

# Wise Traditions

IN FOOD, FARMING AND THE HEALING ARTS

Volume 10 Number 1

Spring 2009



**The Cod Liver Oil Debate**  
**Cod Liver Oil Manufacture    Reply to Dr. Joe Mercola on Cod Liver Oil**  
**The Good Scot Diet    Curds and Whey**

A PUBLICATION OF  
**THE WESTON A. PRICE FOUNDATION®**

*Education ♦ Research ♦ Activism*

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# THE WESTON A. PRICE FOUNDATION®


*Education ♦ Research ♦ Activism*

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

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

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

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

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

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# THE WESTON A. PRICE FOUNDATION®

*Education ♦ Research ♦ Activism*

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## President's Message

In this issue we explore the topic of the fat-soluble activators A and D, especially as found in old fashioned cod liver oil. Those of you who have been receiving our email informational alerts know that we have issued several announcements on this topic over the last few months. Cod liver oil has come under attack as a “dangerous” source of vitamin A. And while vitamin A has fallen to the bottom of the Vitamin Hit Parade, vitamin D has risen to the top, with many voices calling for extensive supplementation in the nutrient and an increase in the RDA for the sunshine vitamin.

The establishment view is as follows: the animal form of vitamin A is toxic and also interferes with vitamin D metabolism, so we should avoid foods rich in this nutrient, like liver, organ meats and cod liver oil; we can get all the vitamin A we need from the conversion of carotenes in plants; it is impossible to obtain adequate vitamin D from food, so we need to take vitamin D supplements.

We hope to put these mistaken notions to rest in this issue by showing the extensive scientific literature on cod liver oil and vitamin A, as well as on the synergistic—rather than antagonistic—relationship of vitamins A and D. To bolster our premise that vitamin A is not toxic, and vitamin D can be obtained from food sources, we have included a delightful article on the traditional Scottish diet, which was rich in fish liver oils, organ meats, shellfish and fats. Here is yet another traditional diet that corroborates the discoveries of Dr. Weston A. Price. As for the mistaken notion that our bodies can obtain sufficient vitamin A from plant foods, we have covered this subject in earlier articles. (See [www.westonaprice.org/basicnutrition/vitaminasaga.html](http://www.westonaprice.org/basicnutrition/vitaminasaga.html).)

Another hot topic these days concerns high fructose corn syrup (HFCS). We explore the accumulating evidence of HFCS's harmful effects in this issue, with particular attention on agave “nectar,” which is produced in a manner similar to the process for HFCS. When the health-conscious consumer began to discover the harmful effects of corn and soybean oils, the industry ushered in the supposedly healthful canola oil for use in products aimed at this market. As the health-conscious public has become more concerned about HFCS, the industry has quietly substituted agave “nectar” in so-called healthy snack bars and other sweetened health food store items.

On the political front, we are carefully following congressional bills that would mandate a National Animal Identification System (NAIS) or a draconian federal food safety system. We urge you to respond to our action alerts on these subjects. If you are not receiving action alerts and would like to, please contact our office at (202) 363-4394 or [info@westonaprice.org](mailto:info@westonaprice.org) and supply your email address. 



# Letters

## CORPORATE-INSPIRED NUTRITION

As you can see by the photo, my corporate-inspired nutrition education started early, when we learned to eat cornflakes for breakfast.

Later, I decided to study nutrition in college. I followed through with the plan and earned a degree in nutrition from an Ivy League University in the late 1980s. It has been years, but certain college academic lessons still stick in my head. Here are the major take-home messages that really left an impression on me: 1) polar bear liver will kill you because of its high vitamin A content; 2) fat-soluble vitamins are dangerous; 3) sugar consumption has no ill effects, except for dental caries; and 4) dietary fat is the principal cause of cancer, heart disease, and just about every thing else. The major message: avoid fat at all costs and eat more carbs. Remember too:

avoid vitamin pills and polar bear liver.

Funny thing that at student orientation and other official events, the university nutrition department served danishes and other white flour, *trans*-fat junk food.

These days I have ideas about what I should have been learning in

college. These lessons would include the research of Weston Price and would have included food labs that discussed pre-industrial foodways and food preservation techniques. We would also have walked across the quad to the agriculture school to learn about soil biology and plant-soil biology. We would also have learned about agribusiness and the powerful effects of the farm bill. What a shame that there was so little substantive content about how political systems, growing conditions, food processing and

have gradually undone many of the false and misleading “facts” of my Ivy League education. And I am rebuilding my health as a result.

Thank you, Weston A. Price Foundation, for your role in my re-education and healing.

Sally Norton, MPH  
Richmond, Virginia

*The toxicity of polar bear liver is not due to its vitamin A content. The Inuit peoples avoid polar bear liver during the winter months when the bears eat lichen, which contains alkaloids poisonous to humans.*

## SOUTH SEA ISLANDERS

In the 1980s, I lived for about a year near the village of Ibobang, on the main island of Babelthuap in the Republic of Belau (Palau) in Micronesia. I taught at a village high school that was supported by a wealthy California family, which was specifically designed and created for families who followed

the traditional Palauan religion (known as Modekngai). I taught English as a second language, geography and photography. I was able to take several close-up photos of the students for a yearbook we put together.

The students at the school ranged in age from about eleven to somewhat over twenty. They came from various villages



preparation impact the nutritional value of foods and the health of the eaters.

I paid a price for my fancy education with my health. I followed a lowfat, low-salt, polar bear liver-free, vegetarian diet for sixteen years. I also encouraged others to do the same. What a mistake it was! I am happy to report that I have been a life-long learner and

# Letters

throughout the islands (mostly from Babelthup), and I'm sure were exposed to varying amounts of processed and adulterated foods, although their diets were generally much more traditional than most of the other Palauan students who went to school in the capital of Koror (which had food markets, was near an airport, and catered heavily to the tourist trade).

Freshly caught seafood of all varieties, manioc (tapioca) and taro were staples of their diet. Ibobang was an isolated village (the only way in was by boat), and a core part of our curriculum was teaching natural, local, traditional and sustainable methods so that our students would not be reliant on a monetized economy from outside the islands.

While the villagers used processed sugar in some of their cooking, there was little else in the way of processed and adulterated foods in their diet (at least as far as I remember, even though that wasn't a focus of my attention in those days).

After having recently completed a certification in Nutritional Therapy, based on the teachings of Weston Price and others, I realized that I had a number of photos that I took showing mostly traditional people (my students) with excellent tooth and jaw structure. I now use these photos in my nutritional classes instead of the ones that Weston Price took, because they are more personal to me.

Jack Leishman, NTP  
Talent, Oregon

## A FASCINATING CONCEPT

A big thank you to WAPF. Your work and efforts have meant a great deal to our family, especially to our autistic son. Within thirty days of putting him on raw goat milk, grass-fed meats, cod liver oil and fermented foods, I received an inquiry from our school district asking me why I'd not informed them I'd put my son on psychotropic meds. When I told them I had not put him on meds, they challenged me, requesting a meeting. I

brought *Nourishing Traditions* along, and there were a dozen special-needs professionals in attendance, taking notes and fascinated by the entire concept. They were astounded by his "behavior" changes.

Before changing the diet, he was subject to hallucinations. After the change, he finally became potty-trained and the auditory and visual hallucinations vanished. He had been headed toward a psychosis-nos, or "autistic psychosis" diagnosis. It's now been nearly five years and he continues to make huge leaps in his progress.

My son is adopted and received nothing but sugar-water and formula until we brought him into our home when he was eleven months of age. Developmentally, he was like a two-month old—no muscle coordination for grasping foods, unable to sit or crawl, screaming nonstop, and engaging in some pretty severe self-mutilation. It's been a long road, but now he's doing great. One of his doctors, Dr. Martha Herbert, (Cambridge) took a nutritional

HIGH SCHOOL FRESHMEN FROM THE VILLAGE OF IBOBANG, ISLAND OF BABELTHUP, REPUBLIC OF BELAU





# Letters



blood panel and said that with our diet he was “abnormally normal” from what is typical of autism.

Sharon Ericson  
Amherst, New Hampshire

## TOO UNDERNOURISHED TO REASON

Thank you for your work. I have followed the WAPF dietary suggestions and notice my health improving.

Last night I attended a party and one of the people there who had suffered from debilitating Parkinson’s disease

was walking and getting around much better than I had seen in the four years that I knew him. When asked what had changed, one reason he gave was that his meds were better, but another was that he had given up his vegan life style. It was the difference between night and day. His partner said that he had been starving to death. It was a choice between Parkinson’s and starving.

I meet a lot of people in my circles who are vegan, and they are not healthy. They drink the soy milk and eat soy products, which makes me cringe. If I

can, I point out your website, although they are often too undernourished to reason.

Eric Otto  
Cincinnati, Ohio

## SUBTLE CHANGES

I just received the Winter 2008 *Wise Traditions* magazine and I’m fascinated with Cowan’s “Moods and the Immune System” and Masterjohn’s “The Pursuit of Happiness.” I’ve had over 47,000 students in my sociology classes at North Dakota State University in the

### A LETTER TO *MOTHERING* MAGAZINE

Dear *Mothering Magazine*:

I have been an avid fan of *Mothering Magazine* ever since my mother gave me about five years of back copies when I became pregnant with my first child, about eight years ago.

I don’t remember ever reading about Weston A. Price in your publication, and I can’t imagine why he or his work has not been represented. Perhaps I missed an article.

I have been eating the so-called traditional foods diet for the past two months. I follow closely what the Weston A. Price Foundation recommends as a healthy diet. I have changed nothing else in my life but what I eat. I no longer get cramps in my feet or achy fingers in the morning; also my skin is much healthier. But the greatest physical benefit has been a profound feeling of calmness and relaxation. It is hard to explain exactly how I feel but I can liken it to the oxytocin rush I get when I breastfeed. But the feeling is more diffuse, not as pronounced at one time. It rather pervades my life now, and I can’t say I want it to change!

If I may be so bold, I think it is the duty of *Mothering Magazine* to inform its readers about the traditional foods diet. There are millions of people out there who really do want to eat a healthy diet and feed their children properly. However, it seems we are lost in a world dominated by vegetarianism, whole grain cereals, and low-fat nutrient starvation. What we need is real food!

And, conveniently enough, this all ties in with a recent surge in awareness about the importance of preserving the environment for mankind’s sake, coupled with many economic worries. By eating a “real food” or “traditional food” diet you are somewhat released from your dependence on expensive “foods” manufactured in a factory far away and then driven in a gas-guzzling truck to your local supermarket. By buying from the local farmer who is raising pastured animals and organic produce you are reducing your own costs and supporting not only the local economy, but small-scale farmers. And, as I’m sure you are aware, the benefits to the environment are monumental. Oh, and you’re eating good food, too!

If there has been a recent article and I somehow missed it, please excuse my pushiness. But if not, please, please inform your readers about Weston A. Price and his work. I feel that there is a longing out there, a sense of knowing that things are not quite right and yet the path is unclear. Just as I know with all of my soul that birthing naturally, breastfeeding and sleeping with my children is the most humane way about it, I also know that eating real food, not something that has been clumped together with preservatives and added vitamins and then stuffed in a box to be eaten at an indeterminable later date, is our only hope.

Still and always a fan,  
Jill Cruz, Chicago, Illinois

# Letters

past thirty-four years and have noticed subtle but pronounced changes in students' attitudes, abilities, focus, drive, general stamina and well being. These articles are amazing and shed some light on these conditions and my concerns. Please keep up the good work—we have to help these young people—and the rest of the world.

