disease.” This statement is not consistent with the conclusion

of the 2016 Hamilton study, which found that sodium intake greater than 7 grams per day was associated with increased risk of death and major cardiovascular events only in those with hypertension (hazard ratio 1.23) and not in those without hypertension (hazard ratio 0.9). The error suggests a lack of understanding of the 2016 Hamilton sodium study's conclusions.

To address the question of whether low sodium intake causes cardiovascular disease, the CDC “applied Hill’s classic criteria of determining whether an observed association is causal: strength, consistency, specificity, temporality, biologic gradient, plausibility, coherence, experiment and analogy.”

Under the “strength” criteria, the CDC discusses several factors that could explain the association between low sodium intake (below 3 grams per day) and cardiovascular incidence that appears in studies such as the 2014 and 2016 Hamilton sodium studies. CDC speculates that the observed association between low sodium intake and increased CVD risk may have been due to a higher proportion of participants in the low sodium group, compared to groups with higher intake levels, who had diabetes, hypertension, and pre-existing cardiovascular disease at baseline and therefore may have consumed less sodium, leading to a noncausal association between sodium intake and increased cardiovascular events. However, in the Hamilton sodium studies, assessments of the association between sodium excretion and CVD risk were made in which subjects with such preexisting conditions were excluded, with no significant effects on outcomes.

CDC claimed that investigators did not take into account the presence of chronic kidney disease (CKD), which increases CVD risk and may result in lower sodium intake. However, patients with CKD typically have above-average sodium intake, not lower.⁶ It is further noted that the studies cited by CDC in support of their theories did not exclude those with CKD.

The CDC article noted that spot urine tests are not accurate and inferred that studies such as the 2014 and 2016 Hamilton sodium studies used “convenient but potentially biased methods to estimate individual intake”. But the Hamilton sodium studies used twenty-four-hour sodium

excretion tests, not spot urine tests, and included over one hundred thousand subjects; they were therefore *more* accurate than the small studies cited by CDC, studies that used various sodium excretion measurements.

In summary, none of the CDC’s suggested criticisms of the Hamilton sodium studies are valid.

Under the “consistency” criteria the CDC cites twenty different studies to support their cause. While it is not practical to address all of the studies, I have reviewed two—the Trials of Hypertension Prevention⁷ (TOHP) and a 2016 study by Mills and others,⁶ which looked at sodium intake and CKD—in the sidebars on pages 34 and 35. CDC’s interpretations of these studies are inaccurate and in certain details, just plain wrong.

The majority of subjects in both studies were overweight and obese.⁸ Obesity is associated with increased sodium excretion and with increased cardiovascular risk. As a consequence, both studies give an erroneous illusion of a strong association between sodium excretion and cardiovascular risk. BMI and sex risk variables entirely explain all of the observed increase in cardiovascular risk in the TOHP trials. In the CKD study, BMI and sex were the primary cardiovascular risk variables but sodium excretion also contributed to cardiovascular risk of hypertensives. but only in the highest quartile of sodium excretion.

The TOHP trials and the CKD study cited by CDC as evidence that cardiovascular risk is increased by sodium intake above 1.5 grams per day both show that, on the contrary, sodium intake below 3 grams per day increases cardiovascular risk.

Under the “experiment” criteria, the CDC cited a Cochrane Review of experimental salt reduction studies as evidence that reducing salt intake lowers cardiovascular risk.⁹ The review consisted of eight small studies published between 1978 and 2007, of which five studies involving 5,912 participants included cardiovascular data during follow-up. Individually the five studies showed no significant results, but “pooling the studies across normotensive and hypertensive trials gives modest evidence of benefit for cardiovascular events at the longest

While maintenance of adequate blood pressure is a vital function of salt, including both the sodium and the chloride content, salt has many other important physiological functions.

THE TRIALS OF HYPERTENSION PREVENTION (TOHP 1 and 2)

The Trials of Hypertension Prevention (TOHP 1 and 2) are cited by CDC as examples of studies that “support a positive linear association from low to high levels of sodium intake and increased cardiovascular risk,” and as examples of the use of multiple, non-consecutive twenty-four-hour determination of sodium excretion as the “gold standard” of sodium measurement. The cited study, published in 2014,⁶ was a follow-up study to the original TOHP trials, which began in 1987 and 1990 and were completed in 1994. The purpose of the original trials, which were conducted with subjects without hypertension who were almost exclusively overweight and obese, was to assess the effects of stress, supplements and sodium on blood pressure. The original studies included an intervention arm of subjects who were counseled about sodium reduction and diet, and were provided with supplements of calcium, magnesium, potassium and fish oil, and a control arm that was left to their own devices.

Between 2000 and 2005, information on cardiovascular events was collected by phone and letter from the trial subjects who could be located. Data on the available 2,275 subjects in the control arms of the combined TOHP trials were used to estimate the association between measured sodium excretion from the trials and subsequent cardiovascular events. The authors concluded that the study “showed a linear 17 percent increase in (cardiovascular disease) risk per 1000 mg (per day) increase in sodium,” a claim that is not supported by the data and is just plain wrong. In fact, as shown in the following analysis, the data from the study support the findings of the 2016 Hamilton sodium study, which found sodium intake of less than 3 grams per day significantly increases the risk of death and CVD events whereas sodium intake of above that amount does not significantly affect CVD risk in those who do not have hypertension.

About 92 percent of subjects were overweight or obese. The study found that the percentage of CVD events in overweight subjects (BMI over 25) was 53 percent higher than the risk of normal weight subjects (BMI less than 25). Obesity is associated with increased sodium excretion and with increased cardiovascular risk. The sodium excretion of the study subjects of 3.8 grams per day was significantly higher than the average sodium excretion of around 3.4 grams per day in the U.S. and Canada. The percentage of CVD events of males was 215 percent higher than that of females. While age also affects cardiovascular risk, age was similar across sodium excretion categories and hence not a significant factor.

Table 1 below includes pertinent data on BMI and number and percentage of males by category of urinary sodium excretion, together with the percentage of subjects in each category who experienced CVD events during follow-up.

Table 1: Data from TOHP trials by category of urinary sodium excretion

| | | | | | |
|-------------------------------|------------|---------------|----------------|-------------|----------------------|
| Sodium excretion: g/day (avg) | <2.3 (1.9) | 2.0-3.6 (3.0) | 3.6-4.8 (4.15) | > 4.8 (5.8) | weighted avg 3.8 g/d |
| Number subjects (% male) | 236 (45%) | 893 (59%) | 67 (79%) | 415 (89%) | 2311 (70%) |
| BMI | 25.6 | 27.6 | 29.1 | 31.1 | weighted avg. 28.6 |
| % subjects with CVD event | 7.2% | 6.8% | 9.6% | 9.9% | |

From Table 1 it can be seen that both BMI and the percentage of male subjects increased with increasing sodium excretion, and that the percentage of subjects who had CVD events increased from the second highest category of sodium excretion to the highest. Based on the observed increased cardiovascular risks associated with BMI and sex variables, the increase in CVD events of 3.1 percent from the second to the highest sodium excretion category (9.9 percent to 6.8 percent) is explained entirely by the BMI and sex variables. The finding that increased sodium excretion did not contribute significantly to cardiovascular risk is consistent with the 2016 Hamilton sodium study, which showed that increased sodium intake above the reference level of 4 to 5 grams per day did not increase risk of CVD events in those without hypertension (hazard ratio 0.9).

In the lowest category of sodium excretion, with an average of 1.9 grams per day, the percentage of subjects that had CVD events was higher (7.2 percent) than that of the second category (6.8 percent), with average excretion of 3 grams per day, even though the average BMI and percentage of high-risk males was lower in the lowest category. After adjustment for the variables of BMI and sex, the CVD risk of the lowest category of sodium excretion, relative to the 6.8 percent of the second category, should be 5.3 percent. The observed risk of 7.2 percent is 36 percent higher than the 5.3 percent expected risk, which indicates that sodium intake below 3 grams per day significantly increases CVD risk. Thus the data in fact support the findings of the Hamilton sodium studies, showing that intake below 3 grams per day increases CVD risk!

follow-up (random effects 0.77).” However, a closer look shows that the observed modest benefit of salt reduction was due entirely to the three studies that included hypertensives, whereas no significant benefit was observed in the two studies that included only those without hypertension. Further, the claim of “modest benefit” was confounded by a number of factors:

1. Two of the three studies that included hypertensive subjects were salt substitution studies where salt reduction was achieved by substituting potassium-enriched salt for regular salt, thereby providing “a major increase in potassium and a moderate reduction in sodium intakes.”^{10,11} The CDC failed to include the author’s conclusion that the results that showed modest evidence of benefit “were strongly driven by the China Salt Substitution Study,”¹⁰ in which the reduction in CVD risk was most likely due to increased potassium intake, which has been shown to reduce CVD risk among Chinese subjects.
2. The 2007 follow-up study of the combined “Trials of Hypertension Prevention (TOHP)” studies¹² was one of two studies of subjects without hypertension. This paper compared the percentage of subjects with CVD events in the experimental group, which reduced sodium intake and took nutritional supplements, with the control group, which did not reduce sodium intake and took no supplements. The results were

confounded by the use of supplements in the experimental group but not in the control group and further confounded by the fact that the majority of subjects were overweight or obese. (Note: The TOHP trials discussed under the “consistency” criteria involved only the control group.)

3. In some of the studies, sodium intake was not determined by measuring sodium excretion and may be inaccurate.

In contrast to the CDC analysis, the authors of the Cochrane Review stated, “There is insufficient power to confirm clinically important effects of dietary advice and salt substitution on cardiovascular mortality.”⁹ A comment published in the *Sao Paulo Medical Journal* stated that “recent evidence from the Cochrane systematic review has cast doubt on the efficacy of dietary sodium restriction.”¹³

SODIUM EXCRETION AND RISK OF CARDIOVASCULAR DISEASE IN PATIENTS WITH KIDNEY DISEASE

A second study cited by the CDC under the consistency criteria, “Sodium excretion and risk of cardiovascular disease in patients with chronic kidney disease”⁷ included 3757 subjects with chronic kidney disease (CKD), 55 percent males, who experienced 804 CVD events during 6.8 years follow-up. The authors concluded that “among patients with CKD, higher urinary sodium excretion was associated with increased CVD risk,” a conclusion that is greatly exaggerated.

Data from a study on the characteristics of CKD patients, 55 percent of whom are male, found that typically, 18 percent of CKD patients are of normal weight (BMI <25), 29 percent are overweight (BMI 25-30) and 53 percent are obese (BMI >30), 84 percent have hypertension and 42 percent have diabetes.⁸ Obesity is a risk factor for CKD and hypertension, and is associated with increased sodium excretion. The data suggest that the high percentage of overweight and obese subjects in the CKD study was similar to that in the aforementioned TOHP trials, a conclusion that is strengthened by the high average sodium excretion of 3.9 grams per day in the cited study compared to 3.8 grams per day in the TOHP trials and the average of 3.3 to 3.5 grams per day in the U.S. and Canada. Hypertensive subjects were excluded from the TOHP trials but not from the CKD study, so hypertension was a cardiovascular risk factor in the CKD study for those with high sodium intake (above 6 grams per day).

The percentage of CKD patients who had cardiovascular events during follow-up was higher (18.4 percent) in the lowest quartile of urinary sodium excretion (average excretion 2.5 grams per day) than the 16.5 percent in the second quartile (average excretion 3.3 grams per day). The finding is consistent with the results of the aforementioned TOHP trials and the Hamilton sodium excretion studies. Adjusting the results for sex and BMI further increases the cardiovascular risk associated with sodium intake below 3 grams per day in the lowest quartile of sodium excretion. As in the TOHP trials, the authors did not acknowledge the fact that the study data showed increased cardiovascular risk associated with a sodium intake less than 3 grams per day.

The available data appear to show that the increased cardiovascular risk among those with sodium excretion greater than 3.0 grams per day is explained entirely by the variables of BMI, sex and hypertension. It is concluded that increased sodium intake is a cardiovascular risk factor only for hypertensives with sodium intake above about 6 grams per day.

INFLAMMATION, AUTOIMMUNITY AND SALT: A RESPONSE TO LOREN CORDAIN

By Jack Cameron

On August 17, 2015, Loren Cordain posted an article entitled “Inflammation and Autoimmunity” on his website, thepaleodiet.com, in which he argues that added salt causes inflammation and autoimmunity. A careful look at his argument is warranted.

In the introduction, Cordain cites four studies that provide unconvincing and contradictory claims regarding the association between prevailing sodium intake and increased risk of stroke, hypertension and heart disease. One cited study, which attributes stroke to excessive salt intake, is a meta-analysis of thirteen studies published between 1966 and 2008 in which most measurements of sodium intake were highly inaccurate estimates based on food frequency questionnaires.²² The second is a review of fifty-two studies, which concluded that strokes are not caused by excess sodium but rather by insufficient potassium, a finding that is consistent with the preponderance of evidence.²³ Cordain ignores more recent large clinical and epidemiological studies, which have found that sodium intakes of less than 3 grams per day significantly increase cardiovascular risk.^{3,4}

In discussing sodium consumption, Cordain states incorrectly that the USDA recommended daily sodium intake of sodium is 2.3 grams. In fact, the USDA recommended daily “adequate intake” for adults is 1.5 grams for adults up to age fifty, 1.3 grams per day for adults between fifty and seventy years, and 1.2 grams for adults older than seventy years.² The figure cited by Cordain of 2.3 grams is the USDA recommended daily maximum intake.

Cordain cites data from an 1984 book by D. Denton, which found that “hunter gatherers and non-westernized people worldwide” had average sodium intake from 0.234 to 1.131 grams per day. In sharp contrast to the sodium intakes in “non-westernized people worldwide” cited by Denton, surveys have found that the average daily sodium intakes are considerably higher: 5.3 grams in Asia, 4.9 grams in Africa and 4.6 grams in the Middle East. These values are derived from twenty-four-hour urinary sodium excretion measurements in studies involving over one hundred thousand participants.⁴ Cordain implies that sodium intake in “non-westernized people” is far lower than in the US, but in fact the average daily sodium intake in Asia, Africa and the Middle East is about 50 percent higher than the 3.4 grams per day in the U.S. and Canada.^{24,25}

Cordain notes that Denton’s estimates of daily sodium intake are considerably lower than the “USDA recommended value of 2.3 grams” and much lower than the “wildly speculative values (3 to 7 grams) of sodium suggested by a non-scientific non-peer review Paleo blogger” (Kresser C. “Shaking up the salt myth, Healthy salt recommendations,” May 12, 2012). The “wildly speculative values” of 3 to 7 grams per day referred to by Cordain came from a cohort study published in 2011 in *The Journal of the American Medical Association* in which sodium intake of almost twenty-nine thousand patients with established cardiovascular disease or diabetes mellitus was estimated by twenty-four-hour urinary sodium excretion.²⁶ During the follow-up of fifty-four months, the study found that daily sodium intake below three grams and above seven grams significantly increased cardiovascular risk. The finding that daily sodium intake below 3 grams significantly increased cardiovascular disease risk was supported by two subsequent studies that involved over one hundred thousand participants.^{3,4} When those with and without hypertension were evaluated it was found that sodium intake of about 7 grams per day increased the cardiovascular risk of hypertensives but not in those without hypertension.³

Cordain then estimates that a typical paleolithic diet with no added salt provides between 1.6 and 2.2 grams of sodium per day and concludes that it would not be possible to obtain “a popular blogger’s advice of 3 to 7 grams sodium per day” on a paleolithic diet with no added salt. Perhaps that is why humans have gone to such lengths to obtain salt.

It is noted that a sodium intake of less than 2 grams per day, which approximates the sodium intake of the paleo diet with no added salt, was associated with a 68 percent increase in cardiovascular disease risk during follow-up of fifty-four months in the study reviewed in the Kresser blog.²⁶ Another study, which excluded subjects with cardiovascular disease, hypertension and diabetes, found that after thirty-three months, the cardiovascular risk of those with daily sodium excretion of 1.9 grams was 36 percent *higher* after adjustment for body mass index and sex than the risk of those excreting 3 grams.⁶

Cordain then turns his attention to the premise that diets high in sodium can have adverse effects on inflammation, immunological function and autoimmunity, citing a half dozen studies involving dysfunction of the immune system, chronic systemic inflammation and autoimmunity. Most of these studies involve Th17 cells, which play an important role in maintaining mucosal barriers and contributing to pathogen clearance at mucosal surfaces, but also have been implicated in autoimmune and inflammatory disorders. The loss of Th17 cell populations at mucosal surfaces has been linked to chronic inflammation.

Cordain then asks the hypothetical question: “Would it be surprising that the typical western diet which includes 10 to 12 grams of sodium per day might have adverse effects upon the immune system and diseases of chronic inflammation?” It appears that Cordain has confused “sodium” with “salt” and meant to say “10 to 12 grams of salt,” not sodium. The average sodium intake in the U.S. and Canada is about 3.4 grams (about 1.5 teaspoons salt per day).

Two studies on the association between salt and immune function that Cordain discusses are analyzed below, together with a study on the association of salt intake with risk of all-cause mortality and end stage renal disease in those with type 1 diabetes.

1. The cited study, “Sodium chloride drives immune system, chronic systemic inflammation and autoimmunity”²⁷ is typical of the studies on the association between Th17 cells and immunity. In animal studies researchers have found that increased salt intake adversely affects Th17 cells. The study authors state that there has been a marked increase in the incidence of autoimmune diseases in the past half century, particularly MS and type 1 diabetes. While indeed the incidence of type 1 diabetes has increased a great deal during this century (by 21 percent between 2001 and 2009), there appears to have been no significant increase in the incidence of MS. Latitude is a major factor in MS; the incidence of MS in Canada about five times the incidence in the southern U.S. The authors suggest that the increase in MS and type 1 diabetes could be due to changes in diet and hypothesize that increased salt intake might be the cause. The flaw in this hypothesis, however, is that sodium intake did not increase between 1957 and 2003²⁴ and has increased only slightly between 1988 and 2010.^{24,28} Obviously the puzzling rapid increase in type 1 diabetes during this century is not caused by increased salt intake.
2. Another cited study regarding the association between Th17 cells and immunity, “A salty taste to autoimmunity,” found no clinical or epidemiological evidence supporting the effect of salt on autoimmunity.²⁹
3. If high salt intake were the cause of increased type 1 diabetes risk, it would be expected that reducing daily sodium intake from the present median of 3.4 grams in the U.S. to the USDA “adequate intake” of 1.5 grams would significantly reduce the risk of type 1 diabetes. However, a recent study found the opposite to be true.³⁰ The study included twenty-eight hundred adults with type 1 diabetes without end-stage renal disease (ESRD) who were followed for ten years to determine the incidence of all-cause mortality and ESRD. Urinary sodium excretion was associated with all-cause mortality, such that those with the highest urinary sodium excretion, as well as the lowest excretion, had reduced survival. This association was independent of age, sex, duration of diabetes, chronic kidney disease, cardiovascular disease and systolic blood pressure. The lowest risk of all-cause mortality occurred when daily sodium excretion was 3.0 to 3.5 grams which approximates the current median sodium intake in the U.S. The risk of all-cause mortality among those consuming the USDA “adequate” daily sodium intake of 1.5 grams was approximately 50 percent *higher* than those consuming the median sodium intake of 3.3 grams. The observed increase in mortality and CVD events among those with daily sodium excretion less than 3 grams is consistent with the findings of many other studies.^{3,4,6,7,22} During follow-up, one hundred twenty-six patients (4.5 percent) developed end-stage renal disease (ESRD). Urinary sodium excretion was inversely associated with cumulative incidence of ESRD such that those with the *lowest* sodium excretion had the *highest* incidence of ESRD. The risk of end-stage renal disease in those consuming the USDA recommended daily sodium intake of 1.5 grams was *five* times higher than those consuming the median intake of 3.3 grams.

Thus, the studies cited by Cordain regarding the association between sodium intake and autoimmune diseases found no epidemiological or clinical evidence that prevailing levels of sodium intake in the U.S. increase risk of autoimmune diseases such as MS and type 1 diabetes. On the contrary, the studies showed that among those with type 1 diabetes, sodium intake of less than 3 grams is associated with significantly *increased* risk of all-cause mortality and end stage renal disease. The USDA recommendation to limit sodium intake to 1.5 grams per day and Cordain’s advice to follow a “paleo diet” with no added salt are both likely to result in *increased risk* of cardiovascular disease, heart failure and chronic kidney disease, as well as increased all-cause mortality and ESRD from type 1 diabetes.

OTHER ADVERSE EFFECTS OF REDUCED SALT INTAKE

While maintenance of adequate blood pressure is a vital function of salt, including both the sodium and the chloride content, salt has many other important physiological functions as discussed in detail in *Wise Traditions* (Summer 2011).¹⁴ Sodium is critical for developing glial cells in the brain and is involved in muscle contraction including heartbeat, nerve impulses and the digestion of body-building protein. Sodium is active in the absorption of other nutrients in the small intestine and is the major electrolyte responsible for regulating water balance, pH and osmotic pressure. Chloride, the other component of salt, helps preserve the acid-base balance in the body, aids potassium absorption, supplies the essence of stomach acid, and enhances the ability of the blood to carry carbon dioxide from respiring tissues to the lungs.

OTHER RECENT ARTICLES ON ADVERSE EFFECTS OF LOW SALT INTAKE

A 2006 study showed that sodium restriction increases the risk of heart failure, death and hospitalization. The study sought to evaluate the impact of sodium restriction on heart failure outcomes. A total of two hundred sixty heart failure patients were divided into one hundred thirty sodium-restricted patients with sodium intake under 2500 milligrams per day, and one hundred thirty sodium-unrestricted matched controls with sodium intake over 2500 milligrams per day. The groups were followed for three years. Sodium restriction was associated with a significantly higher risk of death or heart failure hospitalization (42.3 percent versus 26.2 percent, hazard ratio 1.85).¹⁵

A study from Japan found that salt restriction during gestation causes retardation of fetal growth, thereby leading to low birth weight or a decrease in birth rate. Such retardation of growth along with the up-regulation of the renal angiotensin system due to salt restriction leads to

underdevelopment of the cardiovascular organs or decreases the number of nephrons in the kidneys, leading to hypertension in adulthood. Moreover, salt restriction is associated with a decrease in insulin sensitivity. Part of metabolic disease in adulthood may be programmed through epigenetic changes due to salt restriction.¹⁶

A 2016 study found that low salt intake reduces the heart rate, which increases CHD risk. As heart rate is independently associated with the development of heart failure and increased risk of premature death, a potential decrease in heart rate could be a harmful side effect of sodium reduction.¹⁷

A 2013 study found that low salt intake increases chronic kidney disease risk. In the study of almost fourteen thousand participants from the National Health and Nutrition Examination Survey (2001-2006), subjects in the highest quartile of sodium intake (4267 milligrams per day or more) had lower odds of CKD compared to subjects in the lowest quartile (2116 milligrams per day or less) (hazard ratio 0.46 unadjusted, 0.79 adjusted).¹⁸

SUMMARY

No first-world population has a sodium intake anywhere as low as the “adequate intake for adults” of 1.5 grams per day that health officials

OTHER ADVERSE EFFECTS OF GOVERNMENT DIETARY GUIDELINES ON HEALTH

Decades of effort by government officials to reduce salt intake by the U.S. population have met with limited success due to the natural salt cravings that kick in when salt intake is not adequate. It has been estimated that about 40 percent of the U.S. population is at increased risk for cardiovascular events due to sodium intake of less than 3 grams per day. The pending plans to reduce the sodium content of processed foods will no doubt increase the percentage of people with inadequate sodium intake.