Patty Corwin  
Fargo, North Dakota

## PASTURE LANDS

According to one source I found, we slaughter five million cattle per year in the U.S. Let's make the generous assumption that each cow needs ten acres of pasture. That's fifty million acres to pasture all the cattle we eat for meat.

The U.S. has about 2.3 billion acres. Raw milk for 300,000,000 people at four cups of milk per day would require nineteen million Jersey cows producing four gallons of milk per day. Again assuming a generous ten acres per cow, 180 million acres would support raw milk production for everyone. That's only eight percent of U.S. land space.

Also, grazing animals improve soil fertility. The ecosystem was designed to have animals eat the grass and then put their waste and all its bacteria back into the soil. We make our land sterile without land animals pasturing on it.

I don't know how accurate all those estimates are, but it seems to me that we could probably produce enough raw milk and beef for half of the planet with our open land space just in the U.S. I

have heard of ancient farming practices that can increase yields tenfold on crops.

Unfortunately, our culture believes in lack or not enough. What would happen if we had inexpensive food that was truly healthy? People would be healthy, they would be free, and they wouldn't need to work all the time. The world would be totally different.

Rami Nagel  
San Jose, California



Aunt Lyde on her 100th birthday.  
She loved butter!

## LONGEVITY WITH BUTTER

Years ago, before we met, my husband travelled frequently to Russia for his job. Once the Russians asked about what the American diet was like. He

tried to explain how Americans tried to eat lowfat, lean meat and lots of salads. The Russians were astounded. One of them shook his head and said, "If Russians ate like that we would all be hungry, cold and drunk!" I always thought that was a great line.

Interestingly enough, my husband had a great aunt who lived to the age of 102. She was very robust until the age of 100, and even during the last two years when her health was failing, she was still able to walk and get around on her own. When asked the secret of long life, her answer was—you guessed it—eat lots of butter! She was a huge fan of butter her whole life. As a kid she would get into trouble for stealing it out of the churn. Once her sisters tried to break her of the habit by giving her tons of butter, thinking that she would get sick of it. It didn't work. Anyway, her sisters died in their 80s. Maybe that explains why my husband didn't dump me when we first started dating and I went through his refrigerator and threw out all his margarine!

Irene Musiol, Chapter Leader  
Lancaster, California

## FLUORIDE REVISITED

Regarding your review of *The Devil's Poison* (Winter, 2008), some clarifications about fluoride and fluorine are in order. Broadly speaking the element fluorine exists in three forms. While the fluorine atom does have a small radius for its atomic weight, that fact is only the part of the story regarding its reactivity and appearance in





# Letters



so many molecules of human manufacture (industry and pharmaceuticals).

First is the elemental form, a diatomic molecule of tremendous reactivity, exceeding that of other oxidizers. As the reviewer notes, it is not found in nature due to its tremendous reactivity.

Second, the element fluorine appears as fluorine ions either in solution or in salts/ionic compounds. The ionic form of fluoride is what is used in drinking water. The ionic form of fluorine forms very tight bonds with many positive ions, particularly calcium. This is part of its claim to fame for hardening dental structure to avoid tooth decay. However, in large doses it can tie up significant amounts of calcium ions needed for muscular function causing muscle failure, such as breathing stops and heart failure.

This acute form of fluoride poisoning is not possible from the quantities in drinking water; rather, such poisoning is more likely with a laundry chemical containing hydrogen fluoride, which is sold for removing rust and blood stains. If you use that stuff—I don't let it in the house—please, please follow the safety instructions and rinse it out very thoroughly. The residues can cause nasty chemical burns that are very slow to heal. Similarly, it was at one time common to etch glass with “weak” solutions of hydrofluoric acid to make pretty designs. Be aware that these solutions are quite dangerous.

Third, fluorine can be found covalently bound to a molecule, such as is in some pesticides and pharmaceuticals, as well as in some polymers, particularly

the Teflon-like polymers. Here fluorine atom(s) are used to manipulate the properties of the molecules involved. For instance, ordinary ethyl ether has a long history as an anesthetic, but it is very explosive. Fluorinated ethers retain their anesthetic properties but are far less flammable.

According to the article, the adverse effects of certain drugs are linked to their fluorine content. This link is tenuous at best. The drugs aren't like capsules packaged with “poisonous” fluorine waiting to be released in the body. The fluorine atoms are tightly attached to the parent molecule and are extremely unlikely to be let loose under conditions that will support life.

Further, it is common in drug research to make literally thousands of new molecules to find one that can be sold. Usually, as the field is narrowed down to the molecule that ends up at the local pharmacy, a number of related candidates are carried forward in case the “best” molecule has some fault uncovered. Some of those molecules will sometimes have other substances in the place of the fluorine atom and still have many similar properties to the fluorine-containing molecules. The point is that the presence of fluorine does not make the molecule toxic. Blaming fluoride for side effects is sort of like blaming accidents on spare tires because almost all cars involved in accidents have spare tires.

Putting fluoride in drinking water is indisputably problematic, granted, as a civil liberties problem, probably also as a health issue, but it is far too simplistic to lay the blame for just about every-

thing, or at least the swath of problems in the article, on this one type of atom.

Mark Lichtenstein, BA,  
MS Chemistry  
Waymart, Pennsylvania

*Reply from Andreas Schuld, of Parents of Fluoride Poisoned Children (PFPC): The claim that fluoride can harden dental structure to avoid tooth decay has long been disproven, even by the CDC. Fluoride binds preferentially with aluminum, not calcium. In the presence of mere trace amounts of aluminum, toxic fluoroaluminate is formed. Fluoride poisoning and its degrees depend on total intake, not just the fluoride amounts in water, although the presence of fluoride in water alone can be detrimental and fatal, as proven by many studies from China and India, areas endemic with fluoride poisoning.*

*Regarding the use of fluoride in medications, the scientific literature shows that many such compounds cause serious fluoride poisoning. The problem of fluoride in medications is very serious and proper understanding is crucial in providing advice. More than sixty years ago, German scientists showed that all fluoride compounds— inorganic and organic—were able to inhibit thyroid hormone metabolism. This research led to the widespread use of such compounds as Capacin (3-fluoro-4-oxy-phenylacetic acid) in the treatment of hyperthyroidism. In the 1940s, Professor Euler and colleagues from the University of Breslau were able to cause identical bone and enamel defects with organic fluoride compounds as are established to occur with inorganic ones,*





# Letters



*even though there was no dissociation of the compounds, hence no “free” fluoride was being stored anywhere. The investigation showed identical “calcium crystal deformation” as seen with inorganic fluoride. For references and further information, visit <http://poisonfluoride.com/pfpc/>.*

## GREAT RESPONSIBILITY

I can’t tell you how grateful I am to WAPF for teaching me about correct eating; your information has transformed my life. However, with this great knowledge we embrace comes great responsibility. It is so difficult to see people you care about dying at a young age and so many others who are sick. But they won’t listen even after you have told them how they can reclaim their health.

I am forty-two years old, having outlived more than half my close friends! I regularly hear of very young people dying of cancer. I met a nursing home worker on the way to work two weeks ago, and she told me they have patients in their late 90s who are doing far better than patients in their 60s or 70s. I told her that when raw milk was widely available here in Canada (before 1930), the diets were far healthier than now. The older patients grew up at a time when these nutrient-dense foods were more widely available so their bodies were more robustly formed.

Joseph Ouimet  
Toronto, Canada

## GUTS AND GREASE

Thank you for the wonderful article on the diet of Native Americans ([www.](http://www.westonaprice.org/traditional_diets/native_americans.html)

[westonaprice.org/traditional\\_diets/native\\_americans.html](http://www.westonaprice.org/traditional_diets/native_americans.html)).

I rarely, if ever, comment on web writings. But this article really impressed me with its forthright treatment of New Age nutritionists. The way many of us see it, American Indians never left the Garden of Eden. They were dragged out of it by white colonists who considered themselves superior to the “primitives,” who had learned how to live off the land without destroying it. Agriculture, especially the American system of industrial farming, has brought us nothing but illness, and promises to deliver worldwide famine.

My sisters eat breakfast cereal, low-fat foods, and restaurant meals—and are overweight and lethargic. They avoid fats and are always hungry.

Such an important topic, yet no one addresses it honestly in the mainstream media. I hope your message reaches a much wider audience.

Betty Miley  
Norwood, Louisiana

## INTELLIGENT DESIGN

I have a small bone to pick with one paragraph in the article by Tom Cowan called “Moods and the Immune System.” You write: “People living today basically have two conventional philosophical views to choose from. One is the notion of intelligent design, namely that plants, animals and humans were created and then, boom, it’s all over, here’s the finished product. The other is the Darwinian theory.”

You are confusing intelligent design with creationism. There’s a vast difference there, though aggressive Darwin-

ists like to suggest that intelligent design is just a new name for creationism. What you describe should be termed creationism, which is not the same as intelligent design.

Intelligent design has been brought forward by a sizeable group of highly reputable academicians and medical doctors. Their work generally can be found at the Center for Science and Culture at the Discovery Institute in Seattle. Go to this link for a brief description and contrast of their approach with creationism: <http://www.intelligentdesign.org/whatisid.php>.

I have had a deep interest in this subject for some years and have read several excellent books by intelligent design researchers. I organized a presentation on evolution by Craig Holdredge of the Nature Institute at High Mowing in the spring of 2007.

One key concept of intelligent design is the irreducible complexity of living organisms, which ties in well with holistic thinking. If any group of scientists is going to break through the Darwinistic dogmatism of our culture, it’s this group at the Discovery Institute. They have been able to pass academic freedom laws in several states that make it possible for high school science and biology teachers to question Darwin without fear of being fired.

Gerhard Bedding  
Keene, New Hampshire

## TREATING FIBROMYALGIA

An acquaintance of mine sent me to your site because I used to suffer from fibromyalgia, and she thought the diet you have there might be helpful for me.

# Letters

As it turns out, I no longer have any symptoms, and haven't had for four years now. But I read the article at [www.westonaprice.org/moderndiseases/fibromyalgia.html](http://www.westonaprice.org/moderndiseases/fibromyalgia.html) anyway. At the bottom, I noticed you had posted a letter from someone named Geoff Caplan, which put forward the guaifenesin treatment that Dr. St. Amand, MD, has been touting for years as a cure.

In 1996 Dr. Robert Bennett, MD, presented the results of a one-year placebo-controlled double-blind study about the effectiveness of the guaifenesin treatment at the Orlando American College of Rheumatology meeting. It turns out that it doesn't work any better than the sugar-pill placebo did. The treatment helped in some cases, but it didn't seem to have much to do with the drug, and it certainly wasn't because the treatment was drawing out calcium phosphate deposits. In fact several studies, including those of Dr. Robert Simms, MD, in 1993, haven't shown any hint of such deposits in cells in the first place. You can find out more about Dr. Bennett's study at [www.fmnetnews.com/resources-alert-product6.php](http://www.fmnetnews.com/resources-alert-product6.php).

Personally, I used yoga, biofeedback, meditation, strict avoidance of sucrose in any form, and (oddly enough) training in singing to push my fibromyalgia into remission. The first four were helping some, but it wasn't until I added the singing that the symptoms finally went away.