Other U.S. dietary guidelines that adversely affect health have been more successful at convincing Americans to substitute vegetable oils for animal fats, based on the disproven notion that saturated fat intake increases CVD risk. About 75 percent of milk consumed today is reduced in fat due to the government recommendation to drink only non-fat and lowfat dairy products. A recent large study found that those who consume the most whole-fat dairy products have a 23 percent lower risk of type 2 diabetes compared to those who consume the least.¹⁹ Consumption of non-fat dairy products had no effect on diabetes risk. The study also found that increased intake of soybean oil, which is high in linoleic acid and which constitutes 80 percent of vegetable oils consumed today, increases the risk of type 2 diabetes. Thus, government advice to drink only non-fat dairy products and increase vegetable oil consumption has significantly increased the incidence of type 2 diabetes in the U.S.

During the past century consumption of linoleic acid (LA) has increased from about 2.8 percent to 8 percent of calorie intake partly as a consequence of government recommendations to substitute vegetable oils for animal fats. Other recent studies found that the increase in LA intake is associated with the increased incidence of obesity and type 2 diabetes that has occurred during the past fifty years.^{20,21}


Those who manage to overcome their natural desire for salt are also likely to be victims of other government dietary recommendations, which have adverse effects beyond the adverse effects of inadequate salt intake.

are promoting. Adequate body sodium content is necessary for maintenance of blood volume, renal perfusion and many other physiological functions, and these variables are strongly defended by the body.

The recent large 2016 Hamilton sodium study confirmed previous studies which found that sodium intake of less than 3 grams per day, compared to a 4 to 5 grams per day reference level, is associated with a significantly increased risk of death and serious CVD events due to factors other than hypertension. The risk associated with low sodium intake remains unchanged when adjusted for variables such as heart disease, cancer and diabetes. The study also found that those with hypertension, but not those without hypertension, are at increased risk when sodium excretion exceeds 7 grams per day.

The CDC criticisms of studies showing that sodium intake below 3 grams per day increased CVD risk contain no valid arguments. Ironically, data from two studies cited in the CDC article under the “consistency” criteria support the conclusion that sodium intake of less than 3 grams per day increases cardiovascular risk. The small studies that the CDC cited under the “experiment” criteria in support of their contention that reducing sodium intake below current levels can reduce CVD risk are flawed by confounding factors such as excess weight in study subjects, substitution of potassium for sodium, and providing nutritional supplements to experimental subjects but not to controls.

Approximately 40 percent of the total population of the U.S. and Canada has sodium intake of less than 3 grams per day (supplied by about one and one-half teaspoons of salt) and is therefore at significantly increased risk of death and major CVD events. In contrast, a negligible percentage of the hypertensive population of the U.S. and Canada is at increased risk of CVD events because of a sodium intake exceeding 7 grams per day. Consequently, the reductions in sodium intake recommended by health officials will significantly increase the population at risk due to low sodium intake but will benefit only a negligible number of hypertensives who are at increased CVD risk due to high sodium intake. The recently announced government efforts to reduce the salt content of processed foods will

undoubtedly further increase the percentage of population at risk due to inadequate salt intake. 

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Nutritional Yeast

Harnessing the Nutrients for Modern Use

By Norman LeMoine and Kayla Grossmann, RN

Yeast microbes may be the earliest domesticated organisms. Since very early times humans have used yeasts for fermentation, one of the oldest and most successful methods of food processing and preservation. In addition to their importance in the preparation of foods and beverages, yeasts have many health benefits all their own. Today, dried and deactivated yeast products have become increasingly popular, due to the high levels of proteins and B vitamins they offer. In this article we will review the practice of incorporating nutritional yeast into the diet as a superfood supplement.

For millennia, societies worldwide have used yeast to create nourishing foods through the practices of baking and brewing. Evidence from Egyptian ruins suggests that yeast has been an important part of the human diet for at least four thousand years. Archeologists digging in ancient sites in Northern Africa have uncovered grinding stones and baking chambers for yeasted bread, as well as drawings of bakeries and breweries.¹

DIFFERENT TYPES OF YEAST

It wasn't until about one hundred fifty years ago, however, prompted by the work of Louis Pasteur, that scientists began to consider exactly how yeast works. Since that time, researchers have come to understand that yeasts do much more than contribute to the flavor and texture of foods. Dietary yeasts have many health-promoting effects; certain strains of yeast support the gut microbiome, enhance the immune system, act as anti-inflammatories, biosynthesize nutrients and increase the assimilation of vitamins and minerals.²

In recent years, the nutraceutical industry has sought to harness the beneficial properties of yeast for use in health-related products. Today, there are three main dried yeast products seen on the market: nutritional yeast, brewer's yeast and baker's yeast. All of these products are created using a species of yeast called *Saccharomyces cerevisiae*, which is the most common yeast for food and nutraceutical preparation.³ Unlike yeasts from the *Candida* genus, *S. cerevisiae* is non-pathogenic and does not cause or contribute to infection.

There are many strains of the *S. cerevisiae* yeast, which have been selected and evolved over generations for specific properties and uses. According to researcher Seymour Pomper, PhD, the strains of yeast used at present are direct descendants of the yeasts first introduced into the food industry in the U.S. more than one hundred years ago.⁴

This article focuses on nutritional yeast, a specific form of dried and deactivated yeast that is often used as a health food. Nutritional yeast is most widely known for its nutty or cheesy flavor, which lends itself nicely to a variety of savory dishes. Chances are you have strolled by bins of the golden-yellow flakes in the bulk

aisle of your natural grocer before. You may also have found nutritional yeast bottled up as a seasoning or coating your favorite kale chip snack. Popularized during the 1970s, it can be enjoyed as a condiment, stirred into sauces, sprinkled over egg or veggie scrambles, mixed into cracker recipes, added to breadings or used as a coating for popcorn. Those following a Weston A. Price-inspired diet may also recognize nutritional yeast as one of the key ingredients in the *Nourishing Traditions* homemade baby formula.

Beyond taste, nutritional yeast has an impressive list of health attributes. It is naturally rich in select B vitamins including B₁ (thiamine), B₂ (riboflavin), B₅ (pantothenic acid) and B₆ (pyridoxine). These vitamins support the metabolism of carbohydrates, fats and proteins to provide energy for the body. They are also important for maintaining a healthy nervous system, aiding with vision, and enhancing the integrity of the skin and hair.⁵ In addition, nutritional yeast contains fifteen different bone- and muscle-building minerals, including iron, selenium, zinc and potassium. It is a good source of protein as well, meaning it offers a range of essential amino acids that our bodies don't naturally produce.⁶

Nutritional yeast is often confused with brewer's yeast, but the two are distinct. Brewer's yeast is aptly named, as it was initially offered as a byproduct of the beer brewing industry. It is now found in dried and deactivated forms specifically prepared for use as a nutritional supplement. Supplemental brewer's yeast, also called primary brewer's yeast, is typically grown on a medium of corn or other types of grain. Brewer's yeast is known for being high in protein, B vitamins and chromium, an essential trace mineral that helps with normalizing

Unlike yeasts from the *Candida* genus, *S. cerevisiae* is non-pathogenic and does not cause or contribute to infection.

THE THREE MAIN TYPES OF YEAST

NUTRITIONAL YEAST: Deactivated yeast used as a condiment and nutritional supplement; known for nutty or cheesy flavor

BREWER'S YEAST: Deactivated yeast that is a byproduct of beer-making industry or grown on grain; bitter taste

BAKER'S YEAST: Active yeast used to make baked goods; not produced for supplemental consumption

Commercial nutritional yeast cultures are grown in large quantities and handled in tightly controlled lab-like environments.

blood sugar levels. Because it has a bitter taste, however, brewer's yeast is used less frequently in foods and is often found in tablet and liquid forms.⁵

Baker's yeast is another form of granulated yeast that is used exclusively for baking items such as bread. Unlike dried nutritional yeast, baker's yeast is carefully prepared and placed in light-protecting packaging so that the yeast strains remain active. When used in recipes, the yeast converts carbohydrates into carbon dioxide. It is this fermentation process that causes dough to leaven or rise. There are anecdotal reports suggesting that a tonic of active yeast and water or milk can be prepared and consumed to boost energy, but opinions on the health benefits of raw yeasts are mixed. Others have stated that consuming active baker's yeast can deplete the body of B vitamins and select nutrients.⁷ There is limited scientific research on the subject, which is perhaps why most individuals opt to use deactivated forms of yeast when supplementing.

HOW IS NUTRITIONAL YEAST MADE?

Historically, yeast cultures have been made by mixing together a medium such as flour and water, and letting this starter sit out in open air to "capture" the wild yeasts naturally present in the environment. If you have ever worked with sourdough in your kitchen, you are familiar with this slow and rewarding process.

The steps for manufacturing dried nutritional yeast veer from traditional methods. Commercial nutritional yeast cultures are grown in large quantities and handled in tightly controlled lab-like environments. Temperature

and pH are carefully adjusted to optimize the growing rate of the microorganisms. The strains are also closely monitored for quality, and strict measures are taken to prevent contamination. Once the growing of the yeast is complete, the cultures are dried to render them inactive. This step prevents the yeast from reproducing or fermenting, and also concentrates the nutrients. From here the yeast is rolled into flakes or pulverized into powder for bottling.

The current method for manufacturing nutritional yeast can be broken down into four main steps: seeding, cultivation, harvesting and drying.

This process provides a template for the production of nutritional yeast. There are significant variabilities based on manufacturer, however. Some companies take the additional step of fortifying the yeast to amplify the volume of naturally-present nutrients or to add other desired compounds. Select companies employ high temperature spray drying to dehydrate and deactivate the yeast product.

The methods used to manufacture nutritional yeast directly affect the quality of the final product. Below are some key factors to consider when selecting the best nutritional yeast.

HEATING AND DRYING METHOD

Nutritional yeasts are heated for two central purposes: to render the yeast strains inactive and to dehydrate the yeast into a powder that can be easily packaged and stored. Most yeasts are deactivated by the process of pasteurization. This method is questionable as many nutrients, including most of the B vitamins, are temperature sensitive. It is unclear how dramatically

NUTRITIONAL YEAST PRODUCTION

1. **SEEDING:** A parent yeast culture is carefully prepared in flasks and sterile fermentation tanks.
2. **CULTIVATION:** The yeast culture is fed a glucose-rich medium such as beet sugar, molasses or sugarcane. The temperature and pH are also controlled to optimize growth.
3. **HARVESTING:** Once the growing process is complete, the fermented yeast liquid goes through a washing or centrifuging process to concentrate the yeast cells. The result is an off-white liquid or "nutritional yeast cream."
4. **DRYING:** The nutritional yeast cream is heated or pasteurized to render the yeast inactive. Next it is dried on roller drums and pulverized. The powder is now ready for packaging.

Adapted from LeSaffre, 2014⁸

pasteurization alters the nutrient profile of the yeast.

Next, the yeast is dried. This occurs either by drum drying or spray drying, depending on the manufacturer. Drum drying involves drying the yeast at relatively low temperatures over rotating, high-capacity drums that produce fine sheets of dried material. These sheets are then milled into flake or powder form. Spray drying is a method used for instantly producing fine dry powder by rapidly drying the yeast with hot gas. Spray drying often causes thermal degradation, however, and is thus considered a poor method for producing nutritional yeast.

FORTIFICATION WITH NUTRIENTS

Many nutritional yeast producers add nutrients during the manufacturing process to create an impressive final vitamin and mineral profile. It is especially common for vitamin B₁₂ to be added, since this vitamin is not naturally present in large amounts in yeast. Folic acid is another frequent additive. While certain strains of *Saccharomyces cerevisiae* do have the potential to biosynthesize folate, it is not often generated in significant quantities. Therefore, any time these nutrients—vitamins B₁₂ and folate or folic acid—are present on nutritional yeast labels, it is fair to assume they have been added.

Some brands claim to use naturally derived nutrients for fortification, while others openly use synthetic compounds. Unfortunately the term “natural” is not regulated, making it dif-

ficult to assess the true quality of the fortifying nutrients without inside access to the manufacturing process. Currently there is only one major brand offering non-fortified nutritional yeast.

GENETICALLY MODIFIED ORGANISMS (GMOs)

Most nutritional yeast is grown on a medium of sugarcane and/or beet molasses. This is troublesome as sugar beets are a high risk crop for genetic modification. According to the researchers at the Non-GMO Project, 95 percent of the sugar beets grown in the United States in 2010 were either contaminated from or grown using genetically modified materials. It is thus important to check with manufacturers to question the medium used to grow nutritional yeast and to ensure that their products are free of GMOs.⁹ Some brands use organic ingredients for the growing medium, which is favorable for preventing contamination with GMOs. This having been said, no nutritional yeast producers have yet received official non-GMO certification.

MSG BYPRODUCTS

The issue of monosodium glutamate, or MSG, in nutritional yeast is a sensitive one. Yeast-based products naturally contain glutamic acid, an amino acid that is found in abundance in plant and animal proteins. Glutamic acid and glutamate (its ionized form) are considered essential for life and are critical for gut, brain and

Some brands claim to use naturally derived nutrients for fortification, while others openly use synthetic compounds.


PROMINENT NUTRITIONAL YEAST BRANDS

| COMPANY NAME | HEATING/DRYING PROCESS | FORTIFICATION WITH NUTRIENTS | GMO STATUS CLAIMS | MSG ADDITIVES |
|----------------|------------------------|--|-------------------|---------------|
| Bob's Red Mill | Roller drum dried | Fortification with synthetic nutrients | Not available | No MSG |
| Bragg | Roller drum dried | Fortification with natural nutrients | Non-GMO | No MSG |
| Frontier | Roller drum dried | Fortification with natural nutrients | Non-GMO | No MSG |
| Harmony House | Roller drum dried | Fortification with natural nutrients | Non-GMO | No MSG |
| NOW Foods | Roller drum dried | Fortification with synthetic nutrients | Not available | No MSG |
| Red Star | Roller drum dried | Fortification with synthetic nutrients | Not available | No MSG |
| Sari | Roller drum dried | Only naturally occurring nutrients present | Non-GMO | No MSG |

Information based on information from brand websites and personal communication with company representatives.

immune health. Both are found in high amounts in traditional foods like bone broth, matured cheeses and cured meats. MSG on the other hand, is the isolated sodium salt of glutamic acid, which is a synthetically created compound used to enhance the flavor of processed foods.¹⁰ Both naturally occurring glutamate and MSG contain glutamic acid, but the compounds behave differently in the body. Nutritional yeast does not contain MSG unless it is added. Individuals who are sensitive to glutamate products, however, may opt to avoid nutritional yeast due to the inevitable presence of glutamic acid.

CONCLUSION

Nutritional yeast is a flavorful, convenient and nutrient-dense health food when grown and prepared properly. It is naturally high in protein, concentrated in certain B vitamins and rich with trace minerals. Unfortunately, some manufacturers provide adulterated forms of nutritional yeast that have been exposed to high heat and fortified with synthetic nutrients. It is therefore critical to monitor brands closely in order to select the best and most authentic product. 

Norm LeMoine is president of Radiant Life, a family business that strives to offer “the best of the best” products and resources for optimal health and sustainable living. A former chemist, Norm has advised thousands of people on ways to improve the water in their homes and

facilitate healthy lifestyle choices. A lifelong health researcher and fitness enthusiast, he lives with his beautiful wife, Kathy, in Maine where they enjoy their two wonderful adult children and their families.

Kayla Grossmann, RN, works as a nurse advocate and educator specializing in integrative health research and practice. She supports several large organizations in the field by contributing to ongoing outreach initiatives and clinical programming. Kayla serves as a health consultant and lead content creator for Radiant Life, where she helps connect people with products and resources that inspire well-being.

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Reading Between the Lines

By Merinda Teller, MPH, PhD

Soy Infant Formula and Autism

Rates of autism spectrum disorder (ASD) are skyrocketing. According to the most recent National Health Interview Survey from 2014, 2 percent of children aged three to seventeen in the United States (or one in forty-five) are on the autism spectrum,¹ versus one in ten thousand U.S. children in the 1980s. The U.S. has one of the highest autism rates in the world.

Mainstream medicine defines ASD as an incurable brain disorder characterized by repetitive behaviors and social and communication deficits.² Harvard neurologist Dr. Martha Herbert, one of the country's foremost autism experts, broadens this definition's narrow focus on the brain, instead describing ASD as a whole-body problem affecting cells, organs and multiple body systems.³ According to Dr. Herbert, anywhere from 9 to 90 percent of people with ASD experience digestive problems.³ Medical experts acknowledge that these gastrointestinal disturbances are a likely trigger for many of the behavioral symptoms displayed by individuals with autism.^{4,5} Borrowing from the lyrics to a famous spiritual, Dr. Herbert comments that "the autism bone is connected to the digestive bone and the immune bone."³

DIETARY MODIFICATION

Biomedical treatment approaches seek to address the root causes of autism rather than just the symptoms. In light of the widespread prevalence of digestive disorders in ASD individuals, dietary modification is typically a top recommendation for families interested in autism recovery. For many years, advocates of biomedical intervention have touted the benefits of a gluten-free and casein-free diet. Even mainstream authorities such as the American Academy of Pediatrics (AAP) grudgingly have admitted that elimination of the two problematic peptides might be worth a try.⁶ Cautioning

against the risk of nutritional deficiencies, however, the AAP promotes soy milk as an alternative source of vitamin D and calcium.⁶

More recently, many in the autism community have come to consider soy as an equally problematic entity. A number of autism websites now describe a gluten-free, casein-free and soy-free (GFCFSF) diet as the autism diet of choice,⁷ justifying the exclusion of gluten, casein and soy on the basis of evidence that individuals with ASD have abnormal T-cell (immune system) reactivity to the three proteins.⁸ The organization Talk About Curing Autism (TACA) notes that the elimination of soy dramatically enhances autism recovery.⁷ TACA claims that nearly all ASD children (91 percent) experience some level of improvement when they follow a GFCFSF diet, versus two-thirds (65 percent) of ASD children when just gluten and casein are avoided.⁷

Other diets that more explicitly acknowledge the gut-brain connection—such as the specific carbohydrate diet, the gut and psychology syndrome diet, and the body ecology diet—also deservedly have earned many enthusiastic proponents within and outside of autism circles. In common with the GFCFSF diet, these three diets exclude gluten, casein and soy—at least initially—but sometimes allow their reintroduction in their fermented forms, depending on the stage of gut healing and individual sensitivities.

The autism community's soy-free camp does not tend to elaborate very much on soy's health-damaging properties, although these are legion. Some of soy's intrinsic harms are related to its high levels of phytic acid (which reduce mineral assimilation) and endocrine-disrupting phytoestrogens (estrogen-like compounds). In addition, industrial processing of soy introduces neurotoxic, excitotoxic and carcinogenic by-products (including aluminum and MSG) and

The autism community's soy-free camp does not tend to elaborate very much on soy's health-damaging properties, although these are legion.

Westmark's
startling
research
found that a
soy-free diet
attenuated
seizure
susceptibility
while a
soy-based diet
increased
seizure
propensity in
several strains
of laboratory
mice.

denatures soy's fragile proteins.^{9,10} Soy is listed in the poisonous plant database of the U.S. Food and Drug Administration (FDA), "with warnings regarding goiter, growth problems [and] amino acid deficiencies," to name just a few of the listed problems.¹¹ Even worse, well over 90 percent of the soy grown in the U.S. is genetically modified (GM) and as a result contains substantial residues of toxic glyphosate (the active ingredient in the herbicide Roundup).¹² Children with autism, already exceptionally vulnerable to toxins and nutritional deficiencies, do not need what soy has to offer.

SOY INFANT FORMULA AND SEIZURES

Seizures are disproportionately common in individuals on the autism spectrum, affecting from one-fifth to almost two-fifths of those with ASD, versus under one percent of the general population.^{13,14} In many ASD children, these seizures are extremely disabling and difficult to control.¹³ In the Spring 2013 issue of *Wise Traditions*, Kaayla Daniel reviewed emerging research by University of Wisconsin neurology expert Cara Westmark, PhD, on the link between soy and seizures in mice.¹⁵ Westmark's startling research found that a soy-free diet attenuated seizure susceptibility while a soy-based diet increased seizure propensity in several strains of laboratory mice.¹⁶

Westmark and colleagues especially zeroed in on the seizure-promoting effects of the soy phytoestrogen daidzein.¹⁶ As Sylvia Onusic points out in a recent *Wise Traditions* article about infant formula, human infants who are

soy-formula-fed consume the equivalent of five to six birth control pills' worth of these estrogen-like compounds daily, generating phytoestrogen blood levels that are thirteen to twenty-two thousand times higher than levels found in non-soy-formula-fed infants.¹⁷ In an earlier 2011 editorial in the journal *Translational Medicine*, Westmark had already articulated her concerns about the questionable effects of soy phytoestrogens on fetal and early childhood development in humans.¹⁸

Subsequent work by Westmark (unpublished at the time of Daniel's article) went on to scrutinize the effects of dietary soy in a subpopulation of children with autism. Specifically, a 2014 publication in *PLoS ONE* extended Westmark's earlier research to consider the relationship between consumption of soy infant formula and subsequent seizures in children with autism.¹⁹ Westmark retrospectively examined medical record data from almost two thousand children who had a diagnosis of autistic disorder, Asperger's disorder or pervasive developmental disorder not otherwise specified (PDD-NOS) and who exhibited "moderate to severe autistic symptoms with relatively little intellectual disability."¹⁹ The medical records were part of the Simons Foundation Autism Research Initiative (SFARI) Simplex Collection, which obtained phenotype data and biospecimens from autism simplex families. A simplex family is one in which just one child is on the autism spectrum—but not the parents or siblings.