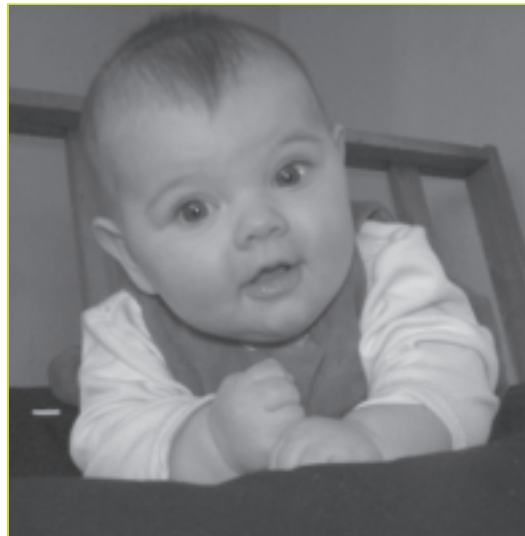
Which leads me, in a totally anecdotal, non-scientific way, to wonder whether proper breathing isn't one of

the important factors, since breathing properly is paramount when singing properly. Or it could be the total body vibration of singing.

Jane Short  
Westland, Michigan

## HEALTHY BABY GIRL

When my recent pregnancy began I knew I wanted two things: a VBAC (vaginal birth after cesarean) and I wanted it free of antibiotics. I began educating myself on both fronts.



With my fifth child, I had to undergo a C-section for placenta previa, a problem in pregnancy where, in layman's terms, the placenta blocks the exit. There is no safe delivery for mother or baby that doesn't involve a surgeon and a knife.

For my sixth child I learned all there was to know about the VBAC. I joined ICAN (International Cesarean Awareness Network) and met many moms who

shared a similar scar. My road to VBAC began.

Something that concerned me with a VBAC was Group B Strep. I had tested positive for GBS in the past and learned that I was very likely to test positive in subsequent pregnancies. The hospital protocol for GBS patients, suggested by the CDC, is antibiotics administered every four hours until delivery. If a GBS+ mom does not receive at least two doses, the baby is given antibiotics and closely monitored for 24-48 hours. I wanted to avoid this routine exposure to antibiotics.

I set about living the WAPF lifestyle. It was pretty loose as we weren't buying raw milk yet, but we were living on simple whole foods, coconut oil, and traditional food preparation. I learned that a heightened immune system increases your chances of being GBS negative. I also learned that GBS lives and proliferates in the gut. I figured that having good gut flora was the best way to kick GBS. I gave up sugar—even honey—until I worked that back in. I cultured yogurt from non-homogenized, low-heat pasteurized milk. I drank plain kefir. I brewed my own kombucha and drank six to eight ounces daily.

At thirty-six weeks I was tested for GBS. I got the results on a Monday morning. I was GBS negative! That Friday at thirty-six weeks and five days my water broke. I waited a little more than twenty-four hours before going into the hospital for a soft induction, a very gradual administration of pitocin (a synthetic hormone to bring on contractions).



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The pitocin took forever to work. The baby was born fifteen minutes into the following Monday, almost fifty-six hours after my water broke. The midwife and I noticed that the baby was bone dry. I would most certainly have been scared into a repeat C-section had I been GBS positive. With ruptured membranes on a GBS positive mom, the risk of the baby contracting GBS greatly increases with each hour.

Following Weston Price's teachings, I not only achieved my VBAC, but have a healthy baby because of it. I attribute her lack of colic to having a strong digestive system and feeding on my nutrient-dense breast milk—all due to a good WAPF lifestyle. I'd like to thank all you folks at WAPF for helping me achieve my dream of a healthy me, a healthy baby girl, and a healthy VBAC.

Elizabeth Arendale  
Sugar Hill, Georgia

## FURIOUS

I am furious with Dr. Joseph Mercola for his recent stand against cod liver oil. I am seventy-seven years old and haven't been in a doctor's office for forty-seven years. My mother never let me out the door in the morning without my dose of cod liver oil. She was one of this country's first women physicians, a board certified internist, and one of the first two credentialed dieticians in the world, with a degree from the University of Chicago. We call them nutritionists now. My mama would be running a Sherman tank down the venue of "The Association of Whatever Organization" that was dishing out bad info and wiping

them out. Gosh, I wish I could see her doing that. She died at 102.

Beverly Silvey  
Snohomish, Washington

## VACCINE QUESTION

I have been a member of the Weston A. Price Foundation for about three months. While reading your journal, I noticed the articles consistently frown on vaccines. Because I am an RN, I have actually seen a few children become very ill from diseases that vaccines can prevent, such as whooping cough and chicken pox. But I am also aware that vaccines can have serious side effects.

Does the Foundation advocate another way of vaccinating children? Or just safer vaccines? Because I encourage parents to vaccinate children, I would like to see an article about homeopathic vaccinations, if such a thing exists, so that I can better understand new options for preventing childhood disease.

Thank you for all the work you do. I have learned so much from this organization.

Natalie Copley, RN  
Pinetop, Arizona

*This is an important question. Just because parents choose not to vaccinate does not mean that they can be insouciant about childhood illnesses. The best way to protect children is through a good diet that minimizes sweets and junk food while maximizing intake of minerals and vitamins, particularly the fat-soluble vitamins. In the case of polio, it is important to protect your child against exposure to pesticides such as DDT (see [http://www.westonaprice.org/envtoxins/pesticides\\_polio.html](http://www.westonaprice.org/envtoxins/pesticides_polio.html)).*

*Some holistic practitioners believe that children should get the childhood illnesses such as measles, mumps and chicken pox, as this gives them life-long immunity. However, if children are sick with these conditions, they need to be given cod liver oil, egg yolks, raw milk, etc., so that the illness does not become serious. Another important point: vaccines do not necessarily confer immunity. There have been outbreaks of illnesses like measles in fully vaccinated populations. We will explore the role of homeopathic preparations in protecting children from childhood illnesses in a future issue.*

## RAW MILK AND CATARACTS

I wanted to report my experience of drinking raw milk to stop cataract formation. This endeavor was suggested by Bing Gibb's letter (Winter, 2007, page 6), whom I subsequently contacted. Unfortunately, drinking raw milk did not help my situation, which was far advanced compared to his. My hypothesis is that raw milk only has a preventative effect if used in the early stages of the disease.

George C. Krusen, II  
Boxborough, Massachusetts

## EAR WAX BUILDUP

Thank you for being there and fighting the good fight! Your information is priceless and the more we learn, the more amazing connections we can make between what we eat and how we feel.

For example, a letter in your Fall, 2008 issue referred to a man who experiences rapid ear wax buildup. At Bastyr



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University, I learned from the old timers (the traditionally trained naturopathic doctors), that this condition can be a symptom of omega-3 deficiency in the diet, as well as probably excess of artificially hydrogenated vegetable oils. Basically the artificially stiff oils make stiff ear wax (and stiff joints, etc.).

A person with adequate omega-3 oils in their diet will have softer ear wax, which will naturally coat the canal and drain properly.

This tidbit leads us directly back to traditional food wisdom and the work of Dr. Price. My first line of treatment for wax-clogged ear canals (and subsequent infection) is cod liver oil and raw milk from grass-fed cows. Unless there is a rare genetic condition, cod liver oil along with elimination of margarine and artificially hydrogenated oils usually opens the ears within a month. Just another reason to listen to our elders!

Sally B. Boyd, ND  
Kapoho, Hawaii

## RELIC OF THE PAST?

When I was growing up, in the town of Opotike, New Zealand, the daily event before school was a teaspoon of cod liver oil.

There were no beg-your-pardons. This was an established requirement. One could submit to it gracefully or have one's nose held. When you opened your mouth to breathe, down it went.

The purpose was to build up an immunity, particularly against colds, flu and chest problems, which the cod liver oil did quite successfully. This was all seen to by my strong-willed mother, who in turn was imitating the efforts

of her mother in a rural environment in the far north of New Zealand. We got the cod liver oil from the local chemist (pharmacy). It all tasted the same, quite fishy, and we washed it down with copious amounts of water.

In hindsight, it was worth it for we did not succumb to flu—in spite of not receiving a flu shot. And, best of all, it was carried out year in, year out. That was way back in the 1930s.

Geoffrey C. Morell, ND  
Washington, DC

## CONVERSATION WITH A COSMONAUT

I'd like to report on a recent conversation I had with Edward Alper, a Russian cosmonaut. He was trained at Star City, which is located just thirty kilometers east of Moscow. He is now an engineer and lives in Texas where he trains Russian cosmonauts for the Russian space program.

At Star City, cosmonauts train for space flight and work and live with their doctors to achieve optimal health. Most of the doctors have dual training that includes medication-based medicine and alternative, nutritionally based preventative medicine. Schools at Star City educate children from grades three to eleven. All the diets are controlled, and no Cokes or other sweetened carbonated beverages or junk food are allowed. All the food is whole and unprocessed. . . and all the milk is raw. According to Alper, illness is very rare in Star City.

Edward said that in Russia they describe pasteurized milk as “watered down sheetrock” because it has the same taste and nutritional value. The wonder-

ful Russian drink kefir is made from raw milk, never from pasteurized milk.

Today, Alper gets his raw milk from a dairy near Houston, Texas.

U.S. doctors have a few things to learn from our cosmonaut friends and their doctors. Recently, the cover story of *Time* magazine gave America a failing medical check-up. It is a must-read article. Medicine that ignores whole food nutrition is doomed to failure.

Mark McAfee, Founder  
Organic Pastures Dairy Company  
Fresno, California

## PAIN-FREE ACTIVE LIFE

To all the wonderful people at WAPF, God bless you every one. I found WAPF three years ago while researching nutrient-dense foods and superfoods to help my ailing sixty-two-year-old body. I latched onto the WAPF guidelines like a drowning man to a rope and now my wife and I have not had to take any medications for over two years. We enjoy a pain-free active life again in the best rested health since our teen years on farms. I look like I could go wrestle on my high school team and my wife is very active with horses again on a daily basis. Others in our families are experiencing greatly improved health—some of it astonishing—as we overcome their skepticism about your diet.

Jerry Denney  
Pueblo, Colorado

## CONCERNS ABOUT SOIL-BASED ORGANISMS AND PROBIOTICS

As a nutritionist who reads *Wise Traditions* faithfully and listens to what the contributing experts have to say, I





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take the advice very seriously. However, over the past year, I have become increasingly concerned about advising people to take probiotics that contain soil-based organisms, namely *Bacillus subtilis*.

Soil organisms (SO) are spore formers, so they make good competitors for yeast, fungus and other pathogens. This is why so many people taking soil organisms will initially experience very favorable results. However, according to certain critics, the fact that these spores are extremely difficult to kill is a potential source of problems; they survive sterilants, disinfectants, acceleration forces, heat, pressure, radiation and many antibiotics. Strong antibiotics, such as Vancomycin, can suppress certain spores. Spores are so persistent in the intestines that another round of germination may occur after the drug is stopped. Soil organisms can also adapt loose genetic material and incorporate it into their cellular structure, the ramifications of which are yet unknown. Various soil organisms can also produce harmful peptides, affecting hemoglobin in the blood. It's important to keep in mind that virtually all antibiotic drugs were initially developed from soil organisms and as antibiotics become more potent, they cause more damage to the host, not just in the immediate gut environment, but systematically as well.

As I dug deeper, I came across the site of Dr. Ray Sahelian, MD, an integrative medical doctor who believes it is not proven safe to take these probiotics. He says, "There is no explanation made as to the composition of the homeostatic soil organisms. What are these homeo-

static soil organisms? What soil do they come from? How are they processed? Are homeostatic soil organisms from one soil region different than another region, state, country, etc? How do we know there are no harmful bacteria, fungi, or other organisms that could cause long term infection? How do we know homeostatic soil organisms are any better than regular probiotics or any other natural treatment with more research backing findings? How are homeostatic soil organisms sold by one company different than the ones sold by another?"