Westmark found that almost one-fifth

SOY INFANT FORMULA'S MANY TOXIC INGREDIENTS

As outlined in Sylvia Onusic's excellent and thorough article, *The Scandal of Infant Formula: A Poor Replacement for Mother's Milk* (*Wise Traditions*, Fall 2015), most infant formulas fail dismally in their duty to nourish infants' brains and bodies adequately. In addition to the soy phytoestrogens that are the particular focus of Dr. Cara Westmark's work, soy infant formula contains a number of alarming toxic ingredients. Some of these include:

- Synthetic L-methionine, which is produced with materials that include a hazardous air pollutant and a chemical warfare agent.
- Soybean oil extracted with high heat and hexane.
- High levels of fluoride, aluminum and cadmium.
- Carcinogenic glyphosate residues in genetically modified soy.

(18 percent) of the autistic children from the SFARI database had been fed soy-based infant formula.¹⁹ The database was unable to provide information about the duration of soy formula use, age of initiation or reasons for using soy formula. Even so, Westmark detected significant and clinically meaningful differences between the soy-fed and non-soy-fed autistic children, including a 2.6-fold higher rate of febrile seizures (seizures or convulsions accompanied by fever) in both males and females, a 2.1-fold higher rate of epilepsy comorbidity in autistic males and a fourfold higher rate of simple partial seizures (seizures not associated with altered consciousness).¹⁹ Westmark concluded that consumption of soy-based infant formula may be associated with reduced seizure threshold “in a vulnerable population of children diagnosed with autism.”

SOY INFANT FORMULA AND AUTISTIC BEHAVIORS

On its own, the compelling association between soy infant formula and seizures should

be enough of a red flag to urge caution where use of soy infant formula is concerned. But it gets even worse. Using the same population of autistic children from the SFARI database, Westmark also described (in the journal *Autism Open Access*) an exploratory analysis of the link between consumption of soy infant formula and autistic behaviors.²⁰ Westmark examined soy-based infant formula consumption and autism scores from three distinct diagnostic tests: the fifty-eight-item Aberrant Behavior Checklist (ABC); the ninety-three-item Autism Diagnosis Interview-Revised (ADI-R), which is a structured interview with parents; and the Autism Diagnostic Observation Schedule (ADOS) assessment.

Westmark’s analyses identified a number of specific behavioral ASD symptoms that may be associated with the use of soy-based infant formula, including measures of irritability and communication (Table 1).²⁰ There were also notable differences in the effects observed in the male and female cohorts, particularly in the

Westmark’s analyses identified a number of specific behavioral ASD symptoms that may be associated with the use of soy-based infant formula.

Table 1. Possible effects of soy infant formula on autistic behaviors, by sex*

| BEHAVIORAL SYMPTOMS | MALES | FEMALES |
|---|-------|---------|
| ABC | | |
| Irritability (depressed mood, demands must be met immediately, stamps feet/bangs objects/slams doors, temper outbursts if not get own way) | X | |
| Cries over minor hurts | X | X |
| Lethargy (isolates self, prefers to be alone, does not try to communicate) | | X |
| Inappropriate speech | | X |
| ADI-R | | |
| Total restricted, repetitive and stereotyped behavior | X | |
| Hypersensitivity to sensory stimulation | X | |
| Communication | X | X |
| ADOS | | |
| Communication (frequency of vocalizations toward others, pointing, requesting, response to joint attention) in non-verbally fluent children | X | |
| Social overtures in non-verbally fluent children | X | |
| Verbal and nonverbal communication (offers information, informal gestures) in verbally fluent children | | X |

* An “X” indicates an association between use of soy-based infant formula and autistic behaviors that was either strongly statistically significant or approaching statistical significance; some analyses applied a statistical correction factor for multiple comparisons and others did not.

SOURCE: Adapted from Westmark CJ, Soy infant formula may be associated with autistic behaviors, *Autism Open Access* 2013;3:20727.

There were also notable differences in the effects observed in the male and female cohorts, particularly in the area of communication.

area of communication, suggesting “a possible gender-specific response...in association with the use of soy-based infant formula.”²⁰ Considering the broader implications of her work on both seizures and autistic behaviors, Westmark states that it is not yet possible to ascertain whether “seizures cause language regression and cognitive decline” or whether both “share an underlying neuropathology with autism.”²⁰

One of the most intriguing (and disturbing) observations in Westmark’s examination of the ADI-R data (which represent parental views regarding their child’s ASD behaviors over time) is that some behaviors “appeared more significantly worse in the present but not the past.” The investigator infers from these data that consumption of soy-based infant formula may be the evil gift that keeps on giving—affecting autistic behaviors “long after formula use is discontinued.”²⁰

POSSIBLE MECHANISMS

A final paper by the prolific Dr. Westmark (in *Frontiers in Neurology*) furnishes an extremely detailed examination of potential molecular mechanisms that might explain the soy-induced seizure effects she and her colleagues have observed (and possibly the autistic behavioral effects as well).¹¹ Returning to the fact that soy is rich in phytoestrogens, Westmark hypothesizes that soy phytoestrogens interfere with metabotropic glutamate receptor (mGluR)

signaling.¹¹ mGluRs participate in many important central nervous system functions, modulating cell excitability and synaptic transmission.²¹ According to Westmark’s hypothesis, the activated mGluR signaling that results from excessive exposure to soy-derived estrogenic compounds leads to decreased seizure threshold and “increased epileptiform activity.”²¹ And if it is true that soy phytoestrogens affect neuronal excitability, it follows that soy-based infant formula also could be contributing to the increased incidence (and severity) of neurological disorders such as autism.

RECLAIMING OUR FOOD SUPPLY

Dr. Westmark’s impressive body of work^{11,16,18-20} raises many important questions, but—by her own admission—ventures into virtually uncharted territory, as few other investigators have displayed an interest in the relationship between soy and seizures or neurological disorders in humans. Could this be because soybeans (primarily GM) are the second largest cash crop in the U.S., and soy-derived additives feature in almost every industrially processed food on the market?¹¹ Pointing to the growing evidence that glyphosate is associated with autism, Alzheimer’s disease, cancer and other diseases, Westmark conservatively suggests that parents and clinicians consider non-soy-based infant formulas as a preferable option for vulnerable infants.¹¹

ALTERNATIVE EXPLANATIONS FOR SOY’S SEIZURE EFFECTS

Cara Westmark hypothesizes that soy phytoestrogens lead to increased seizure activity through interference with central nervous system functions performed by metabotropic glutamate receptors.¹¹ However, the open-minded Dr. Westmark also is willing to consider alternative scenarios that might explain soy’s seizure effects. These include:

- Effects of soy isoflavones on the make-up of the gut microflora
- Bacterial transformation of genetically modified soy DNA into gut bacteria capable of expressing toxic proteins that damage the intestinal lining
- Effects of chemical contamination from glyphosate residues on neurological and gut function
- Soy-induced activation of the immune system and altered production of inflammatory cytokines associated with febrile seizures

One of these explanations does not necessarily rule out the others. Regardless of precise mechanisms, what is certain is that the predominantly GM soy that is being forced into the American diet under a variety of guises is not doing our gut or brain health any favors—no matter what claims are made about purported beneficial effects.

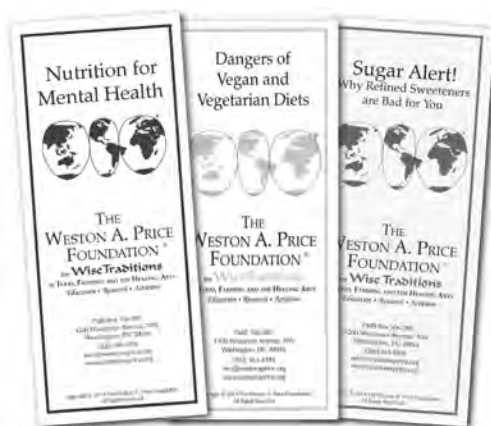
Dr. Martha Herbert (and many others) are more direct in describing ASD as a condition embedded in a wide-ranging set of challenges to human and planetary health. One of these challenges is a seriously compromised food supply “that is nutrient-poor, chemical-laden, processed and manipulated.”²² Most modern soybean products fit this definition to a “T.” It is well and good to recommend a soy-free diet as one step toward autism recovery, but Cara Westmark’s compelling studies suggest that parents would be wise to strongly question the role of soy in their infants’ and children’s diets well before the moment of receiving an autism diagnosis. ☯☯

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FEEDING YOUR FAMILY WELL FROM THE BIG BOX STORES

By Maureen Diaz

I understand
the natural
disdain that
many feel
toward these
stores.
However,
I have come
to view them
as a real
blessing.

I have spent many years watching over my own family's health and well-being while also promoting the message of good health to the community that surrounds me. With great diligence I have worked to research the local foods community and connect people within that community with local farmers and producers of all things good. In my opinion, it is not only admirable or desirable, but of vital importance to do so. However, at times many of us find ourselves unable, for a variety of reasons, to obtain all of our family's food locally.

This has been the recent experience for my family as we have relocated to a new region. Our move has forced me to take a deeper look at the broader scope of resources available to most of us, the so-called "Big Box Club Stores" or BBCSs.

Here in Virginia's Shenandoah Valley where I now reside we have a variety of farm stands and herd-share programs at our disposal. For much of our family's food, especially milk, I will not even consider any other source than a good, local raw dairy. I am also happy to purchase most of our fresh vegetables from a farm stand nearby. However, high-quality foods that we need and desire often come with a price tag which may make it unaffordable, or force us to drive a greater distance and pay higher prices

than we can afford. And so enters the BBCSs.

I started frequenting BJ's Wholesale Club in my former town a few years ago. I found several things that were of value to my family, but I still raised most of our own food from our small farmstead or purchased it from neighboring farms and local natural food stores. BJ's, however, was eye-opening, which prompted me to explore Sam's Club and later Costco.

I understand the natural disdain that many feel toward these stores. However I have come to view them as a real blessing, for many simply cannot afford and may not have access to high quality, organic, naturally raised, unprocessed foods. And so I have learned to purchase what I can from local farms, but also to enjoy the benefits that some of these other sources provide.

So for milk, eggs and many other foods, farms are my first choice. But here I will share the particular items that I obtain at the club stores for an affordable price and at good quality.

DAIRY

All three club stores offer organic butter and ultra-pasteurized milk (of course I do not recommend UP milk). As of this writing none of them provide full-fat, grass-fed yogurt. However I do purchase organic butter (for cooking and baking) as well as fine cheeses, both domestic



Maureen Diaz (front row, second from left) with her husband George (back row, second from left) and their nine children!

and imported. KerryGold butter is available at Costco as is quite a good selection of European cheeses. My husband and I particularly enjoy the imported double cream French brie and domestic organic cheddar cheeses found there, as well as Spanish manchego and French comte, which is actually raw (and incredibly delicious!). I also purchase the organic cheddar slices that Costco offers. BJ's has its own, non-organic but delicious brand of aged cheddar cheese, and Finlandia brand sliced cheeses. All three offer Kerry Gold Dubliner and Bally Shannon cheeses.

BJ's and Sam's Club both offer Daisy brand sour cream, an acceptable additive-free product for occasional use. Costco carries Breakstone brand in a two-pound tub.

MEATS

Each of the stores carry lamb at good prices. BJ's lamb is American at around six dollars a pound, and I seldom purchase it, not knowing how it is raised. However Sam's Club carries New Zealand grass-fed leg of lamb at only five dollars a pound; Costco has lamb from Australia, which is presumably range-fed, at six dollars a pound.

BJ's is my preferred source for bacon, where I can purchase Vermont Smoke & Cure, certified humane raised and handled bacon without added nitrates (it does contain celery powder, a source of nitrates of unknown quantity). The maple-brined, cob and maple-smoked twenty-ounce package currently sells for less than eleven dollars a pound, and the low-sodium apple cider-brined is about ten dollars a pound. I find this bacon very tasty and use it sparingly primarily as a flavoring and crunch in salads and in egg dishes, and I even add the fat to salad dressings and mayonnaise.

Chicken is one thing that regularly brings me to Costco, a company which has made a strong effort to help small farmers provide organically raised goods. My Costco sells whole, organic pasture-raised chicken for two dollars fifty a pound. The legs are a great value at two dollars a pound. They also offer this same chicken in thigh and boneless, skinless breast packs. I would rather buy the whole chicken, take the breasts if needed, and roast or otherwise cook the rest and then finish it all off with homemade stock.

Costco is the only of the three stores as of this writing that also

offers organically raised ground beef, at five dollars a pound. I can usually purchase ground beef in large quantities at that price from an area farmer, so he is my usual and preferred source. You may be able to do the same with your local farms, but you may need to ask for a price break on quantity, as I did.

VEGETABLES AND FRUIT

Fresh from your own garden or a local farm stand is best, but often we must purchase from the store. I have found that BJ's and Costco have more organic, fresh produce than does Sam's Club. They all have organic spring mix, while BJ's and Costco also carry organic romaine lettuce, carrots, and a few other items. BJ's has an organic vegetable medley, broccoli florets, corn, peas and kale in the freezer section. Costco has a few choices in the frozen vegetable section, and Sam's Club almost nothing. Frozen organic berries and cherries are available at BJ's and Costco. Sam's Club only carries organic frozen blueberries.

SEAFOOD

Again, BJ's wins my loyalty here. They carry a seafood medley containing calamari, mussels, shrimp and scallops for only ten dollars for a one and one-half pound bag. This is one of my favorite reasons to head there, as I use this frequently for delicious, filling chowders and sautés. BJ's and Costco both have frozen wild-caught flounder, salmon and cod at a reasonable price.



Kerry Gold cheeses and Vermont Smoke&Cure bacon at BJ's.

OTHER GROCERY PRODUCTS


There are many high-quality, organic and non-GMO products available at BJ's, including organic apple cider vinegar at nine dollars per two-pack or three dollars per quart, organic coconut sap sugar, Way Better sweet potato corn chips, and several other snack items.

One of my favorite Costco finds? Their Kirkland brand of organic olive oil is smooth and delicious, and according to testing is one of the rare grocery store brands which is actually 100 percent unadulterated olive oil! At Costco, you will also find California Olive Ranch olive oil, which is one of my favorite, sustainable, off-the-shelf brands.

All three stores carry organic corn chips, coconut oil in large tubs, organic quinoa and brown rice, and organic peanut butter.

Costco also has Ecos brand laundry detergent (two hundred ten ounces for thirteen dollars regular price) as well as Seventh Generation.

VALUE FOR A TYPICAL FAMILY

As you can see, there are many items available which are likely staples in your own household, and many more still that I have not even mentioned here. My family spends from two hundred fifty to three hundred dollars per week (aside from the previously mentioned foods purchased locally). to feed at least eight people daily, with frequent guests. Perhaps you will find these stores valuable for your own family as well, and have enough money left over in your budget to purchase plenty of wonderful foods from your local farmers such as raw milk, grass-fed meats, raw cheeses, and more. Happy shopping! 

Maureen, husband of nearly thirty years George, and their rather large family live a very full life on a mountain top in Virginia where Maureen enjoys learning, teaching, growing and creating new things every day. Please send Maureen your questions so she can address them in this column. She can be reached at: mamasfollies@gmail.com.

| | BJ's | COSTCO | SAM's CLUB |
|----------------------|---|--|--|
| DAIRY | Organic butter Kerry Gold Dubliner Bally Shannon cheeses Daisy sour cream | Kerry Gold Butter European cheeses Domestic organic cheddar Organic cheddar slices Finlandia sliced cheeses Kerry Gold Dubliner Bally Shannon cheeses Breakstone sour cream | Organic butter Kerry Gold Dubliner Bally Shannon cheeses Daisy sour cream |
| MEATS | American lamb Vermont Smoke&Cure bacon | Australian lamb Chicken Organic ground beef | New Zealand lamb |
| VEGGIES and FRUIT | Some organic produce Frozen organic berries Frozen organic cherries | Some organic produce Frozen organic berries Frozen organic cherries | Some organic produce Frozen organic blueberries |
| SEAFOOD | Seafood medley Frozen wild fish | Frozen wild fish | |
| OLIVE OIL | | Kirkland olive oil California Olive Ranch olive oil | |
| OTHER | Organic apple cider vinegar Organic coconut sap sugar Way Better sweet potato chips Organic corn chips Coconut oil Organic brown rice Organic quinoa Organic peanut butter | Organic corn chips Coconut oil Organic brown rice Organic quinoa Organic peanut butter | Organic corn chips Coconut oil Organic brown rice Organic quinoa Organic peanut butter |

Farm and Ranch

ONLY LIVESTOCK CAN SAVE US!

By Hilda Labrada Gore

This spring I was privileged to visit the Africa Centre for Holistic Management (ACHM) in Zimbabwe, and spend several days with Allan Savory, the pioneer and guru of holistic management and managed grazing.

Savory is a research biologist who has faced his share of controversy over the years. And you start to get an idea of why this is so, when you hear him utter the phrase: “Only livestock can save us.” A more radical statement could hardly be uttered in this day and age. The media—from news-casts to environmental activists—all seem to agree on this one point: animals are the cause of global warming and we need fewer animals on the planet, not more, if we are to reverse desertification and restore the earth’s grasslands.

Allan unabashedly holds and expresses his radically different opinion, at every turn. I was able to talk with him and see the results of his ideas applied practically at the ACHM last May. At this learning hub in Victoria Falls, the Savory Institute staff and volunteers manage the land in a way that is sustainable and regenerative. And livestock are the tool that is turning everything around.

Allan personally gave me a tour of the acres belonging to the center and he showed me “fixed point” pictures, taken over ten years. There was no denying the fact that the land had dramatically improved. I saw with my own two eyes what the livestock had done. Properly managed, they had indeed helped the land heal. There

were streams of water, where before there had been none. Grass was growing waist-high (and higher), where before there had been only arid, dry land.

Again, naysayers believe that livestock (primarily cattle) are the source of our environmental woes. Here is why Allan believes the opposite:



Allan Savory and his wife, Jody Butterfield, in their study, with Hilda Gore (center).

1. Some say animals overgraze. You can’t overgraze land, Allan argues; you can only overgraze plants. And the solution to overgrazing is to manage the animals properly, overseeing their feeding patterns. The solution is not to reduce their numbers.
2. You can’t repair the land through resting it, using fire, planting trees and the like. Looking at the science, it is clear that these methods are not turning things around. As one example, Allan points to national park land in New Mexico—how it was rested from livestock for eighty years and how it is more degraded than land in some parts of Africa!
3. Land must be disturbed to regenerate. And nothing does that like livestock. It’s a biological problem that must be addressed with living organisms, not other tools. Machinery has been built to mimic animals’ behavior and interaction with the earth, but it is not as effective in the end. Animals disturb the soil just enough to stimulate new growth and then they fertilize it with

Land must be disturbed to regenerate. And nothing does that like livestock.

- their own waste. No machine can do that.
4. Some argue that the methane produced by cattle is ruining the environment. Allan points out that methane is easily broken down in healthy soil. But when you rest the land, the soil can't break down the methane. Even if cattle put out ten times the methane they did, even if every human didn't eat meat, we'd still have to deal with desertification on a global scale, according to Allan.
 5. Reducing the number of animals on land by culling does not work, either. Allan, with the approval of other scientists, culled about forty thousand elephants in the late 1960s. It was a "tragic error," according to Allan, as the land began to degrade "almost immediately."

Applying this paradigm—that cattle are the solution, not the problem—is bringing results at ACHM where the landscape and livestock are thriving.

As for the rest of Zimbabwe, they seem to be facing the same influences as other African nations

I've visited. Western food companies have come in with heavy advertising dollars and influence and they are rapidly changing the traditional dietary practices of the people.




Touring the land at ACHM



Witness Mafa, the cook at ACHM

For example, while we were in Victoria Falls, we visited the "OK" grocery store. The store was teeming with customers when we dropped in. It was running a promotion and the grand prize was a truck. To enter to win, customers had to buy several products on the posted list—many of which were based on vegetable oils. My Zimbabwean friend said that he was certain that the promotion was the reason for the bustle of the store.

Happily, not all Zimbabweans are lured in by such tactics. The food we enjoyed at ACHM was local and fresh. As you can see by the smile on the face of our cook, Witness, wise traditions are still being embraced in pockets of the nation. 

Hilda Labrada Gore is the DC chapter leader for WAPF, and is the host and producer of the Wise Traditions podcast. She is a fitness professional and certified health coach.



Denuded land (left), regenerated and fertile (right), after managed grazing. Note the same bent tree branch in the upper left of both photos. The land was treated to a heavy herd effect from about five hundred cattle over a week and then allowed to rest. The Africa Centre for Holistic Management has treated over five hundred sites that were bad or very bad and always had the same result—all sites improve and not one site has deteriorated. If the soil is very damaged and shallow the changes proceed slowly, but where soils are deeper changes are faster.

Homeopathy Journal

HEY CRAVINGS, MEET HOMEOPATHIC CHELIDONIUM AND FRIENDS!

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

Homeopathy can play a leading role, if not the primary one, in treating food intolerances, food addictions and cravings. I figure that what took me three decades to learn might take others an equal amount of time. It is my mission to shorten that time for those willing to listen.

In my practice, I have noted that dietary changes often did not fully help with food intolerances and addictions, even with the most stringent adherence to the diet. I call this the niggly 40 percent. That is, dietary change, abstinence, and devotion to the finest foods known to mankind may suffice for many while others will only experience about 60 percent improvement. Regardless of their commitment, no additional improvement is evident.

While working in a now yearly fellowship with the Prasanta Homeopathic Research Foundation in Kolkata, India, I had an important experience. These highly trained medical doctors at the Prasanta Banerji Homeopathic Research Foundation employ homeopathy exclusively. They see thousands of patients per day, and treat the same kinds of allergic reactions and sensitivities that I was seeing in my own practice. The difference was that they did not give nutritional guidance. The only guidance they offered regarding nutrition was encouraging patients to eat their indigenous diets. However, given that India is a melting pot of traditional religions with varying dietary customs and most eat wheat-based meals thrice daily, “indigenous” takes on a different meaning than what Dr. Price reported in other parts of the world. As a WAPF advocate, this was particularly interesting to me, since the results of employing homeopathy alone were noteworthy.

Since homeopathy is medicine, we generally don’t use it except in the case of illness. This means that unless there is a condition that needs correcting, a disease has been diagnosed

or an illness is present, we don’t typically turn to homeopathy. However, let’s say there is a noticeable craving for sweets. It hasn’t yet caused diabetes but it’s evident that something might be brewing. Or let’s say the craving for copious amounts of coffee or chocolate is over the top. This is a good indicator there may be a problem on the horizon. So what can be done?

Let’s take Bruno as an example. At seven years old, Bruno loves nothing more than to sit down to a meal of macaroni and cheese, pizza or snack foods such as popcorn, cookies or other goodies. That’s it. No matter the effort his mother puts into making the most tasty meals, he will only eat carbs. His behavior is a little off, too; he has difficulty focusing on one transition to the next but is otherwise pretty healthy. There’s one more thing, offered by his mother as an afterthought; he’s pretty energetic (or rather, hyperactive). His teacher complains that he doesn’t sit still long enough to take direction. His father grumbles that he’s a difficult child to be around. But his mother believes it’s just that others don’t appreciate a spirited boy. Without any testing, it’s pretty clear that Bruno’s GI tract and likely his blood sugar are in need of a gentle homeopathic nudge. Indeed, this issue may also be affecting his behavior.

Then there’s Molly, mother of three teens, who owns a small online business that designs marketing apps for the retail clothing industry. There are not enough hours in the week to allow for all of her commitments, both familial and professional. Molly’s habit is to eat chocolate. From the time she was a young child through her twenties, she had pretty chronic eczema and was cautioned to eschew chocolate by her dermatologist, as it aggravates the condition. (Parenthetically, allow me to add I absolutely believe this to be true. In my practice, I regularly note that eczema cases are exacerbated by chocolate,

In my practice, I regularly note that eczema cases are exacerbated by chocolate, even the purist, most organic, fermented cacao.

When it comes to food addictions, will power is only one piece of the puzzle.

even the purist, most organic, fermented cacao.) Molly eats one large bar of chocolate per day. If she indulges in more, it disrupts her sleep. If she eats less, she's irritable, particularly before her menses.

Sam is a self-decreed coffee-aholic. His colleagues and wife knew it long before he did. How did they know? They witnessed his, shall we say, "irritability" while driving. If strangers could be contacted for a report, there would be a long line waiting to complain about his rudeness on the road. When his tank was full of his requisite amount of coffee, some noted that he had more than a lilt in his step. It was actually more like he was walking on uncoiled springs that released with each step. When seated, he looked like he was plugged into a vintage vibrating exercise machine from the 1940s. But just like everything else in Sam's life, there was no stopping him. He really didn't want to avoid coffee. Additionally, Sam suffered from pains in the area of the liver. It was an aching sensation that he was compelled to rub when it felt sore. Sam's desire for coffee is closer to an addiction than Bruno's is to carbs. For this reason, we hope Sam recognizes this and is willing to put the necessary effort into breaking his habit. Without that effort, it is still possible to do so while employing homeopathy, but it will likely return in the future if not controlled by desire as well.

Each of these cases has a component of addiction, though labeling it as such might be too harsh; compulsion might be a better description. And although I'm of the belief that most illicit drug addictions are self-inflicted, hence only able to be corrected with self-determination, when it comes to food addictions, will power is only one piece of the puzzle. We must also employ a medicine that has been clinically shown to displace this kind of ailment.

TREATING COFFEE ADDICTION

A good place to start for Sam is with *Camphor* 200. It is taken one day only and helps other remedies to act more fully. *Chelidonium* was recommended for the soreness in his liver area and *Nux vomica* was chosen for Sam's coffee addiction; while *Nux vomica* is not a perfect solution, it's often a good place to start. Not sur-

prisingly, Sam also suffered from constipation. It was the kind that caused a dry, incomplete stool that was difficult to pass.

This is what Sam's remedy schedule looked like:

1. *Camphor* 200 to clear the slate
2. *Chelidonium* 6, twice daily (liver condition)
3. *Nux vomica* 200, once daily (coffee addiction)
4. *Lycopodium* 200 mixed with *Plumbum met* 200 (dry, difficult, incomplete stool)

TREATING CARB ADDICTION

For a child such as Bruno, since the foods he desires are not substances (even though his behavior would seem to indicate otherwise), we would not call his eating habits abusive. Instead, we assume there is a blood sugar condition that needs to be corrected. We would offer two homeopathic medicines over a period of eight weeks, with the degree of improvement assessed at that time. If Bruno's behavior is less intense, his food choices more diverse, his cravings less penetrating, and if he is no longer a nuisance in the classroom and at home, we could safely assume that the medicines are acting appropriately.

We open his case the same as we did Sam's, with *Camphor* 200 to clear the slate, then start him on *Chelidonium* 6 twice daily, because of his assumed blood sugar condition. Although he doesn't exhibit symptoms of the disease, it is often a medicine used for type 2 diabetes. And because Bruno exhibits hyperactivity, *Hyoscyamus* 6 is also included in his schedule.

Interestingly, upon more in-depth study of Bruno's case, we find a history of ear infections and tonsillitis, often treated with antibiotics. Bruno's mom confirmed that after a course of antibiotics, the first appearance of hard stool alternating with soft stool ensued. This was followed by his narrow food choices and hyperactivity. Given this new information, this is how the case was constructed:

1. *Camphor* 200 to help clear the slate from antibiotic use
2. *Chelidonium* 6, twice daily (blood sugar condition)

3. *Nux vomica* 30, twice daily (gut-related issues specifically stemming from antibiotics)
4. *Hyoscyamus* 6, twice daily (hyperactivity)

Eight weeks after the initial meeting (and after giving Bruno the above medicines) his mom reported that he no longer had alternating stools. They were now pretty consistent and without fanfare. He was still a pretty busy boy, but he was now enjoyable to be around. As for the limited diet of carbs and sweets, Bruno began eating pork chops, eggs and hamburgers. His mom was even getting him to drink her homemade kefir.

Shortly after that appointment, believing that Bruno no longer needed the medicines, she stopped giving them to him. He remained well until a few months later when he got a sore throat and another round of antibiotics. Predictably, his old symptoms returned. After the last day of antibiotics, she began giving Bruno the same protocols above and within a few months (it took longer this time) he was back to where he had been before the last round of antibiotics.

Since then, his mom has learned to use *Hepar Sulph* 200 every six hours at the onset of a sore throat as a replacement for antibiotics. For many, this halts the infection without side effects, including future food addictions and damage to the gut.

TREATING CHOCOLATE ADDICTION


Molly also had a history of antibiotic use but it didn't seem to contribute as neatly to her story as did her hormones. After all, who hasn't had antibiotics as a child? But Molly was aware of the dangers of antibiotic poisoning, so she began eating fermented vegetables, bone stocks and kombucha many years ago. She was pretty confident that her gut was in good order, particularly since her constipation was a thing of the past and she felt fairly well in that department. Molly didn't feel the same about her hormones though. She was in perimenopause, her libido was down and her sleep disrupted. Additionally, she was experiencing heart palpitations. Creamy milk chocolate was an escape for her.

Was it her thyroid that was causing the palpitations or her chocolate cravings? But Molly had no other symptoms of low thyroid, so I gave her homeopathic remedies more specific to her sufferings. Here is the protocol I put together to treat her addiction to chocolate (and sugar), accompanied by insomnia and racing heart:

1. *Camphor* 200 to clear the slate
2. *Chelidonium* 6, twice daily (sugar addiction)
3. *Ammonium carbonicum* 200, every other day (hormonal shifts around menopause)
4. *Coffea* 200, twice daily (insomnia, heart palpitations, sugar addiction)

Must Molly avoid chocolate altogether to improve? Not necessarily. My philosophy is that I want everyone to be able to eat at McDonald's if they want to. It's not that I encourage anyone to eat a diet full of fast

food, but if they find themselves in a situation that keeps them from obtaining homemade whole foods, I want them to be healthy enough to withstand the occasional meal of processed foods. Having said this, if Molly hopes to improve quickly, it would behoove her to curb the chocolate habit for a while and allow her body to rest. (I realize this is sometimes easier said than done.) Meanwhile, this will allow the homeopaths an opportunity to correct the underlying need to count on chocolate and sugar for a sense of well-being.

In our world of proactive behavior, correcting dietary indiscretions is intelligent and prudent. In some cases, the food must be avoided for a while to allow for healing while in others, such as with Bruno, the homeopathic can work in tandem with the person's lifestyle and act regardless of the diet. Yet, there are certain circumstances in which this is not desirable nor possible. Homeopathy is the medicine that addresses food intolerances, the diseases they cause and displaces the condition from the source. Remember that homeopathy is both person-specific (based on the way the pathology appears) and disease-specific. Three different cravings. Three different people. One homeopathic in common: *Chelidonium* 6. Who knows? *Chelidonium* 6 might just be the right medicine to help you or someone you know. 

Joette Calabrese, HMC, CCH, RSHom (NA) is a homeopathic consultant, educator and mom who raised her now-adult children with nothing but homeopathy and WAPF principles. In her on-going four-year fellowship with the Prasanta Banerji Homeopathic Research Foundation in Kolkata, India, she observes, records and collates thousands of cases in an effort to bring reproducible, scientific methods from this world-famous clinic to the Western world and particularly to families. Her practical methods allow folks to use homeopathy for chronic conditions that put the family back at the center of their own health strategy. Joette may be reached at Contact@JoetteCalabrese.com or (716) 941-1045 to inquire about a private appointment or course information. "Good Gut Bad Gut" is her online course that teaches families how to uproot chronic GI conditions.

Technology as Servant

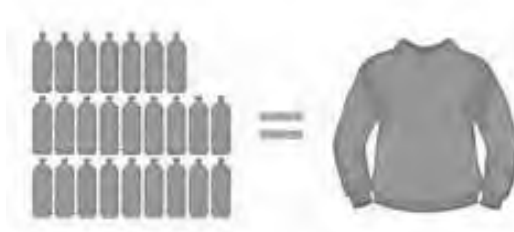
COULD YOUR CLOTHES BE DAMAGING YOUR HEALTH?

By Becky Plotner, ND, tdnl nat, CGP, DPSc

Our stores are filled with clothing and bedding made from recycled plastic bottles.

Susan is five; she is sick with a high temperature and snuggled tightly in her fleece pajamas under a warm fleece blanket. Her curls are stuck to her temples from sweat. Her mom sits at her bedside reading her a book and giving her broth alongside hot yarrow tea out of glass mason jars. She's taken her dose of kraut juice and homemade elderberry syrup made with her local farmer's honey.

Mom is doing almost everything right. She is a good mom. But she has no idea her daughter may suffer poison from plastics. After all, she does everything she can to avoid plastics—using glass, ceramic and stainless steel instead.



A HIDDEN SOURCE

What Susan's mom does not realize is that polyester and fleece clothing—Susan's pajamas and blanket—are made from plastic! That's right, our stores are filled with clothing and bedding made from recycled plastic bottles. The same people who are removing plastics from

their lives, who know that plastic bottles contain estrogenic-releasing toxins, may not be aware they are wearing those same plastic bottles.

Clothing made out of plastic bottles begins at the plastics recycling center with a process called shredding. Generally when recycled bottles reach the recycling center a little bit of drink is left at the bottom of every bottle. Shredding rips up the bottles by putting them through a machine lined with rotating blades, releasing any remaining liquid and ripping the bottles into smaller pieces.

The shredded pieces of plastic are then formed into square blocks, wrapped in cellophane and shipped all over the world, primarily to China. Workers then open the blocks of

plastic and separate clear plastic from colored plastic by hand. Clear plastic has a higher value because it can be made into clothing that is white or into clothing that can be dyed any color.

The bottles get washed in caustic soda to remove any labels. Lids float along the assembly

HAZARDOUS POLYESTER WASTE

In the past, polyester was made from coal, air, water, and petroleum through a chemical reaction process between alcohol and an acid. According to *The Journal of Environmental Science and Health*, “1,4-Dioxane is one of the by-products from the polyester manufacturing process, which has been carelessly discharged into water bodies and is a weak human carcinogen.”¹¹

Environmental Health Perspectives calls the production of cheap clothing disposable. Fast fashion, as they say, is similar to fast food. Clothes are so cheap we use them and toss them.^{1,2}

They go on to say, “The manufacture of polyester and other synthetic fabrics is an energy-intensive process requiring large amounts of crude oil and releasing emissions including volatile organic compounds, particulate matter, and acid gases such as hydrogen chloride, all of which can cause or aggravate respiratory disease.”

Further they add, “Volatile monomers, solvents, and other by-products of polyester production are emitted in the wastewater from polyester manufacturing plants. The EPA, under the Resource Conservation and Recovery Act, considers many textile manufacturing facilities to be hazardous waste generators.”

Reducing the manufacture of polyester has benefits to our toxin load on our bodies, in our bodies and in the air we breathe.

line until workers remove them.

The wet plastic bits are then rotated in drums for roughly ten hours to dry. Then the plastic bits go through a tube with a rotating pipe inside, moving the plastic bottle bits down the pipeline as it heats them to over two hundred degrees Celsius. At the end of the pipeline the liquid plastic hits a sieve, a metal plate filled with tiny holes. This process is much like pushing ground beef through a meat processor to make hamburger. Once the plastic is pushed through the holes it comes out the ends as thin threads, multiple single strands of plastic thread that look like long spaghetti noodles.

The long strings fall into containers below the pipeline. To strengthen the weak threads, they are gathered and run through another assembly line which melts the fibers together, stretching and heating the fibers, bonding them as one and turning them into what looks like pizza dough in one long sheet. The sheets are torn apart into pieces that resemble cotton fluff.

At this point the fluff is the raw substance needed to make polyester. Fluff, which looks like puffs of combed cotton, are sent to polyester manufacturing companies for further processing. At these companies, machines card the fibers, combing them all into the same direction, making the material stronger. The resulting product looks much like a tube of fleece batting. Thread is pulled, wound and stored on tubes making large “thread” spools.

Thread from each spool goes into a loom which weaves the thread into sheets of fabric polyester. These sheets of fabric are fed through a machine filled with rolling and spinning brushes that catch the fabric and rip the looping thread in order to give it a softer plush feel.¹

Anne Aitchison, chairman of the board of the Naperville, Illinois, Area Recycling Center told Recycle Stuff CGR in 2011 that they collect about a ton of recycled plastics a week. She says, “It costs us about seven cents per pound to process and collect this material. We are currently getting between seventeen and eighteen cents per pound.”²

The irony is that producers can promote the recycled polyester as “sustainable” and “environmentally friendly.” In an article in *National Geographic*, singer, songwriter and

producer Pharrell Williams, credited with the popular songs “Get Lucky” and “Blurred Lines,” describes a new venture, diversifying his assets in what is being called “sustainable fashion.”

According to the article, “Williams is the creative director of Bionic Yarn, a company that makes yarn and fabrics out of recycled plastic bottles.” Williams has “launched a line of denim they call ‘RAW for the Oceans,’ featuring jeans made from recycled plastic that is reclaimed from the ocean.” The product hit G-Star stores in 2014.³

DANGERS OF SUSTAINABLE FASHION

The undiscussed fact is that when plastics are heated, they leach. They also leach when in contact with acid. These chemicals are entering our bodies daily, absorbed through our skin and in the items we eat and drink.^{4,5,6}

According to *Discovery News*, lab tests on more than twenty top-brand baby bottles along with more than four hundred fifty plastic food and beverage packages, found that virtually all leached chemicals—chemicals that act like the hormone estrogen—even though many were free of BPA. BPA migrates from polycarbonate water bottles at rates ranging from 0.20 to 0.79 ng per hour. At room temperature the migration of BPA is independent of whether or not the bottle had been previously used. Exposure to boiling water increases the rate of BPA migration by up to fifty-five fold.⁷

According to *Science Daily*, “Prior to boiling water exposure, the rate of release from individual bottles ranged from 0.2 to 0.8 nanograms per hour. After exposure, rates increased to 8 to 32 nanograms per hour.”⁸

Environmental Health Perspectives notes more than eight hundred studies on the health effects of BPA, published between the mid-1990s and the mid-2000s.⁹ Further studies are ongoing. Yet there are no published studies on the leaching of these chemicals into our bodies through our largest organ, the skin.

However, a study published in *The Journal of Toxicology and Environmental Health* gives us a clue. Researchers found that “permethrin, an agricultural insecticide, (is) applied to clothing in an effort to protect military personnel from infectious insects. Leaching and/or

The undiscussed fact is that when plastics are heated, they leach.

absorption were evaluated for the presence of sweat, different fabric types, and the effects of prelaundering. Results showed that fabric treated with permethrin at a rate of 0.125 mg/cm² lost the substance to the skin surface at an average rate of 0.49 percent/d. At the end of the 7-d exposures in rabbits, about 3.2 percent of the available permethrin had reached the skin, 2 percent having been recovered from excreta (absorbed) and 1.2 percent remaining on the skin surface.”¹⁰

If chemicals from the fabric leach into the skin, chemicals within the fabric itself could do the same. When plastics are heated they release toxins whether they are in water bottle form and we drink the toxins, or in the form of clothing. Holding plastic against your warm skin could have the same effect.

The biggest concern may be fleece pajamas, where the material is pressed directly against the skin for an eight-hour stretch under warm blankets. If the person is sick with the flu and fever, sweating slightly acidic sweat, the situation is potentially more dangerous.

As consumers we have a choice. It makes sense to avoid polyester and fleece fabrics made from recycled plastic bottles, or at the least to avoid wearing them directly against the skin. Instead, wear a long sleeve cotton shirt under the fleece or polyester fabric so there is a buffering layer between potential leaching BPA or other plastic toxins and the skin that absorbs these

toxins.

Clothing that sits directly on the skin should be made of organic cotton or bamboo if possible. Plastics are entering our systems in ways we often don't consider. ☯☯

Becky Plotner, ND, tdn nat, CGP, D.PSc, is a clinical practitioner and certified GAPS practitioner seeing clients in her Rossville, Georgia, office, or via Skype and phone consults. She aims to support the body so the body can heal itself and prevent disease. She received her education from Ohio University, cum laude, Trinity School of Natural Health, Duke University where she completed her parasitology studies with distinction, and the University of Copenhagen where she studied bacteria and chronic infections. She blogs at Nourishing Plot. She can be reached at theplotners@hotmail.com.

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DO WE REALLY NEED TO WORRY ABOUT PLASTICS?

For people on a healing quest, a necessary first step is the removal of all inflammatory foods including improperly prepared grains, sugars, industrial seed oils, pasteurized dairy products and processed foods of any kind, restoring the home to a place of cooked meals that nourish the body with nutrient-dense foods. Others with more severe damage need to obtain their food from local farmers who do not use pesticides, anti-fungals, GMO feed, hormone-filled injections or antibiotics on their vegetables, poultry or other food; they will also need to remove the chemical burden absorbed through their skin, the largest organ in the body. Chemicals in beauty products contain toxic heavy metals, which “assist” the body in absorbing the product, as well as preservatives, synthetic fragrances and many other foreign-to-the-body ingredients.

The struggle for many people is removing the offending toxic overload as it is everywhere, including in the air we breathe. Some people throw their hands up and say things like, “Forget it, I'm not even going to try.” However, for those who are very sick, with severe autism, FPIES or who are PANDAS babies, there is no other option. For these people, feeling bad is normal. Often their lab tests return with inconclusive results, and the doctor tells them their situation is idiopathic, meaning they do not know the cause. To make matters worse for them, most of these people who suffer don't look sick, leaving them trapped in a world inside their failing body, doing their best to make it through each day.

For these people the only path to feeling better is seeking out new offenders, inflammation-causing sources, and chemical and toxic invaders. Elimination of these offenders is vital.

Wise Traditions Podcast Interviews

INTERVIEW WITH DICKSON OLE GISA

Hilda Gore: As part of the Weston A. Price Foundation's international outreach, we've been visiting in Oiti in the region of Matapato in Kenya near the Tanzanian border. Dickson Ole Gisa has been an amazing host. He's given us opportunities to share the principles of the Weston A. Price Foundation with his community. I came last year and I'm back again. Please tell us, Dickson, what has been the response from your community when they heard about the Weston A. Price principles?

Dickson: Their response was positive. Our first meeting with the youth about the wise traditions diet was very interesting. They said this is a good message and when a good message comes to the community, that message gets passed on to other community members who were not at the meeting.

HG: The pastor in this evening's meeting said some positive things as well.

D: Yes, the pastor is my age-mate. We grew up together. He knows what we are talking about. He has made a commitment as a pastor of the church that spreading this message will start from the church, as the Bible said, it will start from Jerusalem. Our Jerusalem is the members of our church. And now we can move to other neighboring communities.

HG: That's wonderful. I remember him saying that he wanted the women to start cooking traditional foods starting today.

D: Yes. Normally, after you learn a lesson in class you then do what you learned practically. So what the pastor meant was that since the women in our community prepare the food for the family, he was encouraging the women to

start with the family. As the saying goes, "Charity begins at home."

HG: Did you say he is your age-mate? Tell us a little bit more about that. It seems that you grew up eating a lot of traditional foods.

D: Yes, it is a long story. The pastor and I grew up in the same village. We were born in the same village and went to school together. We have another thing in common—our families were not really rich. In fact, we were poor. We did not have enough livestock so most of the time my father and his father depended on wild meats. They had to hunt in order for us to have food. We shared a lot of common things.

HG: What were some of the wild meats that your fathers would hunt?

D: During the latter part of the 1970s up to 1980, I remember there was a lot of hunting because there was a market for ivory from elephant tusks. People were given a license to hunt. The pastor's father and my father hunted together. When they hunted for buffaloes they brought back the meat, which we mostly ate. They also hunted for antelopes and zebras.

HG: What about raw milk? Did you consume raw milk from the cows at that time?

D: Yes, the Maasai people had milk from the cow and also blood and meat from the cow. When we were young—not only when we were practicing morans (or warriors) but also when we were young—we didn't have much food apart from the milk and blood from the cow. That is the only diet you can find from the Maasai. We ate the fat that we got from the milk—there is a way that we make fat from milk



Hilda Labrada Gore, a mother of four, has been involved with WAPF for over ten years and is the chapter leader for Washington, DC. She went to Kenya last summer on behalf of WAPF. She is the director of communications for Body & Soul, a worldwide fitness organization. She also plays the guitar and is the contemporary music leader at National Presbyterian Church.