It concerns me that soil organisms may have the capacity to become pathogenic in human beings! And from what I gather, it may well be that the very people who need them the most (those with the most compromised immune systems), are exactly the ones who could be hurt the most by this pathogenic bacteria.

Alana Sugar, CN  
Alexandria, Virginia

*The use of B. subtilis in medicine has an interesting history. B. subtilis became part of medical usage due to research by German military doctors during the World War II German campaign in North Africa, who were seeking a treatment for uncontrollable dysentery in the German troops. The military's medical team noted that when the Arabs got dysentery, they began following a horse or camel until it had dropped its dung. Then they would eat the warm droppings! This practice effectively eliminated the dysentery. When questioned, the Arabs told them that*

*the dung had to be eaten while warm and fresh. It did not work if eaten cold. They had no idea why it worked, but said the remedy came down from their forefathers.*

*When the Germans examined the warm dung, they found it to be teeming with a microorganism that came to be called Bacillus subtilis, a microbe that consumed harmful organisms in the gut, particularly the virulent strain that was causing dysentery in the German troops. The medical personnel then began producing B. subtilis on a large scale for the soldiers and the dysentery problem was solved.*

*It could be said that B. subtilis was the basis for the first commercial probiotic because for many years after the war, cultures of B. subtilis were sold worldwide—in the U. S., for example, they were sold under the brand name Bacti-Subtil—as a remedy for dysentery and other intestinal problems. The product began losing favor in the late 1950s and 1960s with the advent of synthetic antibiotics. The product is still widely used today in Germany, France and Israel, where scientists have discovered that the organism not only kills pathogens in the gut but supports the human immune defense by activating at least three specific antibodies, IgM, IgG and IgA. Cultures of B. subtilis also release compounds that kill cancer cells. It was marketed throughout America and Europe from 1946 as an immunostimulatory aid in the treatment of gut and urinary tract diseases such as Rotavirus and Shigella, but declined in popularity after the introduction of cheap consumer antibiotics despite*





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causing less chance of allergic reaction and significantly lower toxicity to normal gut flora.

*B. subtilis* has GRAS (Generally Recognized as Safe) status granted by the FDA. The organism is ubiquitous, found in soil and on many of the raw vegetables that we eat. The organisms are also approved, after detailed safety studies, for use in Europe to be fed to farm animals following the ban on the use of antibiotics in feed. There are no published reports showing any negative results in the animals.

It is worth noting a study which dispels an often held belief that *B. subtilis* are not resident in the gut of healthy individuals. Although the organism originates from soil, a study by Tam and others (2006) proved the existence of *B. subtilis* in a normal healthy microflora by examining human stools from thirty healthy volunteers. All of the volunteers were found to be carrying bacillus spores, at an average concentration of about 10,000 per gram of stool. This suggests that spores of bacilli are a normal part of the human intestinal tract. If so, it would be difficult to substantiate a cause-and-effect relationship between products containing soil-based organisms and adverse side effects, especially as many of the people taking them already have serious health problems.

Thus, in principle, the use of products containing *B. subtilis* is supported by both tradition and science. Nevertheless, taking probiotic pills today, especially for long periods of time, is not the same as eating a single dose of warm cow dung to treat dysentery. As a quick perusal of the Internet will show,

there are concerns about the number of organisms in modern products, the purity of the product and the health status and diet of the consumer. There are a huge number of such products available, some of which do not meet label claims and contain the wrong organisms, leading to problems that have tainted the whole industry. The situation is further complicated by claims and counter claims on the part of various companies that manufacture probiotics. And we cannot exclude the possibility of slanderous rumors spread by the pharmaceutical industry, unwilling to give up market share to unpatentable natural medicines.

Probiotic products—both those that contain soil-based organisms such as *B. subtilis* and those that don't—have helped many individuals seeking to improve their health. But as with any product, or indeed with any food, they should always be consumed with an attitude that is alert to adverse effects. Such products should only be taken in the context of a diet that eliminates processed food. We hear of individuals who are taking these products because “they don't want to change their diet,” and then make the mistake of increasing rather than diminishing the dosage when they have adverse reactions. If the product provokes a rapid detoxification effect in an individual with overload of mercury or other toxic metals, the consequences could indeed be severe. In such cases, you should seek professional medical advice.

Given all this information about probiotics in general, and about soil-based organisms in particular, we can

only offer the following general advice: use only those products from companies that can confirm that they contain the correct organisms, are safe, contain the correct concentration and are manufactured to the highest standards; such products should only be taken as directed on the label; avoid using the products with conventional antibiotics; if you intend to use the products to address health problems, take only under the supervision of a qualified health practitioner who has experience in using them; be alert to any detoxification or die-off reactions and consult your health practitioner if adverse reactions occur; and as with all products that produce a detoxification or die-off reaction, they should never be used by pregnant or nursing women. If you are taking a probiotic product (with or without *B. subtilis*) and become pregnant, discontinue use immediately.

For most people, the best way to obtain beneficial bacteria is the way our ancestors did, through contact with dust, dirt and animals in an outdoor environment, and by consuming lacto-fermented foods such as sauerkraut, naturally made pickles or beet kvass and other lacto-fermented beverages. In situations of illness, since most of us would prefer not to consume warm camel dung, probiotic products have a place in a healing regimen, especially one that is carried out with the supervision of a qualified holistic practitioner. ☯

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

# Caustic Commentary

Sally Fallon and Mary Enig take on the Diet Dictocrats

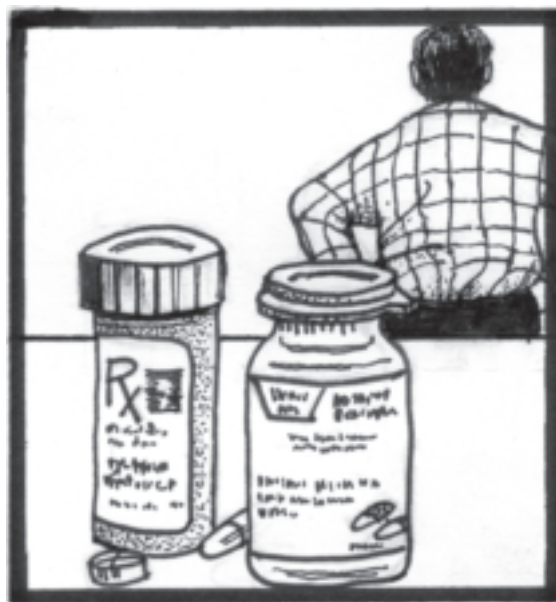
## STATINOMANIA

Statin pushers are citing two studies as justification for putting people with “normal” cholesterol levels—millions more Americans—on cholesterol-lowering statin drugs. One is the Jupiter study, in which the statin Crestor was said to “dramatically cut deaths, heart attacks and strokes in patients who had healthy cholesterol levels but high levels of a protein associated with heart disease.” (We commented on the spurious benefits of statins in the Jupiter study in the Winter, 2008 issue of *Wise Traditions*.) The other was a study at UCLA in which half of 131,000 hospital admissions for heart disease had normal LDL-cholesterol levels. By the tortured logic of statin-numbed brains, this means that the ideal LDL level was set too high and the “majority of people would be recommended to take a statin” (Reuters Health, January 14, 2009). Meanwhile, research to be published in the *Proceedings of the National Academy of Sciences* suggests that cholesterol-reducing drugs may lessen brain function. According to Yeon-Kyun Shin, a biophysics professor in the department of biochemistry, biophysics and molecular biology, studies indicate that the drugs may keep the brain from making cholesterol, thereby affecting the machinery that triggers the release of neurotransmitters. “Neurotransmitters affect the data-processing and memory functions,” says Shin. “In other words, how smart you are and how well you remember things.” Another study found that obese men taking statins had a fifty percent increase in prostate cancer (*News Wire Services*, August 22, 2008). (Statin promoter Professor Sir Richard Peto of Oxford University dismissed the findings as a “statistical fluke.”)

## NO POPULATION GROUP LEFT BEHIND

Pregnant women are targets for statins again with the publication of a study on mice, which indicates that “statins may

be able to prevent miscarriages in women who are suffering from pregnancy complications caused by antiphospholipid syndrome (APS)” (*Science Daily*, October 11, 2008). Whether or not the biochemical changes observed in the mice on statins will result in fewer miscarriages in human women, one thing



is certain: giving pregnant women statins is bound to result in more birth defects, horrible birth defects. Statins are listed as a Category X drug in pregnancy, along with thalidomide and Accutane. The March of Dimes has opposed the sale of over-the-counter statins because of birth defect risk. Governments in Canada, France and Sweden have issued warnings against statin use in pregnancy. Even the cholesterol-lowering spread Becel Pro-Activ contains a warning to women of child-bearing age not to use the product. But none of that deters the statin-pushers, determined to leave no population group behind.

## NONCOMPLIANCE

Why the renewed push to get more people, even pregnant women, on statins? Perhaps because nearly half of all patients discontinue the medicine after a year of treatment, even though their doctors recommend treatment for decades, or even for life ([www.npr.org](http://www.npr.org), November 18, 2008). These findings are from a study of 435 patients treated at Kaiser Permanente of Colorado. The most common reason for stopping, according to a patient survey, was side effects, including muscle cramping. Patients also stopped the treatment because they thought it was unnecessary or were worried about developing side effects in the future. According to Kaiser researcher Dr. John Steiner, “It’s hard to know whether these symptoms are really due to the drug. . . it may be that people are paying more attention to their physical sensations after they start a new medication.” Instead of taking patient complaints seriously, doctors are calling for more “education,” that is, browbeating. “We showed that if you educate the patients, they’re more likely

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to continue their medication,” says Kaiser Permanente clinical pharmacist Brandy McGinnis. She spends a lot of time trying to clear up unanswered questions on the phone. “Patients don’t always understand the connection between high cholesterol and blocked arteries.” Since a simple perusal of the internet reveals the connection to be spurious, and statin side effects to be common, expect more and more people to “non-comply,” and more and more shrill voices for putting more people on statins.

## FOOD FORMULATIONS

The food formulators are at it again, coming up with fake ingredients not fit for human consumption. Advanced Food Systems has launched a range of new egg replacement ingredients for bakery goods which “will help food manufacturers reduce the cost of using whole eggs.” The product is a blend of starches, gums and other ingredients said to maintain “natural texture and flavor, excellent air cell structure and finished product volume, whilst remaining tender and moist through extended storage periods” (foodnavigator-usa.com, June 18, 2008). Unilever is working on “ice cream innovations” that will “give the consumer varied sensory experiences, with new products such as drinkable fizzy ice” (foodnavigator-use.com, June 24, 2008). Kraft Foods has invested in a novel ingredient screening technology that uses mathematics to identify new compounds with specific health benefits. Replacing the old-fashioned way of getting health benefits—it’s called eating, eating real food—Kraft will use the new technology to create a “digital fingerprint” for a group of active compounds with a desired health benefit (nutraingredients-usa.com, January 14, 2009). Another trick comes from Advanced Food Systems, which has introduced Actobind® ingredient systems for “injection, tumbling or other processes in a wide range of end products” in order to reduce costs in meat, poultry and seafood products. The new formulations replace sodium phosphate and can be labeled “all-natural and allergen-free” (www.foodprocessing.com/vendors/products/2009/015.html). At the Institute of Food Research in Norwich, England, scientists are experimenting with foods that trick the body into feeling full. Normally the body does this by eating fat, but the European scientists are investigating “chemical injections or implantable devices that interfere with the digestive system” and coating

“fat droplets in foods with modified proteins from plants” (www.msnbc.msn.com/id/27336651/). In an attempt to shore up the bad image of soft drinks, Swiss-based Bischofszell has introduced a “tooth-friendly” soft drink sweetened with isomaltulose. It has an acid-free composition made possible by the aseptic process used to bottle the product—the acid in soft drinks is considered to cause erosion of tooth enamel. The beverage will carry the “Happy Tooth” logo of Toothfriendly International, a nonprofit organization for better oral health (www.ap-foodtechnology.com/, February 19, 2009). (Isomaltulose, or malitol, was denied FDA GRAS status in 1994 after animal studies showed bowel and intestinal cancer after six weeks of low level ingestion.) Finally, visit crayonsinc.com to learn about “uniquely formulated FUNctional Fruit Juice Drinks and Sports Drinks for KIDS,” including a Calcium Booster, Immunity Defender and a fiber-enhanced Afternoon Pick-Me-Up. The ingredients in these new “foods” are fake, but the diseases they cause are all too real.

## FORMULATION FOR SUCCESS:

### BUTTER AND BACON

Meanwhile, three Canadian men have claimed a new record for the fastest journey across Antarctica to the South Pole, completing the journey of seven hundred miles in just over thirty-three days. They endured grueling trekking, altitude sickness, vertigo, and painful blisters on a seven-thousand-calorie-per-day diet of deep-fried bacon, cheese and chunks of butter (www.msnbc.msn.com, January 9, 2009).

## OPEN UNHAPPINESS CAMPAIGN

Coca-Cola is launching a new global ad campaign, hoping to appeal to consumers’ longing for comfort and optimism at a time when the weakening economy is sapping soft-drink sales. We are not making up the following ad summaries, taken from the company’s website, www.coca-colacompany.com. “In today’s busy world, everyone has become dependent on technology. While iPhones, BlackBerries, texting and computers keep people virtually linked, they create a lack of real connection between people, causing them to morph into avatars. The unexpected sharing of a Coca-Cola between two people in a diner breaks down digital walls and creates a human connection through a moment of happiness.” Here’s

# Caustic Commentary

another: “On an unbearably hot day, two fierce monsters wreak havoc on a sweltering city. Just when it seems destruction will be complete, their differences dissolve when they come together over an ice-cold Coca-Cola. When these eternal enemies Open Happiness, peace and fun return to the city and its relieved, refreshed citizens.” Just one more proof of the axiom: there is no truth in advertising (except in *Wise Traditions*, of course).

## MEDICINE OF THE FUTURE?

McKesson is the eighteenth largest corporation in the U.S. and the largest corporation of any kind involved in health care. The company processes about 80 percent of all prescriptions written in America. In an article published in the February, 2009 issue of *Harper's Magazine*, McKesson CEO, John Hammergren provided his vision for the future of medicine: “When my oldest daughter has her first child, I believe that baby will get a genomic profile for roughly \$800. The data obtained through that profile will be stored in a central information system called an integrated delivery network (IDN), to which primary care physicians and specialists will have access throughout the course of my grandchild's life. . . My grandchildren's doctors will know from the moment of birth the likelihood that they will develop some form of chronic condition, cancer or other significant illness. This knowledge will shape and form their health care for the rest of their lives. Compared to today's 40-year gap in treatment, my grandchildren will receive constant monitoring and prevention. Tapping the database's artificial intelligence, their doctors will know which clinical interventions will be most effective, which cardiology or cancer drugs they will respond best to, and when care should be delivered.” Translation: the medicine of the future will create a pathological fear of disease and death from the moment of birth, and subject patients to all sorts of harebrained diets and harmful treatments for illnesses they don't even have in the name of the greater good. Database companies like McKesson will profit enormously while the general population will succumb to poor nutrition and paralyzing angst.

## VITAMIN A TO THE RESCUE AGAIN

Anemia is a major health concern for children in Third World

countries. In a study of children in Bangladesh, vitamin A supplementation proved to be the most successful micronutrient intervention for treating the debilitating condition (*Journal of Health, Population and Nutrition* 2008 Sep;26(3):340-55). The researchers noted that no sign of improvement appears with iron-supplementation programs. While American medical personnel are hell bent on demonizing vitamin A, researchers in other parts of the world are developing a grudging appreciation for the role of vitamin A in mineral metabolism.

## LIVER AND SHELLFISH FOR THE BRAIN

While one branch of the UK government is warning people not to eat liver, other British researchers have discovered that foods rich in vitamin B<sub>12</sub>, such as liver and shellfish, can protect against brain shrinkage leading to declining memory and dementia. Researchers from the University of Oxford looked at a group of people between ages 61 and 87. Those with the lowest levels of B<sub>12</sub> were more likely to show signs of brain shrinkage, even though these levels were still above a threshold used by some scientists to define vitamin B<sub>12</sub> deficiency (*Neurology* 2008 71(11): 826-832). But don't look for appeals to eat more liver or shellfish anytime soon. According to Dr. Susanne Sorensen of the British Alzheimer's Society, “The best way to reduce your risk of developing dementia is to keep active, eat a balanced diet, don't smoke and visit your GP to get your blood pressure and cholesterol checked” ([www.news.bbc.co.uk](http://www.news.bbc.co.uk), September 9, 2008).

## SIZE 14 GALS HAVE MORE FUN

According to a study sponsored Kellogg's® Special K® cereal, “Size 14 women are the happiest with their life and looks” (*National Enquirer*, February 2, 2009). “A quarter of gals who wear that dress size are as thrilled as can be with their situations, while 43 percent of size 14s were pleased as punch with their careers and almost 33 percent are content with their love life.” Second happiest are size 12s, followed by size 8, size 16, size 10, size 6 and size 18. Perhaps size 14 is the happiest because women of this size—not too thin and not too large—are the best nourished.

## WHICH PLANET ARE THESE GUYS FROM?

Last August, Penn State's College of Agricultural Sciences



# Caustic Commentary

sponsored an agriculture “myth buster” lecture series which aimed at debunking the following myths: high milk production burns out cows; grass-fed and organic beef is better for consumers; large scale agriculture is the end of the family farm; and agriculture is harmful to the environment. More disdain for organic and pasture-based agriculture comes from Senator Pat Roberts (R-KS), who recently disparaged small and organic farmers during the confirmation hearings for Tom Vilsack as Secretary of Agriculture. Roberts described the typical small farmer as literally small—about five feet two inches—“and he’s a retired airline pilot and sits on his porch on a glider reading *Gentleman’s Quarterly*—he used to read the *Wall Street Journal* but that got pretty drab—and his wife works as a stock broker downtown. And he has forty acres, and he has a pond, and he has an orchard, and he grows organic apples. Sometimes there is a little more protein in those apples than people bargain for, and he’s very happy to have that.” If this description applies to any of our hardworking organic farmers, please let us know.

## DISTILLERY DAIRIES

According to Fred Pritzker, a Minneapolis lawyer whose law firm specializes in the area of foodborne illness litigation, the biggest *E. coli* outbreaks of 2008 show a problem getting worse. Between June and November, 2007, thirty million pounds of beef were recalled by twenty different companies. In keeping with the axiom that ground beef is the most common vector for *E. coli* O157:H7, 2008 was marked by multi-state outbreaks of infections that were associated with beef trimmings for hamburger produced by Nebraska Beef of Omaha. The company ordered two major recalls of tainted beef in June and July. But by far the largest *E. coli* outbreak of the year was centered at a lone family restaurant in Locust Grove, Oklahoma, which sickened 341 people, hospitalized 72, and led to the death of one 26-year-old man, a gospel singer. The year also was highlighted by a major *E. coli* outbreak related to fresh produce. In 2006, U.S. consumers were rocked by a deadly *E. coli* O157:H7 outbreak associated with bagged spinach. In 2008, the tainted leafy green vegetable was iceberg lettuce bagged at a food plant in Detroit. The outbreak sickened at least 50 people. Some researchers believe a possible explanation for increased prevalence of *E. coli* O157:H7

in cattle is related to a byproduct of ethanol. Called distillers grain, it became increasingly abundant as cattle feed during ethanol’s boom in 2006, 2007 and early 2008. A study by researchers at Kansas State University found higher levels of *E. coli* O157:H7 in the feces of cattle fed a diet that included distillers grain, which is cheaper than corn. Confinement dairy operations are now routinely placed near ethanol production plants so the cows can be fed the chemically polluted ethanol swill—we’ve come full circle to the inner city swill dairies of the 1800s, with fingers still pointed at raw milk as the culprit for disease. After citing outbreak after outbreak from beef or produce irrigated with contaminated water, Pritzker warns us against drinking raw milk ([www.prweb.com/releases/2008/12/prweb1780154.htm](http://www.prweb.com/releases/2008/12/prweb1780154.htm)).

## A MESSAGE FROM TOMMY THOMPSON

In an interview on February 11, 2009, the former secretary of Health and Human Services gives us the math: there are 82 million food poisonings per year, about one per four individuals in the U.S., requiring 350,000 hospitalizations and resulting in 8,000 deaths. The FDA has 700 inspectors responsible for inspecting 64,000 food facilities. Thus, an FDA inspector may get to a food processing plant once every six or seven years ([www.foodhaccp.com/memberonly/newsletter339.html](http://www.foodhaccp.com/memberonly/newsletter339.html)). Solutions proposed range from more inspectors to a new food agency with police state powers when the obvious answer is the elimination of confinement animal facilities in favor of small farms, artisan processing and direct food sales. ☺☺

## 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.



# The Cod Liver Oil Debate

## Science Validates the Benefits of Our Number One Superfood

By Chris Masterjohn

**F**or centuries, cod liver oil has served as a valuable source of vitamins A and D and omega-3 fatty acids. It was a critical component of Weston Price's program for reversing tooth decay and many practitioners in his day used it to treat eye diseases, rickets, and infections. Along with many other physicians, Dr. Price recommended cod liver oil to promote growth and general health in infants and children. Clinical trials proved that cod liver oil use in adults reduced absenteeism and saved millions of dollars worth of productivity for American industry.

Recently, however, cod liver oil has come under attack. After issuing a series of newsletters criticizing the use of cod liver oil because of its vitamin A content, Dr. John Cannell, through the Vitamin D Council, wrote a commentary entitled "Cod Liver Oil, Vitamin A Toxicity, Frequent Respiratory Infections, and the Vitamin D Deficiency Epidemic" published in the November, 2008 issue of the *Journal of Otology, Rhinology, & Laryngology*.<sup>1</sup> Cannell and co-authors claim that vitamin A intakes above the most minimal levels increase mortality rates, increase vulnerability to infections, cause osteoporosis, and antagonize the beneficial effects of vitamin D.

Cannell concluded that neither children nor adults should use cod liver oil or multivitamins containing true (pre-formed) vitamin A. Sixteen scientists signed on to the paper as co-authors, although this does not mean that each one endorsed every statement in the paper. Cannell quoted this paper extensively and expanded his arguments against vitamin A in his December newsletter,<sup>2</sup> while Dr. Joseph Mercola repeated Cannell's claims on his web site in two articles published this winter.<sup>3,4</sup>

What the scientific literature shows, however, is that vitamins A and D work as partners rather than antagonists. While there is no solid evidence linking vitamin A to increases in mortality or higher rates of infection, vitamin A does cause adverse effects such as bone loss when it is not provided with its molecular partner, vitamin D. Since cod liver oil provides both partners together, it developed a long and successful history as an important therapeutic and prophylactic supplement. Many modern cod liver oils are deficient in vitamin D and should be avoided, but those providing adequate vitamin D continue to provide an important natural food source of the fat-soluble vitamins.