People are running to buy foreign foods. By foreign foods, I mean they are not foods from the Maasai community.

which is very nice and healthy. When a child is born, the child is raised with only breastfeeding and consuming the fat from the milk.

HG: That sounds like a solid beginning. How do you see the diet of the Maasai changing now?

D: It is changing tremendously. People are running to buy foreign foods. By foreign foods, I mean they are not foods from the Maasai community. They are human-made food—processed foods. They buy maize flour, oils, sodas, and juices.

HG: How do you think that is affecting them?

D: There are a lot of foreign diseases. We call them foreign diseases because we did not have those diseases before. Since people are starting to adapt the foreign cultures' way of eating processed foods, now people are getting the foreign diseases. We have so many cases of cancer. Recently we lost a teacher with whom I grew up and went to school. We also have cases of high blood pressure and diabetes. These are diseases we didn't know when we were young. Back in the 1980s, cancer was unfamiliar to us but now it's killing our community.

HG: How did you find out about the Weston A. Price Foundation?

D: I found out about it through a friend named Lisa. It was in an orientation. The missionaries come to Matapato and they stay here to learn the culture of the Maasai and live with the communities. I met this friend but now I call her my sister because I am part of her life and she's also part of my life. Lisa introduced me to the Weston Price A. Foundation.

HG: It seems that what you've heard about these wise traditions from the Foundation make sense because you see it playing out in your community. You see that when the people ate the traditional foods they were not sick but now that they eat modern, processed foods they are sick. Have you had any opportunities to share what you've learned from Weston Price's wise traditions with others outside your community?

D: Yes, I have a friend who's a lecturer in a university. I shared with him some information and gave him a book, which I got from a friend. He's really interested in learning about the wise traditions. It seems like I'm getting addicted to this subject matter because it is what I want to

THE WISE TRADITIONS PODCAST – GOING STRONG!

In its recent year, the Wise Traditions podcast continues to be a great success! We had a feeling it would be well received by our WAPF members. But we didn't realize how helpful it would be in reaching a new audience. Currently the podcast has over 162,000 downloads/listens and only a fraction of that number was already familiar with WAPF. It's exciting!

If you haven't listened yet, please give it a try. If you spend just 30 minutes at your computer a week, then you can listen straight from the podcast page at westonaprice.org. A new episode is released every Monday. You will hear from familiar doctors, scientists and nutritionists, along with people you've never heard of before who have valuable WAPF-friendly content for you!

Current listeners have this to say:

"So glad to find this show. It's probably the best I've heard in this genre. True to its name of 'Wise Traditions,' they offer practical (and proven) wisdom for healthier living. The material has practical applications for all listeners, and it goes beyond broad brushstrokes." ~From the Bayside (on iTunes)

"I've actually listened to every podcast so far and I find it to be one of the most informative podcasts regarding food, nutrition, and farming anywhere. I listen to them when I sort mail as a letter carrier. Please keep up the good work! My family has benefited greatly from these." ~M. Jones (on Libsyn)

And you can check out recordings of some live events on the podcast page, too. Sally Fallon Morell gave a tour of her farm in Maryland recently and you can listen to what she had to say. Just go to mixlr on the podcast page of our website, click on "WISE TRADITIONS LIVE," and go to "showreel." There you'll find raw audio footage of the tour and other events!

Keep listening (and sharing) our content whenever possible. We want to continue to reach as many people as we can.

talk about. As a community leader, I have the great opportunity of interacting with people and therefore have the opportunity of spreading the Foundation's message to other people.

HG: One thing the pastor said today is that the information that the Weston A. Price Foundation is bringing to you is not new because you as a people and as a culture already have a tradition—a tradition that you want to return to. Can you tell us some of the traditions? Tell us about what you give women who are expecting a baby.

D: Women who are expecting a baby are selective with food. They don't eat just any food they come across because they need to protect someone who is the future of the community so they are selective. They eat meat from healthy cows. They don't eat the meat of unhealthy cows. It has to be a healthy cow. They also drink the milk of a healthy cow. Meat and milk are the main diet. We also have different kinds of natural fruits from the forest. They are God-grown fruits. They're wild fruits. They're very healthy for expectant mothers.

HG: Once the woman gives birth, what do you recommend she take right away?

D: After a mother delivers a baby, the first thing she's given is blood. If she gives birth to a boy, then immediately she's given blood from a bull. If it's a girl, she's given the blood of a heifer. After that a woman can come out of the Maasai hut and say, "Thank you, Lord, you have today added a new member to my family." She states the name of the family, like the Dickson family, for example. The Maasai praise God for the

newborn baby. The mother is given the blood from the cow to replace the lost blood during the delivery process. And that's one of our traditions.

HG: What's the tradition when a baby starts to become ill?

D: We give the baby a traditional drink which is the milk fat mixed with the mother's milk.

HG: You had mentioned that there is a book that a Maasai wrote years ago. Tell us a little bit about that book.

D: Yes, I believe it was written by the first Maasai scholar. His name is SS Olensankan. As the Maasai culture is diminishing, I compare him with Dr. Weston Price. I think that Professor Olensankan knew that

because we are adapting foreign cultures, our own culture is diminishing. So he thought of writing a book where he listed not only the foods but the cultural traditions that the Maasai people practice. It is a good book called *The Legends of the Maasai Community*. I wish someone would translate it into English. I have not seen it in English. I think this is because the aim of the author is to benefit the Maasai people. I know he's able to write in English but he decided

to put it in the Maa language because it was for the benefit of the Maa community.

HG: This could be a guide book for your community.

D: Yes. It contains Maasai traditions: how to feed an infant, diets for pregnant women, sacrificial ceremonies and how to perform them, etc.

HG: You said earlier that people are buying foreign foods. Why do you think they are buying them?

D: They are buying them because they find them attractive. They see the package and think there is something special in it. They look shiny and pretty. They are presented as something you can cook quickly and the people think they are healthy for the family.



Dickson Ole Gisa (left) with the Maasi youth group and Hilda Labrada Gore (third from left).

People think that they are civilized so they want foreign foods. They think eating traditional foods is a primitive way of eating.

HG: In a village like yours, which I think is not very close to a huge town, where are people buying these foods?

D: They are all over. In my village, we have small shops. They get the foods from a trading center and then bring them to the community. It's not hard to get these foreign foods.

HG: Is it hard to get the traditional foods?

D: It is not hard but we have this thing called civilization. People think that they are civilized so they want foreign foods. They think eating traditional foods is a primitive way of eating. Drinking blood, for example, is seen by most of the well-educated people in the Maasai community as primitive. The same goes for eating raw kidney, for example, when it is still freshly harvested. We were taught in school that we need to cook and boil meat to kill the germs as well as boil milk before consuming it. This kind of science brings complications.

HG: So the education is pushing in the other direction. The more educated people are they don't want to go what they see as backwards. They think eating traditional foods is old-fashioned.

D: Yes.

HG: I imagine with young people there is an even stronger push toward the new. When you were in school did they teach you that these things were old-fashioned or is it just now?

D: They started teaching us when we were in school but still at that time the culture was very strong. Our parents believed more in the culture

than in the education, but now it's switching.

HG: So the challenge is to hold on to these good traditions at a time when the culture and education push in the other direction.

That's the same challenge we have in the United States. People think that modern and convenient foods are better than cooking in the old-fashioned way, although the tide is turning. People are so sick, Dickson, that they're realizing that something is wrong and this is making them seek out these wise traditions. Dickson, you are facing a challenging uphill battle in going against the current education and pressure to modernize. What are some things your family has done to go back to traditional ways in your diet?

D: Since we had your first visit from the Weston A. Price Foundation, we have been trying to practice these things in reality. My wife, who's a teacher, has left the profession because family is more important than the work of teaching. Now, she has started a small farm. We are growing our own food. We don't have to go to the market to buy food from shops. Now people are even coming to buy food from us.

HG: I have seen your garden. You have kale, potatoes, bananas, cassava, oranges, peppers and tomatoes. And you're not using pesticides.

D: That is right, we are not using pesticides.

HG: You have taken a step in a very good direction. It is fantastic.

D: Thank you.

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LISTEN: The Wise Traditions podcast can be found on our website, westonaprice.org, on iTunes and Stitcher (for Android users).

SHARE: Copy and paste episode links and send them to friends and family! Share episodes on Facebook and Twitter. On iTunes, click on "get" on the episode of your choice and options for sharing on social media pop up immediately.

REVIEW: On the podcast's home page on iTunes, there is a prominent section for "Ratings and Reviews." Please rate us and comment on the podcast. This helps us remain "New & Noteworthy" and will draw the attention of many others unfamiliar with WAPF.

HG: We just had raw milk tonight. You are doing your best to change your family's diet and affect your community.

D: How did you like the raw milk?

HG: I liked it. It seemed like it was fermented a little bit. It was sour and tasted like yogurt, but I liked it. It was rich and I'm sure it was full of enzymes that we need. At tonight's meeting with the community, one man said that whenever he drinks the blood he still feels really good. I think part of what will help people eat these traditional foods is people feeling the difference in their own health.

D: We've also seen that we're no longer buying maize flour from the shop. We have our own maize and we grind it into flour and make ugali, which is a cornmeal dish.

HG: You make that at home. I did see maize drying, was that for the flour?

D: Yes.

HG: I want to hear one more story about your childhood. Tell me what it was like when you would go to school and what your health was like.

D: I was really very healthy. I walked from my house to school, which is six kilometers away. That distance takes about an hour for Maasai people. It would probably take two hours for white people to walk the same distance. I would go very early in the morning. I would just take a cup of milk directly from the cow before I went. I would be at school for the whole day and not feel hungry. Often I would not have lunch. We wouldn't eat lunch unless during the lunch break we would go eat some wild honey. We also hunted quails. Me and the pastor were good at this. We would make some traps. On the way to school in the morning, we would make the traps so when we came at lunch time we would have a number of quails. Quails and honey were our lunch because we were not able to walk from school back home to have milk. In the evening, we would take milk. We had milk every day


and blood on Saturday and Sunday. The whole family drank blood every weekend.

HG: All of this gave you the strength to go to school and do your studies.

D: I felt strong and energetic. When it rained I didn't care. I didn't feel cold. There was no malaria or coughs. If someone is coughing, they are given honey mixed with some traditional medicine. That is what I give my daughter, Camilla. I can show you that it is very hot, and when you take it it's very good for the chest.

HG: I'm so glad to talk with you. We all can learn from the wise traditions you are applying in your life. I'm glad you're close to your traditions and to your ancestors. We in the United States have a lot to learn from communities like yours that have these traditions and are trying to return to them. Thank you for this conversation.

D: Thank you so much and I promise that there will be a huge U-turn for my community. We will be returning to where we came from.

HG: We wish you the best. 

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JOURNAL NOW AVAILABLE AS
A DIGITAL TALKING BOOK FOR THE
VISUALLY IMPAIRED

We now have our journal converted into an audio format for the visually impaired. Special software is required for this, such as Dolphin Easy Reader. Go to the JOURNALS tab on our home page. 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!

All Thumbs Book Reviews



Vaccination and Naturopathic Medicine
edited by Sussanna Czeranko, ND, BBE
NCNM Press

Vaccination is a hot controversy today but it is not a new controversy. The debate has been going on for over one hundred years and this book documents the thinking on the subject from 1900 to 1923. There are quotes and papers from many different experts of the time period. For example, John W. Hodge points out the curious dogma that a healthy unvaccinated person is the focus and propagator of disease. Joseph P. Rinn makes the obvious observation that vaccination is a direct violation of the principle of asepsis in surgery. Several authors go into detail describing things like cow pus that go into vaccines. No surgeons in their right minds would allow such a cocktail of toxicity anywhere near a body they are operating on, but it's OK to inject even into infants.

Even in the early twentieth century, Hodge believed it was absurd to wage this germaphobic war against something we are immersed in and dependent on in many ways. Carl Strueh, MD, put it well: "Nature destroys us only after we have become unsuitable for further existence and proper propagation by our wrong mode of living."

I know, I know. This is a hundred years old. It's out of date, obsolete, bla, bla, bla. One thing this book does is completely destroy any argument that vaccines have a long history of safety and effectiveness. They do not, and several authors explain that in detail. But, you may argue, vaccine technology has come a long way, it's better now, bla, bla, bla. Really? Have you looked at what is in vaccines today? Formaldehyde, polysorbate 80, aluminum, thimerosal (mercury) and various extracts from monkeys and bovines. I didn't get that from tinfoilhat.com by the way. It comes from the CDC.

You may ask what exactly is extracted

from the cow or monkey. I don't know in every case but, hey, let me give you a choice. Which monkey fluid would you like for improving your health? Monkey blood? Monkey pus? Will you be having some monkey urine today? Perhaps I could interest you in some monkey spit?

I'm sure some of you are saying, "Tim, you're being gross." Yes I am. It is gross. That's the point. If vaccines have changed in the last century, it is for the worse.

And now I bring you this newsflash from Captain Obvious: our medical system is one huge conflict of interest. Those who argue most strenuously in favor of vaccines either have a vested interest or are just parroting what they have heard from their favorite authority, whether that be the popular media, their doctor, their mommies or their hairdressers. Throughout the last century the majority of people arguing the topic, including doctors, have never spent one minute looking at any actual data.

The most important point made by many of these authors is true regardless of how much time has passed. This is a moral issue and true morality does not change. Popular opinion may change. Political correctness may change. Agendas may change. Morals don't. There are many beliefs. Belief in science, belief in God, belief in the cosmos, belief in something else. How do we objectively decide which is right? We don't. That is why, in the West at least, we consider it wrong or immoral to shove your beliefs down someone else's throat. You may truly, fervently and deeply believe vaccinations work. I truly, fervently and deeply do not care. Any pretense that scientific medicine is somehow the ultimate answer does not stand up to the most cursory scrutiny.

Only a small percentage of Americans remain free of cancer, heart disease, allergies or diabetes. In terms of life span, the U.S. ranks fortieth or lower compared to other countries. The U.S. is a physically ill country and getting

This book completely destroys any argument that vaccines have a long history of safety and effectiveness.

All Thumbs Book Reviews

sicker. Scientific medicine is not working. Vaccine manufacturers' refusal to accept any liability if something goes horribly wrong with their vaccines completely undermines any claims to safety. Vaccine injury courts have awarded billions of dollars despite the fact it is very hard to even get a hearing in that court. The most notorious recent outbreak of measles occurred in Disneyland, and many of those afflicted were vaccinated. Nobody died. In the U.S., nobody has died from measles for at least the last ten years. Over one hundred have died from the measles vaccine in that time period.

Louisa L. Williams, MS, DC, ND wrote a letter to *Wise Traditions* (Fall 2012) documenting studies comparing vaccinated to unvaccinated children's health. The outcome of all

studies was very unfavorable to vaccines. It is well-known that combining medications is often deadly. Thousands of people die every year from toxic interactions. Possible interactions between vaccines have never been studied. Any claims of safety are not scientific.

If you want to vaccinate yourself, if you even want to make that your religion, that is your right and your problem. Nobody, including government, has a right to mandate this intolerant religion on anyone. It violates the first amendment of the U.S. constitution. It violates the Nuremburg code. It violates basic morality. These authors had an awareness of the real issues that Americans need to regain if we are ever to restore our health.

Review by Tim Boyd

The outcome of all studies was very unfavorable to vaccines.

BOOK REVIEWS IN *Wise Traditions*

The Weston A. Price Foundation receives two or three books *per week*, all of course seeking a Thumbs Up review. What are the criteria we use for choosing a book to review, and for giving a Thumbs Up?

- First and foremost, we are looking for books that add to the WAPF message. Dietary advice should incorporate the WAPF guidelines while adding new insights, new discoveries and/or new therapies.
- We are especially interested in books on the fat-soluble vitamins, traditional food preparation methods and healing protocols based on the WAPF dietary principles.
- We look for consistency. If you talk about toxins in vaccines in one part of your book, but say you are not against vaccines in another part of your book, or praise fat in your text but include recipes featuring lean meat, we are unlikely to review it.
- We do not like to give Thumbs Down reviews. If we do not agree with the major tenets expounded in a book sent to us, we will just not review it. However, we feel that we have an obligation to point out the problems in influential or bestselling books that are peddling misinformation, and for these we will give a negative review. We also will give a negative review to a book that misrepresents the findings of Weston A. Price.
- If you want us to review your book, please do not send it as an email attachment. Have the courtesy to send us a hard copy book or a print-out of your ebook or manuscript in a coil binding.

All Thumbs Book Reviews



***My Beef With Meat:
The Healthiest Argument for
Eating a Plant-Strong Diet***
by Rip Esselstyn
Grand Central Life & Style

Dr. Caldwell B. Esselstyn, Jr. is believed to be an expert on nutrition by many, including himself. Rip Esselstyn is his son, and apparently also an expert on nutrition by the family plan and the fact that he wrote this book. By day (and probably night also) Rip Esselstyn was a firefighter, a profession I appreciate in this highly combustible world. Currently he works with Whole Foods Market as a “Healthy Eating Partner.” Don’t ask me what that means.

Many assertions are put forth which I would agree with. For example, the most common health problems in the United States are not due to heredity. I agree. There are no protein deficiencies in the U.S. If anything we may get too much. Agreed. Question authority. Agreed! Processed carbs that come in fancy boxes are a problem. I agree. Factory farms are hell for animals. I absolutely agree.

Then there are assertions where some of the terms are not clearly defined. A recurring theme is that plant-based diets are better for you than omnivorous diets. If he is talking about the typical American omnivore’s diet, that may be true at least in the short run. He says many studies show eating meat leads to health problems. In most cases he doesn’t name specific studies so it is a little hard to know exactly what they are studying. If they are studying factory farm meat, that may be true. Occasionally he will refer to a source like the Academy of Nutrition and Dietetics (AND) which is sponsored by the likes of the National Dairy Council and PepsiCo. He also refers to the China Study, which is not a peer-reviewed study and has been found to be riddled with problems (westonaprice.org/book-reviews/the-china-study-by-t-colin-campbell/).

In other places I’m not sure what Esselstyn

is trying to tell us. On one hand he reproduces a chart from the U.S. government of good sources for iron. At the top of the list is ready-to-eat cereal. On the other hand he says processed carbs in fancy boxes (like cereal) are not good. I’m getting mixed signals here.

A strong fat/cholesterol/salt phobia appears throughout the book. He claims “we know” that prolonged consumption of fat and cholesterol promote heart disease, diabetes and countless other chronic diseases. How do we know? No specific studies are provided. We are told on the next page that soy formula is an excellent option for infants. Still no reference to studies. We are also to believe we can get all of our required vitamin A from vegetables like carrots. Part of his justification for that statement is the assertion that Steve Austin, the Six Million Dollar Man, had great eyesight because he loved carrots. I will give him the benefit of the doubt and assume that was a joke. I’m not sure I get it because his great bionic eyesight had nothing to do with carrots. What is not made clear is the fact that in the best of cases, beta-carotene is very inefficiently converted to usable vitamin A. In the case of children, and people with diabetes and other problems, there is no conversion. What do they do?

We are assured at the front of the book that we would find slam-dunk arguments to make the case that plants have everything we need. After reading the book, I’m not assured. The arguments have missing pieces and the pages are riddled with mind-control phrases like “plant-strong diet.” My meat-strong thumb is pointing down for this one.

Review by Tim Boyd

A strong fat/
cholesterol/
salt
phobia
appears
throughout
the book.

ERROR NOTICE

The references for the article on HPV vaccines, by Leslie Manookian, Summer 2016, page 67 were inadvertently omitted. They have been added to the online version, posted at www.westonaprice.org/health-topics/vaccination/hpv-vaccines-oh-market/.

All Thumbs Book Reviews

Vegan Betrayal:
Love, Lies and Hunger in a
Plants-Only World
Mara J. Kahn
Little Boat Books

The most potent argument for vegetarianism is the premise that avoiding animal foods will make you more pure, more holy, better person all round. One vegan writer, Rod Preece, compares meat eating—which he calls “flesh eating” to cannibalism, and called his book on the subject *Sins of the Flesh*.

Young, idealistic people find these arguments hard to resist, and author Mara Kahn was no exception. She was converted to vegetarianism by a svelt bicyclist named Linda and then tried to be a vegan while traveling in France! As she says, “Peer pressure, especially of the girlfriend variety, can be a powerfully persuasive force at this largely unverified, exploratory stage of life.”

Key fact: veganism leads to nutritional deficiencies of many nutrients. These include vitamins A, D and B12, iodine, iron, zinc, taurine, selenium, protein, calcium and omega-3 fatty acids. But in the teeth of the evidence, vegan zealots continue to assert that veganism is a healthy diet for all.

Vegan Betrayal alternates chapters on nutrition, ecology, anthropology and philosophy with

personal stories from ex-vegans whose health suffered a dramatic decline on an all-plants diet, despite careful planning and supplementation. This decline is verified in the book by several pro-vegan doctors who finally and reluctantly prescribed red meat to their clients and described their recovery as “miraculous.”

Kahn also discusses the concept of “Reverse Speciesism,” which favors the well-being of an animal over that of a suffering human vegan.

Kahn takes issue with the term “plant-based” to describe their diet, as that is inaccurate; many traditional diets are plant-based but only veganism is plants-only.

The chapter on traditional diets describes the ground-breaking work of Dr. Weston Price and his early discovery of what has now been identified as Vitamin K₂, critical for heart health and found in the organs and fat of animals that consume fast-growing green plants.

Vegan Betrayal takes us for an interesting and well-written stroll through the morass of eating philosophies, shattering myths along the way—the myth of the China Study, the myth that animals are not killed to produce plant foods, the myth that soy protein is more environmentally friendly than meat, the myth that veganism will make you into a skinny bitch irresistible to men. A big thumbs up for this important contribution to the debate on what to eat.

Review by Sally Fallon Morell

Peer pressure, especially of the girlfriend variety, can be a powerfully persuasive force at this largely unverified, exploratory stage of life.


EAT RIGHT by Nick Barnard

Eat Right very categorically lives up to its name. The first category is dairy—kefir, yogurt, butter, ghee, curds and whey—and why you should prefer raw dairy. Preparation techniques are covered in detail and almost every page in the book is dressed up with very high-quality color pictures.

Fermented foods like sauerkraut come next. Barnard includes things that less educated people like me may have never heard of. Tsukemono is Japanese fermented vegetables. Kimchi I have heard of. This section also teaches us how to do fermented garlic, fermented tomato ketchup, fermented beetroot, super borscht and a long list of other ferments.