## THE ORIGINS OF COD LIVER OIL

Hippocrates first recorded the medicinal use of fish oils, and the first century naturalist Pliny the Elder recorded the use of dolphin liver oil as a remedy for chronic skin eruptions.<sup>5</sup> In 1848, the British physician John Hughes Bennett observed that cod liver oil had been used from time im-

memorial by the fishing populations of Scotland, Sweden, and Norway for its general medicinal and strengthening properties.<sup>6</sup> For centuries before producing the oil itself, the British used the blackish residue left behind by barreled cod livers as a balm.<sup>7</sup> In 1766, a Manchester Infirmary began prescribing ingestion of the oil for rheumatism after a patient cured herself of the disease on two occasions by ingesting her topical treatment.<sup>5</sup> The infirmary thereafter used fifty to sixty gallons of cod liver oil per year,<sup>6</sup> and after comparing its use to that of a placebo in a number of individual patients, the physician Percival added it to the British Pharmacopoeia in 1771.<sup>5</sup>

Physicians used cod liver oil to treat the vitamin D deficiency disease rickets at least as far back as 1799, and by the 1820s use of cod liver oil for this purpose was widespread in Germany, Holland and the Netherlands. During the same century, its use expanded to include the treatment of eye diseases and tuberculosis.<sup>5</sup> Research between 1920 and 1940 further expanded the use of cod liver oil to prevent or treat measles, industrial absenteeism, and puerperal fever, a fatal infection occurring in women just after giving birth. The advent of sulfa antibiotics and later penicillin mostly eliminated the interest in cod liver oil as an anti-infective agent, but a number of trials conducted before 1940 provided solid evidence of its efficacy. Cod liver oil reduced measles mortality by more than one-half and reduced industrial absenteeism by up to two-thirds in clinical trials. As a prophylactic, it reduced the incidence of puerperal fever by two-thirds, and as

Physicians used cod liver oil to treat the vitamin D deficiency disease rickets at least as far back as 1799, and by the 1820s use of cod liver oil for this purpose was widespread in Germany, Holland and the Netherlands.

## ARTICLE SUMMARY

- Mankind has consumed marine liver oils for thousands of years and cod liver oil for at least hundreds of years.
- Several trials conducted before 1940 found that the vitamin A in cod liver oil had powerful anti-infective power, which popularized the oil as a prophylactic and led to its use as a treatment against puerperal fever, measles, and industrial absenteeism.
- Vitamins A and D cooperate with one another. They are not antagonists, but large doses of one may cause harm when not accompanied by the other.
- There is no evidence that vitamin A increases mortality.
- Over a quarter of Americans consume less than half the RDA of vitamin A, which is 3,000 IU per day for adult males. Price's tooth decay reversal program would have provided over 10,000 IU per day. Sub-optimal intakes of vitamin A may be related to asthma, kidney stones, fatty liver disease, oxidative stress, and susceptibility to environmental toxins.
- During the winter or year-round for people with dark skin, some extra vitamin D from fatty fish or supplements may be necessary for some people.
- High-vitamin cod liver oil is a very useful source of vitamins A and D and omega-3 fatty acids.

They concluded that while vitamin D was necessary for the calcification of bones and teeth, it did not share the anti-infective properties of vitamin A and it would therefore be dangerous to replace traditional cod liver oil with the newly developed vitamin D supplements.

a treatment, it reduced mortality from this disease by the same amount.<sup>8</sup>

#### VITAMIN A AS AN ANTI-INFECTIVE

In the 1920s, Edward Mellanby performed a series of experiments at the University of Sheffield showing that vitamin A was the primary anti-infective component of cod liver oil. Mellanby compared the effects of cod liver oil, rich in vitamins A and D, to those of butter, rich in vitamin A only, and to those of olive oil, deficient in both vitamins. Dogs fed butter instead of cod liver oil had soft bones and partially collapsed lungs, but bronchial pneumonia occurred only on the olive oil diet. Mellanby attributed the partial collapse of the lungs to muscular dysfunction induced by vitamin D deficiency and attributed the pneumonia to degeneration of the epithelial lining of the lungs induced by vitamin A deficiency.<sup>9</sup>

When pure vitamin D<sub>2</sub> became commercially available, Mellanby and his colleague Harry Norman Green performed further experiments in rats showing that vitamin A deficiency led to often fatal infections of the tongue, throat, eyes, lungs and gastrointestinal tract in nearly all of the animals. In several hundred vitamin D-deficient rats, by contrast, they observed only two cases of infection. In the vitamin A-deficient rats, moreover, vitamin D supplementation made the infections worse. Green and Mellanby suggested that this was because vitamin D stimulated growth and “thereby made a greater call on the vitamin A stores of the body.” They concluded that while vitamin D was necessary for the calcification of bones and teeth, it did not share the anti-infective properties of vitamin A and it would therefore be dangerous to replace traditional cod liver oil with the newly developed vitamin D supplements. “If a substitute for cod-liver oil is given,” they wrote, “it ought to be at least as powerful as this oil in its content of both vitamins A and D.”<sup>9</sup>

#### VITAMINS A AND D AS MOLECULAR PARTNERS

Mellanby was correct when he noted that vitamin D increases the need for vitamin A, but he was probably wrong about the mechanism. Beginning in the 1930s and continuing through the 1960s, research accumulated showing that vitamins A and D each protected against the

toxicity of the other.<sup>18,19,20,21</sup> This observation held true even when the vitamins were injected into the animals rather than provided in the diet, showing that they did not protect against each other’s toxicity by competing for intestinal absorption.<sup>22</sup>

To explain the earliest observations of this phenomenon, the German researcher F. Thoenes proposed in 1935 that vitamins A and D cooperated with each other to perform certain functions and that vitamin D caused toxicity by inducing a relative deficiency of vitamin A.<sup>23</sup> This concept gained further support in 1998 when Aburto and Britton showed that even moderate doses of vitamin D lower blood levels and liver stores of vitamin A in broiler chickens whether they are provided in the diet or by exposure to ultraviolet light.<sup>24</sup>

Developments in molecular biology over the last several decades have shown that vitamins A and D carry out most of their actions by binding to specific receptors that will bring them into contact with DNA inside the nucleus of a cell, in order to alter the expression of genes by turning them on or off or by turning them up or down. The receptors for these vitamins, together with those for thyroid hormones, steroid hormones, and other important signaling molecules, are part of a common family of nuclear receptors that interact with one another. Vitamin A is especially involved in these interactions—it not only carries out its own signaling, but forms an essential partnership with most other nuclear hormones, which allows them to carry out their functions. Recent research, described in more detail in the sidebar on page 22, has shown that vitamin D can only effectively control the expression of genes in the presence of vitamin A.

Since vitamin A is required as a signaling partner with vitamin D, vitamin D will increase the turnover of vitamin A. If vitamin A is provided in excess, the results are generally beneficial. Excess vitamin A is stored in the liver. However, when the liver’s storage capacity is exceeded, the overload of vitamin A causes the cells to burst, damaging the liver and releasing storage forms of vitamin A into the systemic circulation that do not belong there. By increasing the utilization of vitamin A, vitamin D can help prevent vitamin A toxicity.

If vitamin A is in short supply, on the other hand, the results can be detrimental. By “stealing” all of the vitamin A needed to use for vitamin D-specific functions, the body will not have enough vitamin A left to support the many other functions for which it is needed—this may partially explain the toxic effects of excess vitamin D.

Vitamin A toxicity is likely due in part to the damage done to liver cells and the release of their contents, including storage forms of vitamin A, into the blood. It may also be the case that there is a natural balance between the many different signaling roles played by vitamin A when all of its signaling partners are present, but that when one of them—such as vitamin D—is absent, this natural balance is thrown off. Thus when vitamin D is provided in adequate amounts, vitamin A does not accumulate excessively in the liver and this natural balance is maintained, but when vitamin D is in short supply, high doses of vitamin

A will damage the liver and contribute to an imbalance of cell signaling.

If vitamin D is present in excess, extra vitamin A is needed to fulfill those other functions, while if vitamin D is in short supply, the natural balance of functions in which vitamin A engages may be thrown off.

The current controversies over osteoporosis present a perfect example of how critically important it is to take into account the interactions between these two vitamins. A number of studies have shown that high intakes of vitamin A are associated with reduced bone mineral density and increased risk of hip fracture, but these studies have been conducted in populations with vitamin D intakes as low as 100 IU per day. The only study that mentioned cod liver oil as a source of vitamin A in its population found high levels of vitamin A to be associated with a *decreased* risk of fracture.<sup>25</sup> It may be the case that vitamin A contributes to osteoporosis when vitamin D is deficient, but protects against osteoporosis when vitamin D is adequate.

A review published in 2005 concluded that physicians should explicitly warn their elderly patients to avoid intakes of vitamin A greater than the RDA.<sup>26</sup> A large-scale, placebo-controlled trial published in 2006 found that 400 IU of vitamin D plus 1,000 milligrams of calcium increased the risk of kidney stones by 17 percent.<sup>27</sup> Kidney stones can be induced by feeding animals vitamin A-deficient diets,<sup>9</sup> and prevented in animals by feeding

#### DOES VITAMIN A INCREASE THE RISK OF INFECTIONS?

Cannell cites an analysis in his journal article and December newsletter as showing that vitamin A supplements decrease lower respiratory infections “in children with low intake of retinol [vitamin A], as occurs in the Third World” but that “it appears to increase the risk and/or worsen the clinical course in normal children.”<sup>1,2</sup> By the time Mercola published the claim, “normal children” became any children living in a developed country. “Unlike third world countries where vitamin A supplementation appears to decrease infections,” Mercola wrote, “vitamin A supplementation in developed countries like the U.S. actually increases infections.”<sup>3</sup>

The original analysis did not present any findings that separated children into low and normal intakes of vitamin A and did not include any studies conducted in developed countries like the United States.<sup>10</sup> It was a meta-analysis that pooled the results of nine studies conducted in India, Ecuador, Indonesia, Brazil, Ghana, Mexico, and the Republic of Congo. Several of these studies have suggested that vitamin A may reduce the incidence of respiratory infection in malnourished children but increase it in well-nourished children. None of them, however, present evidence that the effect of vitamin A depends on vitamin A status or that vitamin A is helpful in the third world but harmful in the developed world.

An Ecuadorian study of four hundred children under the age of three found that weekly supplements delivering roughly half the RDA for vitamin A reduced the risk of lower respiratory infections among underweight and stunted children but raised the risk among children of normal weight and height.<sup>11</sup> An Indonesian study of over 1400 children under the age of four found that three massive doses of vitamin A given over the course of a year, likewise delivering roughly half the RDA, increased lower respiratory illnesses in children of normal height but not in stunted children.<sup>12</sup> Although both of these studies measured blood levels of vitamin A, neither of them reported the effect of vitamin A to be dependent on vitamin A status. They were conducted in areas where deficiencies of protein, energy, and multiple vitamins and minerals are common. A child’s status of protein, zinc, vitamin D, and other nutrients will affect his or her metabolism of vitamin A. Growth status itself could affect the metabolism of vitamin A, and adequate growth could deplete other nutrients needed for vitamin A to function properly.