In addition to recipes and techniques, you get a little history of various foods. Chicken stock, for example, has long been recognized in many parts of the world until recently for its healing properties. The author is also a big fan of lard and other good fats from beef, lamb, mutton, and poultry.

Just about every category I can think of is covered from potatoes to bacon and eggs to desserts and veggies. Weston Price would approve and my thumb is UP.

Review by Tim Boyd 

Tim's DVD Reviews

What's With Wheat?

Cyndi O'Meara

Director & Producer Justin Brown

Celiac disease and gluten intolerance have increased tremendously in the last few decades. Why? Some speculate that we eat more wheat than we used to. Probably true especially since Ancel Keys hacked up his huge hairball of misinformation about fat that scared everyone away from bacon and eggs. Most switched to a breakfast of corn flakes and skim milk, which is a perfect recipe for A slow death. But wheat has been a staple in many cultures for thousands of years. Others say modern wheat is very different from ancient varieties; it has more gluten and that causes more digestive issues. Modern wheat was developed for quantity and ease of harvesting, not nutrition. That is probably true. Some say modern processing is the problem. Now we are talking about something that has definitely changed dramatically.

Even ancient wheat had anti-nutrients that required proper handling. Wheat must be soaked or sprouted for long periods of time to neutralize those anti-nutrients. Most modern wheat products end up in final form in less than two hours. Modern processing devitalizes the wheat and then adds back chemical vitamin fragments resulting in a product with no nutritional value.

Another problem with modern wheat comes from chemical pesticides and weed killers. Stephanie Seneff talks specifically about glyphosate, the active ingredient in Roundup. She is one of several faces appearing in this film that will be familiar to many of our members. Others are Sally Fallon Morell, Joel Salatin and Dr. Natasha Campbell-McBride.

The green revolution created a market for all those chemicals that were developed in the world wars—because it would be a shame to let all that expertise and technology go to waste. The food pyramid was developed not by scien-

tists but by politicians to protect that industry. Our wheat-based food system seeks to remove animals from agriculture. The result is toxic ecology, erosion, imbalance, desert and other great things like that.

This film thoroughly documents the health crisis and other symptoms that come from turning devitalized wheat into a commodity and a dietary obsession. The thumb is UP.

Moldy

Dave Asprey

Bulletproof Films

Concern about mold has been increasing in recent years as more and more people seem to be sensitive to it. Mold sensitivity can be hard to determine because the list of symptoms is very long. It isn't just confined to respiratory problems but can produce migraine headaches, brain fog, memory loss and very low energy. It has sometimes been misdiagnosed as Chronic Fatigue Syndrome.

If you are as old as I am and can remember the 1960s, no one seemed to have such allergies back then. Why is that? What happened? Mold is hardly new. It has been around everywhere forever. One strong possibility is pointed out in the film. In 1969, paint manufacturers started to add fungicides to their paint. As often happens with chemical warfare, these fungicides created mutated strains of mold that are more toxic.

Several doctors and other experts along with several mold survivors are interviewed about their experience. Many have ongoing difficulties because fleeing a moldy house or building doesn't always solve the problem. Mold can grow anywhere including on clothes, furniture and stuff in general. Grains, nuts and coffee seem to harbor some of the more toxic molds that get into foods. Detoxing from mold includes cleaning up or moving away from the

The green revolution created a market for all those chemicals that were developed in the world wars—because it would be a shame to let all that expertise and technology go to waste.

Tim's DVD Reviews

more moldy environments. Among the foods that are less prone to mold are meat and eggs. The thumb is UP for that.

The Autoimmune Process and Reaction


Mark Anderson

SeleneRiverPress

This is a set of audio CDs addressing how to treat autoimmune disorders. Solving these problems with nutrition alone often doesn't work because antibodies interfere with or block that nutrition. Anderson explains how to use protomorphogens to decoy antibodies away from damaged tissue so that targeted supplements can do their job. Many practitioners will use protomorphogens without any dietary support, thinking that is all they need because the symptoms go away. However, when they stop

the protomorphogens, the symptoms return because they never really healed anything to begin with. Proper nutritional supplements are the key to long-term success.

Anderson also talks about auto-antibodies and how their presence accurately indicates the presence of diseases, like multiple sclerosis and cardiac disease, well before there are any symptoms. Some listeners may be interested in these CDs from a historical perspective. There are brief excerpts of seminars by Dr. Royal Lee recorded back in the mid-twentieth century. Dr. Lee was already doing this decades ago with great success.

At times the presentation may sound like an infomercial for Standard Process products and it can get rather dry but there is a lot of interesting information about autoimmune disease in general. The thumb is UP. 

Anderson explains how to use protomorphogens to decoy antibodies away from damaged tissue.



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Legislative Updates

POLICY UPDATE

By Judith McGeary, Esq.

Changing the U.S. food and agriculture system is a complex process. There are issues with local health department permitting, state regulations on raw milk and other healthy foods, federal meat regulations, federal subsidy programs that distort the market, even international trade agreements. The problem is compounded by different levels of government, with literally thousands of different players, taking dozens of different approaches to the issues. At times, we have a clear, high-profile focus, such as when we were fighting the National Animal Identification System or the Food Safety Modernization Act (FSMA). And then those immediate crises end, whether with losses, victories or something in between, and we're left with the day-to-day reality of trying to make change: working on bills, engaging the regulatory agencies, staying alert for old threats coming back, and more.

FDA AND RAW CHEESE

For years, FDA has targeted raw milk cheese, claiming that it is a high-risk product. Through enforcement actions and harassment, the agency has forced several cheesemakers out of business and discouraged many from starting up. A year ago, the agency published notice that it planned to revisit the regulations governing aged raw milk cheese, potentially making it much harder to produce this nutrient-dense food. WAPF submitted detailed comments, based on scientific studies and an analysis of foodborne illness reports, showing that raw milk cheeses that have been aged for 60 days are actually a very low-risk product (see westonaprice.org/wp-content/uploads/WAPF-cheese-comments-with-appendix.pdf).

And now even FDA is being forced to admit—at least to some extent—that aged raw milk cheese really doesn't pose a significant

risk, based on its own data.

In response to a congressional directive in the Food Safety Modernization Act to take a preventive approach, the FDA developed plans to test large numbers of samples of different foods, to learn more about the prevalence of pathogens and to help the agency identify patterns that may help predict and prevent future contamination.

Raw milk cheese was one of the very first foods FDA set out to test. It tested just over sixteen hundred samples of both domestic and imported aged raw cheeses in 2014 and 2015. The agency announced the results in late July of this year; the full report is available at fda.gov/downloads/Food/ComplianceEnforcement/Sampling/UCM512217.pdf.

The FDA found raw milk cheese aged sixty days to have less than a one percent contamination rate for salmonella, *Listeria monocytogenes*, *E. coli* O157:H7 and Shiga toxin-producing *E. coli*. Specifically, the FDA found only three samples with salmonella, ten samples with listeria (three from the same business), and one sample with pathogenic Shiga-toxin producing *E. coli*. That is fourteen samples out of sixteen hundred six, or a rate of 0.87 percent contamination with pathogens.

Even from the cheeses that had pathogens in the samples, there were no illnesses reported (FDA, FY 2014-2016 Microbiological Sampling Assignment, Summary Report: Raw Milk Cheese Aged 60 Days, pages 9-10 & 15 (July 21, 2016)).

The agency also tested for generic *E. Coli*, and found 5.4 percent of the samples had levels above the regulatory requirements. Generic *E. coli* rarely causes illness, but is often used as an “indicator” of unsanitary processing conditions. Interestingly, out of the fourteen samples that

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were found to have pathogens, only one of them also had high levels of generic *E. coli*. FDA admitted that this data “provided no evidence of an association between generic *E. coli* and pathogenic bacteria.” The FDA further admitted, that “it is established in scientific literature that the presence of index or indicator organisms, such as *E. coli*, coliforms, fecal coliforms and enterobacteriaceae, generally does not correlate well with the presence of foodborne pathogens and is not useful for determining contamination of individual lots of food by pathogens” (Summary Report at page 13). Yet, neither the FDA nor the state health departments appear to be prepared to align their testing regimes with science.

Interestingly, the FDA also released preliminary results from its testing on cucumbers and hot peppers at the same time. While that testing is incomplete, at the time of the report the agency had tested four hundred fifty-two samples of hot peppers and three hundred fifty-two samples of cucumbers. Of those, thirteen of the hot pepper samples and three cucumber samples tested positive for salmonella—a 1.9 percent contamination rate (fda.gov/Food/ComplianceEnforcement/Sampling/ucm473112.htm). The FDA stated that this testing is still underway and no conclusions could be drawn at this time, but these rates were more than double the rate of contamination in aged raw cheese.

FDA at least partly acknowledged the significance of the data: “The data collected by the FDA indicate that the prevalences of salmonella and pathogenic Shiga toxin-producing *E. coli* are *relatively low and similar to the contamination rates in many other foods*” (Summary Report at p. 19, emphasis added). The agency is not planning additional large-scale sampling of raw milk cheese, although it will continue its “Domestic and Imported Cheese Compliance Program for routine sampling of cheeses.” Raw milk cheese will also be sampled, as will other foods, based on two criteria:

- A firm has a previous history of unmitigated microbiological contamination in the environment and/or in finished product (such as illness complaints, recalled or seized product, previous inspectional history, or environmental

pathogens without proper corrective actions by the facility), or

- For cause (as when inspectional observations warrant collections of samples for microbiological analyses).

Unfortunately, despite the fact that only ten samples were found to have listeria (a contamination rate of 0.6 percent), the FDA signaled that the debate on that front may not yet be over: “Taking into account the prevalence found and known pathogenicity, the FDA continues to be concerned about the presence of listeria in raw milk cheese, which is a ready-to-eat food, and we will take action as necessary.”

While there may be some continued fighting over the issue of listeria, the FDA’s report marks significant progress in the agency’s position on raw milk cheese. Without the work of WAPF and other raw cheese supporters, however, the agency most likely would have simply continued to act based on false fears and assumptions, rather than undertake this testing. While it may sometimes seem like we’re talking to a brick wall, continuing to push for public policy based on actual risks, rather than rhetoric, is important in the long run.

GMO LABELING: BIG LOSS, BUT THE LARGER FIGHT CONTINUES

Unfortunately, while we made progress on the raw cheese front, our movement took a large step backward on the GMO front this summer.

In July, President Obama signed into law a bill that will prevent states from requiring clear, easy-to-read GMO labels on food packages. Nicknamed the Deny Americans the Right to Know (DARK) Act, the bill was supported by Senators Pat Roberts (R-Kan.) and Debbie Stabenow (D-Mich.), Monsanto and its biotech allies, and the Grocery Manufacturer’s Association, a trade group for Big Food.

The original version of the bill, passed by the House last summer, was already bad; it preempted all state laws on GMO labeling in favor of a voluntary federal scheme, an approach that had failed to produce any GMO labels over the previous fourteen years.

The Senate version, which is what ultimately passed both chambers, is arguably

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keys to its
passage was
the
endorsement
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Organic Trade
Association
(OTA).

even worse. Although the bill was touted as a “compromise,” it has no positive features. At the same time that it preempts state laws that require mandatory labels, it defines genetic engineering so narrowly that most GMOs on the market don’t qualify. For the small number of GMOs that are covered, the companies can choose whether to put the words “produced with genetically engineered ingredients” or simply a website, an eight-hundred number, or a QR code on the package; consumers would then have to scan the code or follow the link and hunt around the website to find out whether there are GMOs in that specific product. And, ultimately, there are no federal penalties, so companies can ignore even these pathetically inadequate requirements with impunity.

The DARK Act represents a betrayal of American farmers and consumers, undermining our right to know what’s in our food and states’ rights to regulate business activity within their borders.

Why did so many legislators vote for such a patently bad bill? The grassroots opposition to this terrible bill had halted it for over a year, since the House first considered it. Ultimately, one of the keys to its passage was the endorsement from the Organic Trade Association (OTA). While many good companies are OTA members, its leadership is dominated by large corporations who view organics as simply a profitable niche market. They appear to have been willing to sell out the movement in return for political support on organic marketing issues. When OTA endorsed the bill, the pro-

ponents were able to claim support from both conventional and organic industries—and the grassroots simply wasn’t able to counter that message effectively.

There is nothing positive to say about this situation. In addition to the setback for GMO labeling, it shows yet again how much power the Big Agribusiness and Big Food lobbies have in our system. It is also a sign of how the organics movement has been co-opted by big business.

But the fight is not over. What Congress has done, it can undo—or perhaps the courts will, since the Center for Food Safety has brought a lawsuit. And we will continue to fight for people to have a meaningful choice in their foods in other ways: educating people to look for non-GMO labels, protecting farmers against harassing lawsuits for patent infringements, and promoting non-GMO seeds and sustainable growing methods. We must keep building power, so that the voices of truly sustainable farmers and consumers who want to buy food from them will prevail.

FDA IMPROPERLY NARROWS THE TESTER-HAGAN AMENDMENT

And in more bad news, the FDA has taken it upon itself to narrow the scope of the Tester-Hagan amendment through rulemaking. The issue at hand is the definition of “retail food establishment.” The importance is that retail food establishments, along with farms, are not “facilities.” And while facilities have to comply with the new requirements for “preventive controls,” which will cost thousands of dollars

HOW THEY VOTED

On the Senate side, sixty-three senators voted for the DARK Act, and only the thirty senators listed below voted no. If your senator is on this list as voting no, take a moment to call and say thank you. It’s important to recognize legislators who stand up for what is right, even when—or perhaps particularly when—we lose.

The House vote was even more lopsided, 306-117. You can see how each Rep voted at <http://clerk.house.gov/evs/2016/roll466.xml>.

Blumenthal (D-CT)
Booker (D-NJ)
Cantwell (D-WA)
Cardin (D-MD)
Collins (R-ME)
Durbin (D-IL)
Flake (R-AZ)

Gillibrand (D-NY)
Heinrich (D-NM)
King (I-ME)
Leahy (D-VT)
Markey (D-MA)
Merkley (D-OR)
Murkowski (R-AK)
Murphy (D-CT)

Murray (D-WA)
Paul (R-KY)
Reed (D-RI)
Reid (D-NV)
Sanders (I-VT)
Sasse (R-NE)
Schatz (D-HI)
Schumer (D-NY)

Sessions (R-AL)
Sullivan (R-AK)
Tester (D-MT)
Udall (D-NM)
Warren (D-MA)
Whitehouse (D-RI)
Wyden (D-OR)

each year in compliance expenses, retail food establishments do not have to comply.

To understand why the FDA's definition of retail food establishment is flawed, one first has to look at the origin of these terms. In 2002, Congress created a requirement for food "facilities" to register. The Bioterrorism Act of 2002 exempted both "farms" and "retail food establishments" from the definition of "facilities," but did not define the terms. In 2005, the FDA defined "retail food establishment" to include any establishment whose primary function was to sell directly to consumers, defined as selling more than half of the products directly to individual consumers.

However, since the Bioterrorism Act focused on registration of each location, it appeared that the sales had to occur at the same location as the food processing in order to qualify as a retail food establishment. In other words, under the FDA's 2005 regulation, a business that made jams in a commercial kitchen and then sold them at a farmers market would most likely not be classified as a "retail food establishment" even if more than half (or all) of its sales were direct to individual consumers. Not many people paid attention to this issue because the requirement was rarely enforced and it involved only a one-time, free registration.

In 2010, as FSMA was being debated by Congress, this issue came up because the extensive new requirements for food safety plans and other measures were to be triggered by the classification as a "facility." Thus, whether or not a business was a "retail food establishment" became a high-stakes question.

The Tester-Hagan amendment, as incorporated into the manager's amendment of FSMA, addressed this issue. In it, Congress made it clear that they did not intend for direct-marketing businesses to be treated as facilities, directing the FDA to amend its definition of retail food establishment to "clarify that, in determining the primary function of an establishment or a retail food establishment under such section, the sale of food products directly to consumers by such establishment and the sale of food directly to consumers by such retail food establishment include the sale of such food directly to consumers by such establishment" at

a roadside stand, at a farmers market, through a CSA, or "any other such direct sales platform as determined by the Secretary" (FSMA Section 102, amending 21 USC 350d).

This language addresses all direct-marketing food businesses. Yet, in both the proposed and final regulation, the FDA limited the definition of retail food establishments only to those operations that are located on farms.

As a result, under FDA's definition for "retail food establishment," a *farmer* who makes a value-added product *on his or her farm* and sells it directly to consumers at a farmers market is a "retail food establishment." Because he or she is classified as a retail food establishment, the farmer is not subject to the very extensive and expensive requirements for a food safety plan, supplier verification, and more.

But an *artisan producer* who makes the same product and sells it directly to the same consumers at the same farmers market is *not* a retail food establishment because the business is not located on a farm. Thus, the artisan producer is subject to all these new expensive regulations even though he or she is doing the exact same thing as the direct-marketing farmer.

In addition to the lack of consistency with FSMA's statutory language, this simply makes no sense from a public health perspective. When the FDA proposed this definition last year, WAPF joined with other organizations to point out both the legal and practical flaws, but the FDA chose to forge ahead with this flawed definition.

In practical terms, very small start-up businesses will still be exempt, thanks to another provision in the Tester-Hagan amendment that exempted businesses with less than one million dollars in gross sales. But given the very small profit margins for many food businesses, even those with over one million dollars in gross sales will find it difficult to comply with these regulations—and those selling primarily direct to consumers simply should not have to.

POSITIVE STEPS IN CONGRESS:

THE TPP AND CHECKOFF REFORM

We'll end with a couple of positive developments in Congress, although admittedly both are far from final.

In both the proposed and final regulation, FDA limited the definition of retail food establishments to only those operations that are located on farms.


The first is the filing of two bills to reform the “Checkoff” system, S.3200 and S. 3201. There are currently eighteen mandatory “Checkoff” programs. Under these programs, anytime a farmer sells a beef cow or a gallon of milk or any other covered commodity, the farmer is legally required to pay a fee to industry-run organizations. These funds are used to pay for things such as the “Got Milk?” and “Pork, the other white meat” advertising campaigns. These advertising campaigns benefit primarily the retailers and grocery stores, yet the farmers are stuck paying the bills. When it comes to raw milk, the industry adds insult to injury by promoting only pasteurized milk products and even running ads against raw milk—but they still require raw milk farmers to pay to support those ads.

In 2012, WAPF joined with many other groups in an effort to amend the Farm Bill to replace the mandatory checkoffs with voluntary programs. That attempt failed, with only twenty senators (and no Democrats) voting for the amendment. Since then, the issue has been largely dormant with the Checkoffs continuing unabated. Not only is the filing of these two bills a positive step, but also the fact that S.3200 has a democratic co-sponsor, Senator Booker of New

Jersey. Given the timing, it is unlikely that either bill will move forward this year, but they lay the groundwork for a renewed effort next session.

More importantly, the Trans-Pacific Partnership (TPP) is showing signs of being on life support, despite President Obama’s continued campaign to have it ratified. In early August, the President filed formal notice that a bill to approve this massive trade agreement would be submitted; the Administration also announced plans for more than thirty high-profile events with cabinet members that same month to push members of Congress to support the TPP.

But just a few weeks later, *The Hill*, a Capitol-area publication, reported that Senate Majority Leader Mitch McConnell (R-Ky) said: “The current agreement, the Trans-Pacific [Partnership], which has some serious flaws, will not be acted upon this year.” Given that Senator McConnell was one of the driving forces behind the Fast Track approval last year—which severely limits debate on any trade agreement approvals and essentially “greased the wheels” for the TPP—this is a significant reversal.

No matter what any legislator says now, the lame duck session after the elections can be a treacherous time. And McConnell also said that the TPP could pass next year with some changes: “It will still be around. It can be massaged, changed, worked on during the next administration.” So it’s not over yet. But in order to make changes, the TPP would have to be re-negotiated with the other countries, many of whom face significant grassroots opposition to it within their own borders as well. Thanks to the outcry from thousands of people, including WAPF members, we have a realistic chance of stopping this damaging trade deal, and taking a step along the path of regaining control over the laws and regulations that govern our country. 

WAPF POLICY ON VACCINES

The Weston A. Price Foundation has received emails or letters from about one dozen individuals objecting to the strong stance we have taken against vaccines. We respectfully request that these individuals use the same lens through which they view mainstream nutritional advice, watch the films we recommend and read the research we present. Moreover, please understand that no vaccinated-versus-unvaccinated study has ever been conducted, that federal law recognizes that vaccines injure and kill, that a federal program has paid out over three billion dollars to vaccine victims, and that those who manufacture and administer vaccines bear zero liability for them. Vaccines injure and kill far more people than governments and health authorities openly admit, but no one can tell you in advance what kind of injury you or your child might suffer.

Your children are depending on you to make the right decisions for them and to do your research on any medical procedure before giving your consent. Of course you need to protect them from illness, but the best way to do this is with our dietary principles, not with vaccines containing a host of harmful ingredients. Once these ingredients go into the bloodstream of your child, you cannot take them out.

We encourage you to watch *The Greater Good* as well as the new movie *Vaxxed: From Cover Up to Catastrophe*, which documents fraud and cover-up at the U.S. Centers for Disease Control and Prevention regarding the vaccine-autism link. Parents of vaccine-injured children—who will be taking care of these children throughout adulthood—will tell you that no vaccine is worth the risk.

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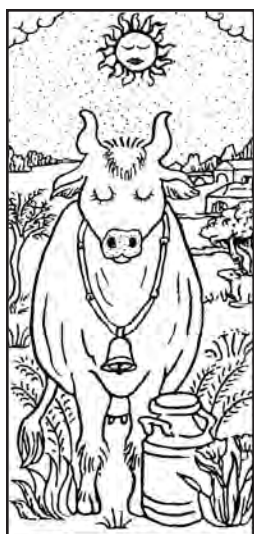
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A Campaign for *Real Milk*

RAW MILK DEBATE AT THE IAFP: A CLASH OF CULTURES

By Sally Fallon Morell

The International Association of Food Protection (IAFP) is a member-based association of more than four thousand food safety professionals “committed to Advancing Food Safety Worldwide by providing food safety professionals worldwide with a forum to exchange information on protecting the food supply.” The organization puts on three large conferences every year—one in the U.S., one in Europe and one in Asia—bringing food safety professionals together to learn the latest ways of pasteurizing, poisoning, zapping and pressure-treating our food to make it completely lifeless and sterile.