It would also be a mistake to look at lower respiratory infections alone. A number of studies included in the meta-analysis showed vitamin A to have no effect on respiratory infections while nevertheless reducing severe diarrhea by over 20 percent,<sup>13</sup> gastrointestinal-associated mortality by over a third,<sup>14</sup> infection-associated mortality by half,<sup>15</sup> and measles incidence by 95 percent.<sup>16,17</sup> The general picture that emerges from the scientific literature is not that vitamin A is helpful only in very small amounts and harmful in larger amounts. The picture that emerges indicates that vitamin A consistently reduces mortality from severe infectious diseases but has a more complicated relationship to lower respiratory infections that we still do not completely understand.



them extra vitamin A.<sup>28</sup> Research in the 1930s found that over 90 percent of people with kidney stones were deficient in vitamin A.<sup>29</sup> Kidney stones can be induced in animals by feeding doses of vitamin D that are insufficient to cause abnormally high calcium levels,<sup>30</sup> suggesting that they are the first and most sensitive marker of vitamin D toxicity. Vitamin A is capable of completely protecting against vitamin D-induced kidney calcification.<sup>24</sup> Perhaps such a small amount of vitamin D increased the risk of kidney stones in this elderly population because its members were being advised to avoid vitamin A.

#### ARE VITAMIN A INTAKES EXCESSIVE?

One of the co-authors of the Cannell paper conducted a study, which has not yet been published, showing that four percent of obese Wisconsin adults had blood markers indicating their livers were overloaded with vitamin A.<sup>1</sup> Vitamin D mobilizes vitamin A from the liver and increases its utilization,<sup>24</sup> so vitamin A overload is most likely to occur in people with low vitamin D status. At least half of all Americans and over 80 percent of African Americans have low vitamin D levels.<sup>41</sup> Morbidly obese patients

are three times more likely to have low vitamin D levels than non-obese controls.<sup>42</sup> Thus, finding markers indicating vitamin A overload is more likely to reflect the poor vitamin D status of most Americans and the exceptionally poor vitamin D status of obese Americans than it is to reflect a supposed excess of vitamin A in the standard American diet.

Vitamin A deficiency has been associated with a number of prevalent diseases, including childhood asthma,<sup>43,44</sup> kidney stones formed spontaneously from calcium phosphate,<sup>9</sup> and fatty liver disease.<sup>45</sup> Vitamin A in doses above those needed to prevent deficiency protects against oxidative stress,<sup>46</sup> kidney stones formed from dietary oxalate,<sup>28</sup> and exposure to environmental toxins.<sup>47</sup>

The vitamin A RDA is 3,000 IU for adult

#### GETTING TECHNICAL WITH VITAMINS A AND D

Vitamins A and D are both precursors to nuclear hormones, which are molecules that bind to receptors, travel into the nucleus, bind to DNA of specific target genes, and control the expression of those genes. Vitamin A is activated in a two-step process in which it is converted first from retinol into retinaldehyde and then from retinaldehyde into all-*trans* retinoic acid (ATRA). Similarly, vitamin D is activated in a two-step process in which it is converted first from cholecalciferol to calcidiol and then from calcidiol to calcitriol. Retinoic acid binds to several types of retinoic acid receptors (RARs) while calcitriol binds to the vitamin D receptor (VDR).<sup>31</sup>

In order to bind to DNA and control gene expression, RARs and the VDR must partner up with another receptor called the retinoid X receptor (RXR). These partners bind to each other to form a two-unit receptor complex called a dimer. Since the two receptors that form the dimer are different from one another, the complex is called a heterodimer and the process of binding together is called heterodimerization. The RXR heterodimerizes with many other nuclear receptors as well, such as the thyroid hormone receptor and the steroid hormone receptors. The heterodimers then travel to the nucleus, bind to DNA, and recruit either coactivators that help a gene start making a protein or corepressors that stop the gene from making a protein.<sup>31</sup>

Researchers agree ATRA must bind RAR and calcitriol must bind VDR for this process to begin, but they debate whether the RXR is simply a “silent partner” or whether it too must be bound by a hormone. A second derivative of vitamin A called 9-*cis*-retinoic acid (9CRA) is the hormone that binds to and activates the RXR in test tube studies, but some scientists have claimed that 9CRA does not exist in the live animal. In 1992, Heyman and colleagues isolated 9CRA from animal tissues,<sup>32</sup> while other researchers using different techniques more recently were unable to find any.<sup>33,34</sup> Large doses of vitamin A produce high tissue concentrations of 9-*cis*-4-oxo-13,14-dihydro-retinoic acid, a probable breakdown product of 9CRA.<sup>35</sup> Hormones that bind to the heterodimeric partners of the RXR such as activated vitamin D,<sup>24</sup> which binds the VDR, and clofibrate, which binds to PPAR- $\alpha$ ,<sup>36</sup> decrease levels of vitamin A stored in the liver. Rosiglitazone, which binds to PPAR- $\gamma$ , another RXR heterodimeric partner, ramps up the activation of retinol to ATRA.<sup>37</sup> ATRA spontaneously converts to 9CRA when exposed to the endoplasmic reticulum, one of the organelles present within every cell.<sup>38</sup> Taken together, these findings suggest that vitamin D and other signaling compounds whose receptors heterodimerize with the RXR mobilize stored vitamin A from the liver and increase its conversion to 9CRA so that it can be used in cooperative signaling processes.

In 2006, researchers from Spain showed that 9CRA must bind to the RXR in order for the calcitriol-VDR-RXR complex to bind to DNA and control gene expression.<sup>39</sup> More recently, the same group showed that when calcitriol binds to the VDR, it recruits corepressors that will cause it to suppress the expression of its target genes, but when 9CRA binds to the complex, the corepressors are released, allowing it to activate the expression of its target genes.<sup>40</sup>

In plain English, this means that vitamins A and D are not antagonists but actually cooperate with one another to carry out their functions.



males and just over 2,300 IU for adult females. These values are based on studies conducted in the general population, which is now recognized to be largely deficient in vitamin D. Most traditional diets likely supplied more vitamin A than the current RDA. The Greenland Inuit diet in 1953 supplied an average of 30,000 IU per day.<sup>48</sup> Other traditional diets where most of the vitamin A came from dairy products likely provided lower levels. Price used three-quarters of a teaspoon of high-vitamin cod liver oil per day and alternated between muscle meats and organ meats in the stews he used for his tooth decay reversal program. Together with whole milk, butter, and carotenes from vegetables, his program probably provided over 10,000 IU of vitamin A per day, although this was to growing children who were recovering from deficiency.

Regardless of whether or not the ideal intake of vitamin A is much higher than the RDA, over a quarter of Americans consume less than half the RDA.<sup>49</sup> If people eating diets this low in vitamin A begin supplementing with vitamin D rather than cod liver oil, the danger of such a low

intake of vitamin A may be greatly increased.

#### COD LIVER OIL SUPPLIES A BALANCE

Cod liver oil should not be seen as a cure-all or as a universal supplement, but neither should cod liver oil be avoided out of fear. It is a valuable and convenient way to obtain vitamins A and D together with omega-3 fatty acids—all nutrients most Americans require in greater levels than they currently obtain through their diets.

Does cod liver oil contain the ideal ratio of vitamins A and D? It is possible that there is an ideal dietary ratio of the two vitamins, but this is not necessarily the case. The body highly regulates its conversion of each vitamin to the active form, and is capable of storing the portion it chooses not to activate at any given time. It is more likely that there is a broad range of acceptable dietary ratios and that harm comes when one or the other vitamin is in unusually short supply.

If there is an ideal ratio, it will vary from person to person and from season to season. People with darker skin may need extra vitamin D from fatty fish or vitamin D supplements year round, and others may need extra vitamin D only in the winter. People should use recommendations as guidelines to help them experiment and find the amount of cod liver oil that works best for them, knowing that it has been a safe and valuable health-promoting food that for centuries has nourished both young and old.



#### VITAMIN A AND INCREASED MORTALITY

Cannell cited a meta-analysis in his journal article and December newsletter showing that “vitamin A supplements” increased the total mortality rate by 16 percent.<sup>1,2</sup> While a typical meta-analysis pools together the results of many different studies, this one examined the effects of a large number of antioxidants, and only one section dealt with vitamin A. By the time Mercola published the claim on his web site, “vitamin A supplements” had been expanded to include “vitamin A supplements in cod liver oil.”<sup>3</sup> The original meta-analysis, however, obtained this figure by pooling together the results of only two studies on vitamin A given alone,<sup>50</sup> neither of which even mentioned cod liver oil.

The first study was a double-blind intervention trial in which researchers administered either 25,000 IU of vitamin A or a placebo to over 2,000 subjects at moderate risk for skin cancer for over four years.<sup>51</sup> Vitamin A supplementation did not affect the risk of basal cell carcinoma, but it reduced the occurrence of squamous cell carcinoma by over 25 percent. The median age of the subjects was 63 and over two thirds of them were male; consequently, the majority of the subjects died by the end of the study. After 55 months, 35 percent in the vitamin A group and 36 percent in the placebo group were still alive. The authors did not claim that vitamin A had any effect on mortality.

In the other study the researchers provided either a single dose of 200,000 IU of vitamin A or a placebo to just over 100 elderly nursing home residents.<sup>52</sup> They then observed the incidence of respiratory infections over the following 90 days. Vitamin A had no effect. Four patients in the vitamin A group died while only two patients died in the placebo group. The patients in the vitamin A group, however, were on average five years older than those in the placebo group and thus much more likely to die of old age. The authors did not claim that vitamin A had any effect on mortality.

Meta-analyses can often help us see the big picture by examining the totality of the evidence. By pooling together huge amounts of data they often achieve the statistical power necessary to verify associations between different factors that smaller studies would miss. But they also have drawbacks. Studies may be lumped together when they differ in quality or were performed in different contexts. Much of the background information on each study can be lost. In this case, citing a meta-analysis simply serves to obscure the basic facts about two small studies that offered no useful information about the effect of vitamin A on mortality at all.

## POTENTIAL DANGERS OF VITAMIN D

Dr. John Cannell of the Vitamin D Council argues that humans do not begin storing vitamin D in fat and muscle tissue until blood levels of 25-hydroxyvitamin D (also known as calcidiol and abbreviated 25(OH)D) reach 50 nanograms per milliliter (ng/mL) and that below this amount the enzyme that converts vitamin D to calcidiol for storage in the blood suffers from chronic “starvation.”<sup>1</sup> On his Vitamin D Council web site, Cannell now recommends blood levels of calcidiol between 50 and 80 ng/mL<sup>53</sup> and supplementation of 1,000 IU for every 25 pounds of bodyweight.<sup>2</sup> For someone weighing between 150 and 175 pounds, he thus recommends between 6,000 and 7,000 IU per day from all sources. Cannell and his co-authors consider vitamin D to be perfectly safe for most people in amounts up to 10,000 IU per day—even while simultaneously recommending people avoid supplementing with vitamin A.<sup>1</sup> In reality, however, these amounts of vitamin D could be dangerous when combined with low intakes of vitamins A and K<sub>2</sub> as occurs in the general population.

Cannell and colleagues cite two studies in their journal article justifying the statement that storage of vitamin D begins at 50 ng/mL.<sup>54,55</sup> The first of these was a preliminary report published in 2007, while the second was a much more thorough and consequently more accurate report published in 2008.<sup>56</sup> The final report concluded that vitamin D is completely converted to calcidiol when serum calcidiol levels are below 35 ng/mL and inputs from diet and sunshine combined are below 2000 IU per day.<sup>55</sup> Above these levels, the conversion of vitamin D to calcidiol drops to an average of 43 percent and much of the remaining vitamin D is stored in body tissues, most likely in adipose tissue. The vitamin D appears to be released from storage as blood levels of calcidiol decline. The authors observed that other studies have shown calcium absorption to be maximized and serum parathyroid hormone (PTH, a promoter of bone resorption) to be maximally suppressed at calcidiol levels of 30-34 ng/mL, in close agreement with their own study.