A REQUEST FOR DEBATE

Former WAPF board member Geoffrey Morell has attended the IAFP meetings for the last five years, and has personally urged Allan Saylor, past president of IAFP, to host a presentation on raw milk at the U.S. conference. Saylor's reply was that the IAFP was founded to promote pasteurization—even though in the early days, the IAPF clearly supported certified raw milk. According to the IAFP history, “. . . the annual meetings continued to emphasize the healthfulness of dairy products, their impor-

tance as foods for adults as well as for children and infants, and the need for laws providing for the pasteurization of all milk and cream *unless it was known to be from a certifiably safe source* [emphasis ours].”

Geoffrey's requests must have had their effect (perhaps because other IAFP members were also asking for a session on this increasingly popular food), because this year, the IAFP hosted a raw milk debate as an “Amicable Exchange of Experts.” The panel at the August 3rd debate included Ted Beals, MD, and Joseph Heckman, PhD, arguing in favor—and both noting proudly their status as WAPF honorary board members—and Jeffrey Farber, PhD, and Jeff Kornacki, PhD, decidedly against. The organizers made a point of including only PhDs or MDs on the panel, noting that the debate that featured myself and Mark McAfee at Harvard University in 2012 “included no PhD or MD-credentialed participants.”

PRO AND CON

Heckman and Beals brought up points that are familiar to WAPF members: health officials need to distinguish between raw milk

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Panelists
Ted Beals, MD,
Jeffrey Farber, PhD,
Jeff Kornacki, PhD,
and
Joseph Heckman, PhD,
debate the
merits of raw versus
pasteurized milk.

destined for pasteurization (which we all know can contain a lot of pathogens) and raw milk destined to be consumed unprocessed; that many studies show that raw milk can provide powerful protection against asthma, allergies, skin problems and infectious disease; that the data show that raw milk is as safe as, or safer than pasteurized milk; that raw milk tastes much better than pasteurized; and that because demand for raw milk is growing rapidly, we need reasonable standards for its production. Heckman surprised the audience by noting that immigrants to the U.S. want raw milk because this is what they are accustomed to drinking in their native countries, where it is often available from vending machines.

Beals argued that there is no rational justification to focus national attention on fresh unprocessed whole milk, which *may* be associated with fifty to two hundred illnesses per year among more than eleven million consumers, a rate no greater than .002 percent; whereas the rate of *confirmed* bacterial infections from all food in the U.S. is about .03 percent. Beals noted that there are three thousand deaths per year in the U.S. from bacterial foodborne infections, and he could have added that there have been no deaths from raw milk since at least the 1970s.

THE JOHNS HOPKINS STUDY

Both raw milk opponents dismissed the European studies showing that raw milk provides a protective effect against asthma, allergies, skin

problems and infectious disease as “unconvincing.” And both justified their claim that raw milk is dangerous by citing a 2014 Johns Hopkins report, which concluded that “the relative risk of individual illness is almost 150 times greater per unit of nonpasteurized dairy product, compared to pasteurized.”

WAPF published a critique of this conclusion in 2015.¹ The claim is derived from an analysis published by Langer and colleagues in 2012, which actually found no statistical difference in the rate of illness (as opposed to the number of “outbreaks”) attributed to raw milk or products produced from raw milk compared to those produced from pasteurized milk. In addition, the Langer analysis limited its time frame to the years between 1993 and 2006. By selecting such a narrow time period, the data excluded the nation’s largest outbreak of salmonella: in 1985, a multi-state outbreak of salmonella was traced to pasteurized milk from a Chicago milk plant. This resulted in over sixteen thousand confirmed cases, and the investigators estimated that between 150,000 and 200,000 people were sickened.

Our own analysis of illnesses attributable to raw and pasteurized milk over the years 1980 to 2005 indicate almost eleven times more illnesses attributed to pasteurized milk than to raw milk. Using the estimate that one percent of milk is consumed raw, we can calculate that, on a per serving basis, raw milk is less than twice as dangerous as pasteurized milk. As recent

The raw milk drinker looks at nature with awe and respect; the raw milk opponent looks at nature with fear and anger, as something that needs to be sanitized and “improved.”

DESPERATE MILK MARKETERS PLEAD: PLEASE DRINK MILK

The brainchild of the California Milk Processors Board, the Got Milk mustache campaign lasted over twenty years, from 1993 to 2014. In California, the milk producers spent the equivalent of one dollar for every soul living in the state. The results? Zilch. Nada. Despite years of mustache ads, milk sales continue to fall.

The National Dairy Promotion and Research Program and the National Fluid Milk Processor Promotion Program, responsible for milk marketing, blame weak sales on calcium-fortified juices and vitamin-enhanced beverages, which they say have “undermined” milk’s healthy image and are more available than milk “in many eating establishments.” No mention of the fact that today’s modern pasteurized and ultra-pasteurized milk tastes horrible and causes multiple intestinal disorders.

Fluid Milk Processors have tried everything to get people to drink more milk, and the government has helped them, shipping posters of mustache-wearing actors, sports figures, musicians and models to sixty thousand U.S. elementary schools and forty-five thousand public middle and high schools. But the kids hate the reduced-fat milk sold in schools, often throwing it away.

The milk lobby has even tried to promote milk as a weight loss food—a claim not supported by a recent study, which found that drinking twenty-four ounces of lowfat or fat-free milk every day did not help men lose weight. Why would they expect such results from lowfat milk when animal scientists know that pigs gain weight on lowfat milk, but stay lean on full-fat milk?

data suggest that as many as 3 to 4 percent of Americans consume raw milk, and using these data instead of the one percent figure would make pasteurized milk twice as dangerous as raw milk on a per-serving basis.

Although the Johns Hopkins authors acknowledge that a clinical trial would provide needed clarity, they do not cite the only randomized, controlled trial to examine the effect of milk pasteurization on infectious disease. This trial compared the rate of infections in infants fed raw human milk or a mixture of pasteurized human milk and formula. The infants suffered three times as many infections when fed pasteurized human milk and formula, even though 15 percent of the raw human milk samples contained pathogenic organisms, which were eliminated by pasteurization.

NATURE IS WILD

The most interesting aspect of the debate was the clear difference in world view between the for and against camps. “My assumption is not that nature is perfect,” Kornacki said. “My assumption is that nature is wild and can be dangerous.” He then referenced the death angel mushroom, which can kill you with one bite—as if to say that raw milk is not just risky, but downright toxic.

True to his public health training, Kornacki noted that 25 percent of foodborne illnesses

were associated with milk in 1938; now it’s less than one percent. He left out the fact that these illnesses were in steep decline long before pasteurization became mandatory. Better housing, the advent of refrigeration, the replacement of the horse with the car, better water management, and the closing of filthy inner-city dairies are more likely candidates for the decline.

But to compare the food that nourishes all mammalian infants to a death angel mushroom shows the blinkers that hamper rational thought among public health officials, even those who have a PhD!

When you assume that nature is imperfect and dangerous, you end up with all kinds of inappropriate procedures—from pasteurization to routine antibiotics to vaccinations. For sure, nature needs a certain amount of thoughtful management to make it compatible with human life, but during the last few decades, science has revealed the fact that raw milk *is* perfect—full of many marvels, with more likely to be revealed. Raw milk contains numerous bioactive components that kill pathogens, strengthen the immune system, create a strong gut wall, nourish our gut bacteria, ensure the assimilation of 100 percent of all the nutrients in the milk, and protect it against rot. These are largely destroyed by the rust belt technology of pasteurization.

The closer we look at nature—whether we study raw milk, the human biome, the construction of bone, the radar system of bats or the length of eyelashes, the more we are guided to the obvious conclusion: nature is infused with wisdom, and it is incumbent on man to recognize and honor that wisdom. The raw milk drinker looks at nature with awe and respect; the raw milk opponent looks at nature with fear and anger, as something that needs to be sanitized and “improved.” ☺☺

REFERENCES

1. realmilk.com/safety/the-johns-hopkins-raw-milk-study/

EMBARASSING PRESS RELEASE

“High school football players, regardless of concussions, who drank Fifth Quarter Fresh chocolate milk during the season, showed positive results overall.” This statement appeared in a University of Maryland Industrial Partnerships Program press release, issued December 22, 2015, and references a study claiming that Fifth Quarter Fresh, a high-protein chocolate milk-based beverage, helped high school football players improve cognitive and motor function over the course of a season, even after experiencing concussions. Described on the Fifth Quarter Fresh website as “a fresh, natural high-performance post-workout recovery drink, made using milk from ‘super, natural’ cows, free of chemicals and preservatives,” it contains twenty grams of protein derived from whey and casein per serving. The ingredients are fat-free milk, sugar, nonfat milk, cocoa powder and carageenan, with added vitamins A and D—in other words, hardly any fat at all to balance all the protein and carbohydrate. How different from the diets of the primitive Swiss athletes, who drank bowls of pure raw cream!

University officials were embarrassed when journalists asked to see the full study and officials could only supply a brief PowerPoint slide presentation that charted and graphed some of the data. Critics were astounded that the university could release a commercially-oriented press release without supporting data. “The University of Maryland has a burgeoning chocolate milk-concussion scandal on its hands,” wrote Jesse Singal, a senior editor at *New York* magazine. Barry Kosofsky, a pediatrics professor and concussion expert at Weill Cornell Medical College in New York, called the PowerPoint “problematic” (tinyurl.com/zh9aacv).

Fifth Quarter owner Richard Doak said he wanted to issue a press release in December because the movie *Concussion* was getting attention and was slated for release around Christmas.

RAW MILK UPDATES

By Pete Kennedy, Esq.

FEDERAL – RAW BUTTER, A COMMUNICABLE DISEASE?

On June 22 Mark McAfee, the president of Organic Pastures Dairy Company (OPDC), and the Farm-to-Consumer Legal Defense Fund submitted a citizen petition to FDA requesting that the agency lift the interstate ban on raw butter; McAfee has withdrawn an earlier petition he filed in March 2015 making the same request.^{1,2}

The ban has been in place since 1987 when FDA issued a regulation in response to a court order (Congress, the people's branch, had no say in instituting the ban). The case¹ leading to the ban, interestingly, was never about manufactured dairy products such as butter and cheese but was only concerned with fluid dairy products such as milk and cream.

FDA has banned raw butter and all other raw dairy products (except aged raw cheese) under power given the agency by the Public Health Service Act (PHSA) to regulate communicable disease. FDA's assertion of this power in banning raw butter is dubious for two reasons: first, the ban violates the Federal Food and Drug Cosmetic Act (FFDCA); and second, FDA is trying to prohibit a food in interstate commerce that has little or no record of making anyone sick.

FDA's butter ban is illegal according to a statute in the FFDCA that governs standards of identity for food.³ Standards of identity are requirements prescribing what a food product must contain to be marketed under a certain name in interstate commerce. For instance, the standard of identity for milk in final package form requires that it be pasteurized or ultrapasteurized and that it contain not less than 8.25 percent non-fat milk solids and not less than 3.25 percent milkfat.^{4,5} FDA's long-held position is that the pasteurization requirement can be part of the standard of identity. Standards of identity are intended to promote honesty and fair dealing for the benefit of consumers.

Congress has given FDA power to issue regulations establishing standard of identity requirements for most foods, but there are exceptions, and one of those is butter. The FFDCA specifically prohibits FDA from establishing a standard of identity for butter;⁶ Congress has passed a law defining butter, which serves as a standard of identity for the product.⁷ That definition does not require butter to be pasteurized. The petition asks FDA to obey the law and abide by the statutory standard of identity for butter.

FDA is, in effect, claiming that its power to regulate communicable disease justifies its violation of the standard of identity law. According to the PHSA, "The Surgeon General, with the approval of the Secretary [of Health and Human Services], is authorized to make and enforce such regulations as are necessary to prevent the introduction, transmission, or spread of communicable diseases from foreign countries into the states or possessions, or from one state or possession into any other state or possession. For the purposes of carrying out and enforcing such regulations, the Surgeon General may provide for such inspection, fumigation, disinfection, sanitation, pest extermination, destruction of animals or articles found to be so infected or contaminated as to be sources of dangerous infection to human beings, and other measures, as in his judgment may be necessary."⁸

The claim that this power authorizes FDA to ban raw butter is definitely a stretch. The citizen petition notes that since the Centers for Disease Control (CDC) created the Foodborne Outbreak Online Database in 1998, not even one foodborne illness outbreak has been attributed to the consumption of commercially produced raw butter.⁹ There was one 2007 outbreak in Utah where what appears to be homemade butter is listed as a possible cause as are raw milk and homemade soft raw cheese;¹⁰ given raw butter's history of complete safety, it is more likely that either the milk or cheese was the cause of the illnesses. OPDC has sold over 2 million pounds of raw butter since 2001 without a single case of foodborne illness linked to such sales.¹¹

So where is the communicable disease threat with raw butter? How can FDA ban a food responsible for few, if any, cases of foodborne illness? FDA is getting lots of mileage out of its power to regulate communicable disease; the agency claims that the PHSA enables it to impose federal Current Good Manufacturing Practices (CGMP) requirements on food businesses operating exclusively in intrastate commerce. According to FDA, its power to regulate communicable disease gives it authority to impose requirements for the following: "plants and grounds; sanitary facilities, controls and operations; equipment and utensils; warehousing and distribution; and natural or avoidable defect levels."¹² FDA has indicated that there is no exemption from the CGMP mandates for a business operating only in intrastate commerce.

There is nothing in any section of the PHSA—nor in its legislative history—indicating the FDA has authority to inspect an intrastate food business when there is no credible evidence that the business is producing food under unsanitary conditions or is responsible for a foodborne illness outbreak, but FDA is carrying on like there are no limitations to its powers to regulate communicable disease.

Is it farfetched to think that FDA can regulate private kitchens, pantries, refrigerators and freezers in the name of regulating communicable disease? Sure, but it was farfetched at one time to think that FDA could ban a food in interstate

commerce that makes few, if any, people sick—while violating a law it was charged with enforcing.

Congratulations to attorney and FTCLDF board member Judith McGeary and microbiologist Peg Coleman for their work on the petition. Updates on the citizen petition to lift the interstate raw butter ban will be posted as developments warrant.

REFERENCES

- 1 Public Citizen v. Heckler 653 F. Supp. 1229
- 2 Mark McAfee and Farm-to-Consumer Legal Defense Fund, “Citizen Petition Seeking Legalization of Interstate Transport of Unpasteurized Butter”, June 22, 2016, p. 5
- 3 United States Code, 21 USC 341
- 4 Code of Federal Regulations, 21 CFR 131.110
- 5 Petition, p. 8
- 6 21 USC 341, “No definition and standard of identity and no standard of quality shall be established for fresh or dried fruits, fresh or dried vegetables, or butter, except that definitions and standards of identity may be established for avocados, cantaloupes, citrus fruits, and melons.”
- 7 21 USC 321a, “For the purposes of the Food and Drug Act of June 30, 1906 (Thirty-fourth Statutes at Large, page 768) 'butter' shall be understood to mean the food product usually known as butter, and which is made exclusively from milk or cream, or both, with or without common salt, and with or without additional coloring matter, and containing not less than 80 per centum by weight of milk fat, all tolerances having been allowed for.”
- 8 42 USC 264(a)
- 9 Petition, p. 9
- 10 Petition, p.10
- 11 Petition, p. 11
- 12 Federal Register, 78 FR 3646, 3651

MICHIGAN – LEASEHOLDER LOBSINGER SUES OVER SEIZED CREAM

The Michigan Department of Agriculture and Rural Development (MDARD) wishes Mike Lobsinger would go away, but that’s not going to happen. Lobsinger, who has a herd lease agreement through which he obtains raw milk and raw cream, has sued MDARD in the Michigan Court of Claims over the department’s seizure of Lobsinger’s cream during a June 13 raid of BJ’s Cow Boarding in Standish, Michigan. Lobsinger is seeking a court ruling that the cream is his private property and that the seizure violates the due process clause of both the Michigan and United States constitutions. Lobsinger wants a declaration by the court that the raw milk, raw cream, and raw skim milk he received through the herd lease arrangement is not subject to inspection or licensing by MDARD.

BJ’s Cow Boarding is one of two dairy businesses operating on the Standish Farm owned by Joe and Brenda Golimbieski, with the other business being Hill High Dairy LLC. BJ’s leases its herd of fifteen cows out to those wanting to obtain raw milk while the milk produced by Hill High Dairy’s seventy cows is sold to Horizon. Brenda runs BJ’s Cow Boarding while Joe is the sole operator of Hill High Dairy. BJ’s owns the fifteen cows and some dairy equipment. Hill High Dairy owns the seventy cows and some equipment; Joe and Brenda Golimbieski own all of the land and buildings.

MDARD has filed a court action of its own against BJ’s Cow Boarding, Hill High Dairy LLC, Joe Golimbieski, and Brenda Golimbieski seeking that each party be found guilty of contempt of court for violating an injunction prohibiting any violation of the Michigan Food Law, Grade A Milk Law, and the Milk Manufacturing Law. A hearing is scheduled on the matter for October 14. FTCLDF Acting President Elizabeth Rich is representing Hill High Dairy.

In March 2013, MDARD issued a written policy, Policy 1.40, which legalized the unregulated distribution of raw milk through a written herdshare or herd lease agreement (a herdshare agreement is when someone purchases an ownership interest in a dairy animal or animals and hires the farmer to board, care for, and milk the animal(s); the difference in a herd lease agreement is that someone leases a dairy animal(s) and has ownership rights in the animal(s) for the term of the lease).

Policy 1.40 contains the following statements:

- The Michigan Department of Agriculture and Rural Development (MDARD) does not license or inspect the herdshare portions of a dairy farm.
- The herdshare programs are considered to include only FUW (Fresh, Unprocessed, Whole) milk intended to be consumed by people.
- Products such as butter, yogurt, cheeses, etc. made from FUW milk were not included in the word groups discussions and are not considered by MDARD to be part of a herdshare operation and therefore are subject to applicable MDARD laws and regulations.

MDARD's policy was based on recommendations of a work group consisting of, among others, MDARD officials, an official from the Michigan dairy industry, and raw milk producers and consumers. The workgroup only discussed the distribution of raw milk through herdshare agreements, not any other dairy product. The policy did not mention cream, but MDARD claims that it is subject to regulation by the Department. The catch 22 is that the sale of raw butter, cream and yogurt is illegal by even someone with a license to produce dairy products.

Starting in August 2013, MDARD became embroiled in a dispute with the Golimbieskis over the distribution of raw dairy products (as well as the distribution of food such as meat, eggs, and honey, which MDARD claimed the Golimbieskis needed a food establishment license to sell) to those also obtaining raw milk through the new policy. MDARD employees conducting inspections of Hill High Dairy reported on numerous occasions seeing dairy processing equipment and products such as cream, yogurt, and butter for distribution to shareholders.

In July 2014, MDARD raided a truck owned by Jenny Samuelson, an agent for those getting products through the herdshare program on the Golimbieski farm; thousands of dollars of dairy, including cream owned by Lobsinger, and other foods wound up being destroyed. When inspectors continued to report sightings of dairy products other than raw milk at the farm, MDARD, through the state attorney general, filed a court action seeking an injunction against BJ's Cow Boarding, Hill High Dairy LLC, Joe Golimbieski, and Brenda Golimbieski in July 2015.

On January 22, 2016, Ingham County Judge James Jamo issued an order enjoining the four defendants from violating Michigan's Food Law, Grade A Milk Law, and the Manufacturing Food Law and from interfering with MDARD's dairy inspections. In his order, Judge Jamo stated there had been no finding that any of the defendants had violated "applicable statutes." Lobsinger has successfully intervened in the case as a third party defendant, but the judge did not give him a chance to provide any evidence that MDARD's attempts to limit him to whole milk through the herd lease violated his private property rights. He was soon to get another opportunity.

On June 13, MDARD inspector Amber Matulis and MDARD Food and Dairy Deputy Division Director Terrance Philibeck arrived at the Golimbieski farm to conduct the Department's semi-annual inspection of Hill High Dairy as required by the Grade A Milk Law. During the inspection, Matulis and Philibeck insisted on inspecting a utility room in the dairy facility that was not part of the Hill High Dairy operation but was rather leased by Joe Golimbieski to BJ's Cow Boarding. Joe initially refused to let them in, but when reminded that the injunction prevented him from interfering with MDARD dairy inspections, the farmers stated that he was letting MDARD inspect the room under duress. When the inspectors found (in the words of the inspectors) "dairy product" and butter in a refrigerator and meat products in a freezer, they executed a seizure order on all foods in the utility room.

The "dairy product" seized included Lobsinger's cream. MDARD eventually released the meat products to the Golimbieskis for the family's own consumption, but on July 18, sent Hill High Dairy a Seizure Disposition Notice ordering that all the dairy product under seizure be destroyed.

Lobsinger filed his lawsuit on August 5. In addition to suing MDARD, Lobsinger's lawsuit also names Matulis, Philibeck, and MDARD's Food and Dairy Division Director Kevin Besey as defendants.

MDARD's policy of prohibiting the distribution of products other than whole raw milk has little to do with protecting the public health and everything to do with protecting the profits of the dairy industry. In a letter to others leasing cows from BJ's, Lobsinger pointed out that "...the Dairy Council and MDARD will accept a small group of people getting raw milk from their animals but they will not tolerate what they view as a potential competing raw milk industry, complete with all the dairy products common to the industry...They know that the cream is the gateway to that industry...".

Lobsinger's complaint includes the following quote from Besey, further showing the policy is not about food safety: "MDARD will not take enforcement action against a person who processes these products in their home for their own personal use. As a result if you obtain raw milk from a herdshare...you may separate or process it after your receipt for your own personal use."

Who is more capable of producing a safe dairy product—an experienced dairy farmer or a novice consumer? Further, in Lobsinger's case as the complaint states, "because it is most efficient to separate milk quickly after it is drawn from the cow, other individuals separate the raw milk into cream and skim milk...milk is very difficult to adequately separate after the milk has been cooled and could take several days."

The relief Lobsinger is seeking from the court of claims includes a ruling that, "another individual or agent may separate Lobsinger's cream and skim milk on Lobsinger's behalf without MDARD licensure or oversight and may deliver Lobsinger's cream and skim milk to Lobsinger as long as the milk and cream are used exclusively for the personal consumption of Lobsinger and his family."

Lobsinger has an argument that the cream he obtains through the herd lease does not violate MDARD's policy since it doesn't involve processing or manufacturing with any other ingredient but rather is produced just by separating

the cream from the skim milk, but his case is more about property rights than anything else. With everyone agreeing that his milk is his private property, why can't he hire or otherwise arrange for someone to process his milk into any other product?

There have been other cases where shareholders as well as herdshare farmers have been parties to such a case, but in each instance the regulators have been able to keep the court's focus on the farmer. Not this time. MDARD is dealing only with Lobsinger and will have to explain to the court why it refuses to recognize his private property rights, a refusal that only has to do with protecting the market share of the dairy industry.

WEST VIRGINIA – EMERGENCY HERDSHARE RULES

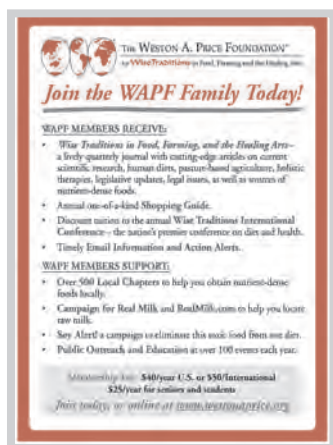
West Virginia Commissioner of Agriculture Walt Helmick filed final emergency rules governing herdshare operators on August 26. The emergency regulations are in effect for fifteen months at which point the state department of agriculture will have to go through the usual rulemaking process if it wants to issue new rules. The rules are a substantial improvement over the regulations Helmick originally published in June which were so burdensome that they amounted to a de facto ban on herdshares. Thanks to strong opposition from raw milk producers and consumers, the final rules have improved to the point where herdshare farmers actually have a chance to make a living.

The proposed regulations include the following requirements:

- A signed herdshare agreement on a form distributed by the Commissioner of Agriculture, which must be on file with the commissioner; The agreement must include an acknowledgement by the herdshare owner agreeing to release the farmer of liability for the inherent dangers of consuming raw milk. The farmer is not released of liability “for deliberate or negligent acts unrelated to consuming raw milk.”
- Annual tests for brucellosis and tuberculosis; producers pay the cost of testing. Farmers are required to submit a Herd Health plan to the state veterinarian including expected testing dates for brucellosis and TB;
- Maintain official identification of animals involved in the herdshare program as required by federal law;
- Initial and yearly testing for coliform, standard plate count (SSPC), and somatic cell count (SCC) along with testing for the following pathogens *E.coli O157:H7*, *Listeria monocytogenes*, salmonella and campylobacter. The state pays for the testing; under the proposed emergency rule there were monthly testing requirements and the producer was responsible for paying all costs.

Onerous requirements in the proposed rule such as a food safety plan [Risk Analysis and Management Program (RAMPO)] and a “written recall and critical incident management plan” have been scrapped. The influence that the West Virginia Department of Health and Human Resources had in the proposed rule, with its attempts to prevent herdshare operations from getting off the ground, looks to have been absent in the final rule. There can be further improvement in the regulations, but this is a good start for shareholder dairies in the state.

Those who have not joined the Farm-to-Consumer Legal Defense Fund are encouraged to do so. Membership applications are available online at farmtoconsumer.org or by calling (703) 208-FARM (3276); the mailing address is 8116 Arlington Blvd, Suite 263, Falls Church, VA 22042.



MEMBERSHIP POSTER

Membership is the main source of financial support for the many projects of the Weston A. Price Foundation. We appreciate your help to increase membership. We are happy to send a free copy of our membership poster to those who will display it.

The poster is 8.5" x 11" with a cardboard flap that allows it to stand. It goes well with our Dietary Guidelines booklet. It can be displayed at an exhibit, a doctor's office, a library, a farmers market, etc.

If you will display it, please write for a free copy: info@westonaprice.org.

Healthy Baby Gallery



Alice Lee Godwin was born December 31, 2014 (New Year's Eve) at 11:59PM! (Way to celebrate the New Year, with a WAPF healthy baby and a miracle vaginal breech delivery!) Alice's mom, a former WAPF chapter leader, ate a real food, nutrient-dense diet for over two years before conceiving. The six months leading up to her wedding, she focused on nutrient-dense fertility foods such as raw, pastured egg yolks and grass-fed liver. After getting married, both of Alice's parents ate a rich fertility diet, which included plenty of fats like butter, coconut oil, pastured lard, tallow, and egg yolks, cod liver oil and raw milk. Soon—sooner than they anticipated—they got pregnant with Alice. Alice's mom had virtually no morning sickness on this diet. Third trimester pregnancy cravings included lots of raw milk and bone marrow! As soon as Alice was born, she immediately took to nursing and is still nursing at eighteen months. She was sleeping a solid eight hours through the night by just eight weeks old, and soon stretched that out to twelve hours a night by six months old. Her mom attributes her ability to sleep through the night so well to all the nourishing, satisfying fats she has gotten in her diet from an early age. When Alice was three months old, her mom added the WAPF raw cow's milk homemade formula to her diet in addition to her breast milk. Alice's first foods were pastured egg yolks, raw grass-fed beef liver, cultured cream and cod liver oil. Alice Lee continues to enjoy these foods as well as liver pâté, bone marrow custard, raw milk and colostrum, raw butter, coconut oil, and lard. This girl loves good fat! She has a beautiful complexion and a wide face and jaw. Most people when they see her cannot believe how much she looks like a "doll." Most people think it is luck to have a beautiful baby, but her parents know that it is the good, nutrient-dense foods high in vitamins A, D, and K₂ that she is getting that make her such a beautiful baby!

Eliana, pictured at eight months, was born September 2015, bright-eyed and alert from day one. She was exclusively breastfed for six months, and is now thriving on a nutrient-dense diet including her supplemental WAPF raw cow's milk formula. She loves her daily egg yolk, bone broth, cod liver oil and pastured meats. She also loves her daddy's homemade yogurt and will scarf down any vegetable mixed with her favorite fat, coconut oil. She is unstopably curious, extremely energetic and a nonstop babbler, happily passing her days crawling, climbing and exploring anything she can get her hands on.

From her parents: "We thank God for such a healthy vibrant baby, and WAPF for helping us re-learn how to nourish ourselves and our baby properly."



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STILL SERVING AFTER SIXTEEN YEARS!

Our first chapter list in the Spring 2000 issue of *Wise Traditions* contained eleven chapters. By the end of 2000, we had thirty-nine chapters. Today, sixteen years later, we now have over five hundred!

We have eleven chapter leaders who started in 2000 and are still volunteering their time as beacons of light, educating and guidance to people seeking nourishing, healthy foods. We salute the following:

| | | |
|----------------------|---------------------------------------|-------------------------------|
| Started Spring 2000: | Louise Turner (MA originally, now NH) | |
| | Kim Lockard (MI) | |
| | Kathryn Stockdale (OH) | |
| Started Summer 2000: | Doug Flack (VT) | |
| Started Fall 2000: | Bari Caine (CA now NV) | David Wetzel (NE) |
| | Thomas Earnest (NM) | Dina Falconi (NY) |
| | Jill Teibor-Franz (NY) | Silvana Castillo (NS, Canada) |
| | Joseph Ouimet (ON, Canada) | |

“Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it’s the only that that ever has.” Margaret Mead

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COLORADO SPRINGS NORTH CHAPTER DINNER AND MOVIE NIGHT

Carol Aleson, chapter leader for Colorado Springs North, organized a dinner and movie event. Two dozen chapter participants attended. They ate at a new restaurant that obtains much of their food locally and then attended a sold out showing of the movie *Vaxxed*. After the movie there was a Q&A period conducted by members of the Colorado Coalition For Vaccine Choice.



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RICHARD MORRIS SPEAKS TO DC CHAPTER



The Washington, DC chapter hosted speaker Richard Morris, author of *A Life Unburdened*, at their gathering in July.

You can hear his talk on mixlr on the podcast page of the westonaprice.org website. Click on "Wise Traditions Live," and then click on "Show reel."

Also, you can meet Richard in person at Wise Traditions 2016 in Montgomery, Alabama this November!

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CHAPTER RESOURCES

Resources for chapter leaders can be accessed at 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 Maureen Diaz a chapter leader in Pennsylvania, for administering the local chapter chat group. New chapter leaders can sign up at <http://groups.yahoo.com/group/wapfchapterleaders/>.

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LOCAL CHAPTER BASIC REQUIREMENTS

1. Create a food resource list of organic or biodynamic produce, milk products from pasture-fed livestock (preferably raw), pasture-fed eggs and livestock and properly produced whole foods in your area.
2. Provide a contact phone number to be listed on the website and in our quarterly magazine.
3. Provide Weston A. Price Foundation materials to inquirers, and make available as appropriate in local health food stores, libraries and service organizations and to health care practitioners.
4. Provide a yearly report of your local chapter activities.
5. Be a member in good standing of the Weston A. Price Foundation.
6. Sign a contract on the use of the Weston A. Price Foundation name and trademark.

OPTIONAL ACTIVITIES

1. Maintain a list of local health care practitioners who support the Foundation's teachings regarding diet and health.
2. Represent the Foundation at local conferences and fairs.
3. Organize social gatherings, such as support groups and pot luck dinners, to present the Weston A. Price Foundation philosophy and materials.
4. Present seminars, workshops and/or cooking classes featuring speakers from the Weston A. Price Foundation, or local speakers who support the Foundation's goals and philosophy.
5. Represent the Weston A. Price Foundation philosophy and goals to local media, governments and lawmakers.
6. Lobby for the elimination of laws that restrict access to locally produced and processed food (such as pasteurization laws) or that limit health freedoms in any way.
7. Publish a simple newsletter containing information and announcements for local chapter members.
8. Work with schools to provide curriculum materials and training for classes in physical education, human development and home economics.
9. Help the Foundation find outlets for the sale of its quarterly magazine.

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WAPF AT THE PALEO CONVENTION IN BERLIN



At the WAPF booth in Berlin, Germany: Anita Reusch, Eifel chapter leader from Germany (along with Douglas Mitchell, not pictured); Katalin Kokavecne Nagypal, Budapest chapter leader from Hungary, who organized our participation at the event; Grace Liu, speaker at the conference and chapter leader from Dublin/Pleasanton/Livermore, California; and Hugo Dunkel, Porto chapter leader from Portugal.



Anita Reusch and Douglas Mitchell, Eifel chapter leaders with Katalin Kokavecne Nagypal, Budapest, chapter leader, help an onlooker with WAPF literature.

International Chapters

NETHERLANDS

Amsterdam-Alkmaar-Beverwijk: Iris Maier 31 625 181 424, industriousiris@gmail.com
Limburg: Tanja Stevens 061 6474 192, info@gezondgestel.nl, [limburg.westonprice.nl/](http:// limburg.westonprice.nl/)

NEW ZEALAND

Auckland, North & West: Alison Ellett (09) 420-8548, alison@wapf-auckland.co.nz, wapf-auckland.co.nz/
Gisborne: Bridget Scully & William Lane 06 8633042 & 02 1101 7405, bridgetscully@gmail.com, William.robert.lane@hotmail.com
Hawkes Bay: Phyllis Tichinin 64 6874 7897, phyllis@truehealth.co.nz
New Plymouth: Ian Haldane 06 659 7478, zenian@zenian.co.nz
Palmerston North: Susan Galea 646 324 8586, susangalea@hotmail.com, realmilk.co.nz
South Canterbury: Carol Keelty 03 6866 277, bckeelty@outlook.com & Inez Wilson inezmwilson@xtra.co.nz
Tauranga: Natasha Lucas 02 1047 1501, nlucas@mykolab.ch
Wellington: Ian Gregson 64 04 934 6366 wapf@frot.co.nz & Deb Gully (04) 934 6366, deb@frot.co.nz, wapfwellington.org.nz
NZ Resource List: Ian Gregson and Deb Gully, frot.co.nz/wapf/resources.htm

PAKISTAN

Punjab: Shagufta Feroz & Feroz Sharfuddin 92-321-8439362, drsferoz@gmail.com

PHILIPPINES

Metro Manila: Tess Young 63 917 357 7278, livingfoodsbc@gmail.com, chapters.westonaprice.org/metromanila/, livingfoodsbuyingclub.com

POLAND

Pokrzydowo: Adam Smiarowski 0 11 48 606 209914, szkolarycerska@gmail.com

PORTUGAL

Algarve: Julia de Jesus Palma (00351) 912320437, Julia@onlinedesign.info
Porto: Hugo Dunkel Matos Couto e Neiva 00 351 914338761, hugo.dunkel@gmail.com

PUERTO RICO

Caguas: Rocio Lopez, MD (787) 502-0607, lopezrmd@gmail.com

ROMANIA

Ilfov: Raluca Schachter 0736 364 687, ralucaschachter@live.com, chapters.westonaprice.org/snagovrm/

SCOTLAND – see United Kingdom

SPAIN

Girona/Baix Montseny: Monica Fernandez Perea 34 692468952, info@espaiseny.cat
Madrid: Ana de Azcarate 0034-616821039, aguilina68@yahoo.com

SWEDEN

Stockholm: Johanna Gunnarsson 46 76 040 7927, Johanna@stockholmnt.se

SWITZERLAND

Bern: Judith Mudrak rohrmilchjudith@gmail.com
Geneva: Lauren Haddad-Olivet 41 76 695 60 00, lauren.haddad@gmail.com

UNITED KINGDOM

ENGLAND

Cheshire: Carol Dines & Silvie Hall, 01270 873322, wapf.cheshire@outlook.com, facebook.com/WAPF.Cheshire?ref=hl
Derby: Russell Davison 01332 737216, Russell@davisonproperty.co.uk
Herefordshire: Sally Dean 01432 840353, sally@aspenhouse.net
Kent: Keli Herriott-Sadler 01732 354 527, keli@herriott-sadler.co.uk
London: Philip Ridley philridley@hushmail.com, chapters.westonaprice.org/londonuk/
Wise Traditions London, Festival for Traditional Nutrition Phil Ridley 01442 384451, westonaprice.london@gmail.com,
westonaprice.org/london, meetup.com/westonaprice-london
East London: Deborah Syrett 020 8518 8356, medical.herbalist@ntlworld.com
Nottingham, East Midlands: Claire Jessica Backhouse 0044 79 8046 2874, clairebackhouse78@gmail.com
Surrey and Hampshire: Diana Boskma 44 1252 510 935, dboskma@gmail.com
UK resource list: naturalfoodfinder.co.uk

SCOTLAND

Edinburgh: Frances Bavin 07505 053333, frances.bavin@gmail.com, meetup.com/westonaprice-edinburgh

WALES

North Wales: Ben Pratt 07952 555811, ben.naturafood@gmail.com

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FL

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IN

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MA

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MN

Farm On Wheels offers animals raised green grass-fed & certified organic. Nutrient-dense beef, lamb, chicken, eggs, turkey, goose, duck, and pork, No corn or soy. Farmers Market year around in St. Paul, Prior Lake, Northfield. Linda (507) 789-6679, farmonwheels.net, farm_on_wheels@live.com.

MS

Nature's Gourmet Farm raises nutrient dense grass-fed beef, pastured pork, and pastured broilers. Animals are hormone, antibiotic, and GMO free! We service South Mississippi, Alabama and Louisiana. For details and order information visit our website at www.naturesgourmetfarm.com.

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NY

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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!

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" on dietandhealth.com.

EMPLOYMENT OPPORTUNITIES

A lovely, well appointed cottage, gardens, pool, labyrinth and more awaits a motivated couple interested in sustainable healthy living and exploring New Zealand. See woof website for how this works. For more information, email Lyn at 1gardenstone1@gmail.com.

Farm family or individual needed to help set up and live on pristine 164 acre former raw dairy farm and cheese making facility in SW Washington state. If interested, please send email to Lawren@wellaroo.com with subject line: "dairy farm".

HIRE STOOL DONOR Child with autoimmune disease needs fecal transplants. Donor WAP-type diet. Adult or child over 1 year. FTP used successfully for son. (325) 261-8870, cececebrown@gmail.com. Per GI-doctor, son needs to continue FTP for limited course. Prior donor moved overseas.

EMPLOYMENT OPPORTUNITIES

This is a wonderful WAPF-Inspired fine dining restaurant now recruiting talent. Farmageddon filmmaker, Kristin Canty is hiring talent for her new venture, Woods Hill Table, a traditional foods restaurant in her home town of Concord, MA. To our knowledge, this is the first-ever WAPF inspired fine dining restaurant. From frying in beef tallow, soaking grains, and raw fermented foods to serving kombucha flavor of the day on tap, Kristin is implementing the WAPF dietary guidelines and changing restaurant history. If you'd like to be a part of this exciting culinary project, her Concord Restaurant Group is looking for a service manager, servers, reservationists, chefs and line cooks. Contact Kristin@woodhilltable.com 24 Commonwealth Ave, Concord, MA, 01742 woodhilltable.com, jobs@woodhilltable.com, (978) 369-6300.

HEALING ARTS

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WAPF RESEARCH

STUDY ON HEALTHY BABIES: Johanna M. Keefe, MS, RN, GAPs, Advanced Holistic Nurse, & Gena Mavuli, MA., NC are seeking volunteers for a PhD research project in Transformative Studies through CIIS (California Institute for Integral Studies). If you have had a healthy baby using the WAPF dietary guidelines, they would like to hear from you. They would like to interview you by Skype or Facetime, or in person if you are located in New England, Northern California or North Carolina—<https://realfoodsuccesstories.wordpress.com/>, growingssuccesstories@gmail.com, (978) 290-0266.

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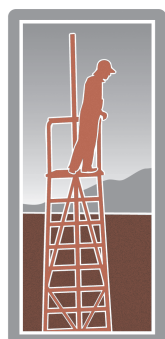


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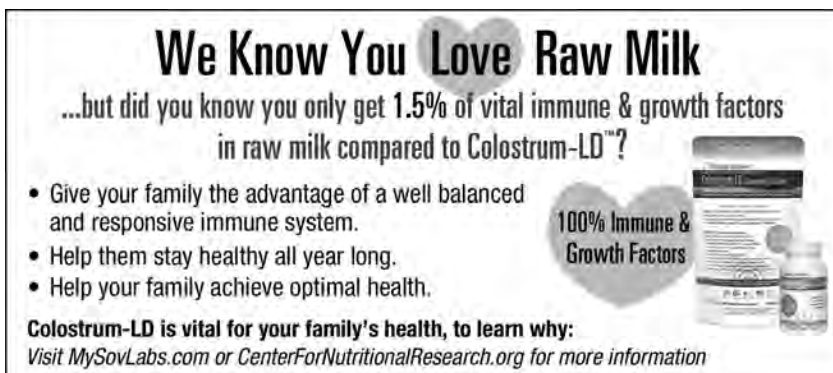
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Fish That We Eat

Iqaluich Niginatuat

This manual by Anore Paniyauraq Jones is the second in a series of three detailing the traditional foods of the Inupiat. The first book in this series about Inupiat foods was *Nauriat Niginatuat*, *Plants That We Eat*, an ethno-botanical manual, long out of print but due to be re-printed in the fall of 2009 by University of Alaska Press. It is 150 pages with black and white photos and sketches.

The second manual, *Iqaluich Niginatuat*, *Fish That We Eat*, provides information regarding the traditional use of fish, their processing, recipes and eating enjoyment. It was compiled from the local traditional fish knowledge of northwest Alaska and was partially funded and placed on the web by the U.S. Fish and Wildlife Service.

The third manual in this series will similarly detail the traditional Inupiat processing techniques and recipes for sea mammals.

Presently there is no funding to support this work. Any suggestions would be welcome. The web link to *Iqaluich Niginatuat*, *Fish That We Eat*, is below. The report is located under the U.S.F.W. Northwest AK section. From here you can read it and/or download and print it. It should be printed double-sided due to the length (341 pages), including 100+ color photos, sketches.

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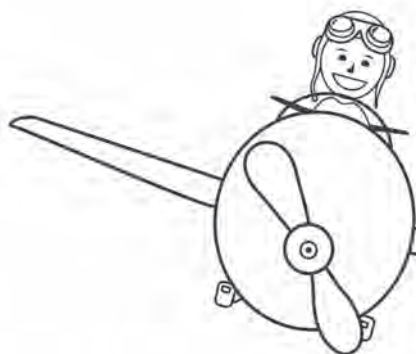
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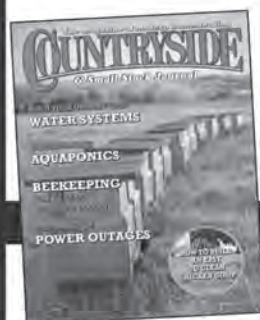
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(\$400 for non-members)

The Weston A. Price Foundation reserves the right to refuse advertising space to anyone. We do not accept ads for coffee, tea, chocolate, hemp (as a food) or protein powders, nor products offered by Multi-level Marketing Companies.

Membership

NEW OR RENEWAL

Yes! I would like to become a member or renew my membership in the Weston A. Price Foundation and benefit from the timely information in **WiseTraditions**, the Foundation's quarterly magazine!

| | | | |
|--------------------------|--------------------|---|-------|
| _____ Regular membership | \$40 | _____ Canadian membership | \$ 50 |
| _____ Student membership | \$25 | _____ Overseas (credit card payment only) | \$ 50 |
| _____ Senior membership | \$25 (62 and over) | | |

Yes! I would like to help the Weston A. Price Foundation by becoming a member at a higher level of support.

| | |
|--------------------------------|--|
| _____ Special membership \$100 | _____ Benefactor membership \$1,000 |
| _____ Sponsor membership \$250 | _____ Millennium membership \$10,000 |
| _____ Patron membership \$500 | _____ Other amount \$_____ (over \$25) |

Yes! Count me in! I would like to help spread the word!

Please send me _____ copies of the Weston A. Price Foundation informational brochure at \$1.00 each, so I can pass them along to my family, friends and colleagues, and be true to Dr. Price's dying words:

"You teach, you teach, you teach!"

(Health professionals are encouraged to provide this brochure to their patients.)

Yes! I would like to provide my family and friends with the gift of membership in the Weston A. Price Foundation.
(Please attach information on gift memberships.)

| | |
|--|------|
| _____ Regular gift membership(s) | \$40 |
| _____ Student/Senior gift membership(s) | \$25 |
| _____ Canadian and overseas gift membership(s) | \$50 |

Yes! _____ Please send me details about starting a Weston A. Price Foundation local chapter in my community.

I'm enclosing \$_____ for brochures and \$_____ for _____ annual membership(s), a total of \$_____

Payment method: _____ Check or money order (Please do not send cash) _____ Mastercard _____ Visa

Card Number: _____ Expiration Date: _____

Name (Mr)(Mrs)(Mr&Mrs)(Ms)(Miss)(Dr): _____

Signature: _____

Address: _____

City: _____ State: _____ Zip: _____

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