In support of the contention that daily vitamin D intakes of up to 10,000 IU are perfectly safe for most people, Cannell and colleagues cite a risk assessment published in 2007 that used abnormally high blood and urine calcium levels as its indicator of potential toxicity.<sup>57</sup> Clinical vitamin D toxicity, according to these authors, occurs when calcidiol levels exceed 600 ng/mL and is accompanied by pain, conjunctivitis, anorexia, fever, chills, thirst, vomiting and weight loss. If clinical vitamin D toxicity is the only concern, 10,000 IU of vitamin D per day is likely to be harmless. Evidence suggests, however, that vitamin D can begin causing less acute adverse effects at much lower levels when intakes of vitamins A and K<sub>2</sub> are inadequate. This is of especial concern because over one quarter of Americans already consume less than half the RDA for vitamin A,<sup>49</sup> and blood markers for inadequate vitamin K<sub>2</sub> status are universally present in the general population.<sup>58</sup>

A recent double-blind, placebo-controlled study found that 400 IU of vitamin D and 1,000 mg of calcium increased the risk of kidney stones by 17 percent.<sup>27</sup> As described on page 21 of the main text, the vitamin D may have contributed to stone formation by increasing the demand for vitamin A in an elderly population counseled to avoid intakes of vitamin A above the RDA. A 2001 study found that males in South India with calcidiol levels over 89 ng/mL had three times the risk of heart disease as those with lower calcidiol levels.<sup>59</sup> Vitamin D increases the demand for vitamin K<sub>2</sub> as well as vitamin A, and deficiency of vitamin K<sub>2</sub> contributes to calcification of all of the soft tissues, including the kidneys, causing kidney stones, and the arteries and aortic valves, leading to heart disease.<sup>60,61</sup> If the association between calcidiol levels and heart disease represents true causation, which it certainly could, it suggests that calcidiol levels begin contributing to soft tissue calcification at levels much lower than 89 ng/mL, at least in the absence of adequate levels of its partner vitamins, A and K<sub>2</sub>.

In the third National Health and Nutrition Examination Survey, calcidiol levels of 35 ng/mL were associated with high bone mineral density (BMD) among all ages and races. In adults over 50, however, the association above this point was remarkably inconsistent. In whites, it kept increasing until 50 ng/mL and leveled off thereafter. In Mexican Americans, it began declining after about 40 ng/mL. In blacks, BMD began declining after 35 ng/mL and sharply declining after 50 ng/mL. Whether these differences are due to genetics, differential intakes of other fat-soluble vitamins, differential use of anticoagulants or other drugs that interact with fat-soluble vitamin metabolism, or other unknown factors, we do not know. At this stage of the game, however, it makes much more sense to emphasize the importance of obtaining calcidiol levels between 30 and 40 ng/mL, levels where we have the most solid evidence of benefit and the least indication of harm.

Average blood levels of calcidiol in people with abundant exposure to sunshine range from 40 to 65 ng/mL.<sup>62</sup> These levels are most likely perfectly safe when intakes of vitamins A and K<sub>2</sub> from organ meats and animal fats are just as abundant as the sunshine. The research cited above, moreover, suggests that vitamin D would be stored in adipose tissue at these levels and released when calcidiol levels drop, as they would during the winter in temperate climates—an added bonus for those who wish to obtain their vitamin D from foods like cod liver oil and fatty fish rather than from supplements during the winter. People with dark skin, however, should be careful to make sure that their calcidiol levels stay above 35 ng/mL year-round and use a supplement if necessary. Maintaining levels of 50-80 ng/mL, on the other hand, might be not only unnecessary, but dangerous in the context of a standard diet deficient in the other fat-soluble vitamins.

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# Update on Cod Liver Oil Manufacture

## Returning to Traditional Production Techniques for the Quintessential Sacred Food

By David Wetzel

**W**hen I began to import cod liver oil, in order to sell it along with the high-vitamin butter oil I was manufacturing, I felt it imperative to go to Iceland and Norway to visit the various cod liver oil factories there. At that time, most cod liver oil in America was imported from Scandinavia, with a small amount coming from China. What I learned is described in an article published in the Fall, 2005 issue of *Wise Traditions* and posted at [westonaprice.org](http://westonaprice.org).

To summarize my findings, all the factories were engaged in industrial processing of cod liver oil, which involved alkali refining, bleaching, winterization and deodorization. Each of these steps, especially the deodorization, removes some of the precious fat-soluble vitamins, especially vitamin D. The resulting products can be divided into four categories.

First is a fully cleaned and deodorized product with nothing added back in. Products with very low levels of vitamin A with virtually no vitamin D are of this type. To obtain meaningful levels of vitamins A and D from these products would require consuming many tablespoonfuls—a practice that is not only difficult to achieve, especially for children, but poses the danger of supplying an excess of polyunsaturated fatty acids.



The second type is a non-deodorized product with a fair amount of natural vitamin A and D left in. According to the company website, Garden of Life cod liver oil falls in this category. It contains 500-1500 IU vitamin A per gram (2500-7500 IU per teaspoon) and 100-175 IU vitamin D per gram (500-875 IU per teaspoon).

The third type is the fully cleaned and deodorized cod liver oil with synthetic vitamins added back in. Most of the cod liver oils on the market fall into this category. (You'll need to check with the individual manufacturer to verify whether their cod liver oil falls in this category.) These vary in dose from about 1100 to 4600 IU vitamin A per teaspoon and 180 to 460 IU vitamin D per teaspoon. One company, Nordic Naturals, now adds supplemental vitamin D to their Nordic Naturals Vitamin D brand, to compensate for the vitamin D removed during processing.

The final category is the fully cleaned and deodorized product with natural vitamins added back in. This is the so-called high-vitamin cod liver oil, standardized at 2340 IU vitamin A per gram (11,700 IU per teaspoon) and 234 IU vitamin D (1170 IU per teaspoon). This is the type of cod liver oil I imported into the U.S. and sold under the Blue Ice label; it is also sold by Radiant Life and Dr. Ron's UltraPure.

#### HANDWRITING ON THE WALL

With only one factory still engaging in the relatively expensive process of adding natural vitamins back into processed cod liver oil, it was

easy to see the handwriting on the wall. The odds that this factory would soon fall in with the others and start adding synthetic vitamins instead of natural ones were great. I was also concerned that we had no cod liver oil manufacture in the U.S. What would happen if FDA found some reason to prohibit imports? And finally, I was offended by the industrialization of a sacred food. I now fully understand that today's fish oil industry has committed the same crime to a historically sacred food as the dairy industry has committed on milk.

As predicted, the factory in question ceased using natural vitamins early this year. When my current stock runs out, this relatively natural high-vitamin cod liver oil will no longer be available.

#### RETURN TO OLD METHODS

Fortunately, I had anticipated this eventuality several years ago when I began contemplating manufacturing cod liver oil myself. I wanted to produce a cod liver oil that contained only natural vitamins and, if possible, do it without the industrial alkali and deodorizing treatments. I also wanted to produce cod liver oil in the traditional way, which is by fermentation. I had read that in Roman times, long before refrigeration, fish guts were placed in a barrel with sea water and allowed to ferment. What came out the bottom of the barrel was a watery fermented fish sauce called *garam*, widely used as a seasoning (probably the precursor of Worcestershire sauce). The oil floated to the top and was collected carefully.

With only one factory still engaging in the relatively expensive process of adding natural vitamins back into processed cod liver oil, it was easy to see the handwriting on the wall.

#### COD LIVER OIL IN BRITAIN

"The British desperately needed not only food but cod-liver oil. They had a history of being great cod-liver oil enthusiasts. For centuries before it was refined for ingestion, a blackish residue from livers left in barrels was used as a balm, as it still is in West Africa. In the 1780's British medicine decided that cod-liver oil was a remedy for rheumatism, then a catchall diagnosis for aches and pains.

"During the nineteenth century, it was used to treat tuberculosis, malnutrition, and other poverty-related diseases. Between the wars, cod-liver oil became a major business in Hull and was used both for livestock and humans. During World War II, the British Ministry of Food, concerned about the effect of a tightened food supply on health, provided free cod-liver oil for pregnant and breast-feeding women, children under five, and adults over forty.

"School nurses forcefully administered spoonfuls of the vile-tasting liquid, while adults were often given it with orange juice. All this oil came from Iceland, where it contributed to a secondary Icelandic trade that remained and prospered after the war.

"The British government, believing that the oil had produced the healthiest children England had ever seen, despite bombings and rationing, continued the program until 1971. It was finally discontinued because people refused to take the oil. Icelanders, however, still take it, as do many Americans."

Source: Mark Kurlansky, *Cod: A Biography of the Fish that Changed the World*, pages 154-155.

This fermented fish oil was undoubtedly the civilized world's first health elixir, reserved for the soldiers and nobility. It is said that the soldiers refused to march without their daily ration of liquidum.

South Sea Islanders put great store in shark liver oil—enduring considerable danger to procure the sharks even though other, less-dangerous-to-catch seafood was plentiful. To prepare the oil, they put the livers inside the leathery stomachs of the shark and hung them in the trees for several months. As it ferments, the oil gradually comes out of the livers and fills the hanging stomachs! The yield is about one liter per shark.

A description of traditional European cod liver oil processing is provided by F. Peckel Möller in an article entitled “Cod-Liver Oil and Chemistry,” published in London, 1895. “The primitive method. . . is as follows. As soon as the fishermen reach the Voer [pier], and finish separating the livers and roes, they sell the fish and carry the livers and roes up to their dwellings. In front of these are ranged a number of empty barrels into which the livers and roes are placed, separately of course. The fishermen do not trouble to separate the gall-bladder from the liver, but simply stow away the proceeds of each day's fishing, and repeat the process every time they return from the sea, until a barrel is full, when it is headed up and a fresh one commenced.

This is continued up to the end of the season, when the men return home, taking with them the barrels that they have filled. The first of these, it may be noted, date from January, and the last from the beginning of April, and as on their arrival at their homes the fishermen have many things to arrange and settle, they seldom find time to open their liver barrels before the month of May. By this time the livers are, of course, in an advanced state of putrefaction. The process of disintegration results in the bursting of the walls of the hepatic cells and the escape of a certain proportion of the oil. This rises to the top, and is drawn off.

“Provided that not more than two or three weeks have elapsed from the closing of the barrel . . . to its being opened, and if during that time the weather has not been too mild, the oil is of a light yellow colour, and

is termed raw medicinal oil. As may be supposed, however, very little oil of this quality is obtained. Indeed, as a rule there is so little of it that the fishermen do not take the trouble to collect it separately. Nearly all the barrels yield an oil of a more or less deep yellow to brownish colour: this is drawn off, and the livers are left to undergo further putrefaction. When a sufficient quantity of oil has again risen to the surface, the skimming is repeated, and this process is continued



Shark stomachs containing shark livers from Tahiti, hanging in the trees to ferment. Photo courtesy Kay Baxter.

until the oil becomes a certain shade of brown. The product collected up to this point is known as pale oil. . . . By this time the month of June has generally been reached, and with the warmer weather the putrefaction is considerably accelerated, and the oil now drawn off is of a dark brown colour, and is collected by itself. It is rather misleadingly called light brown oil. . . . When no more can be squeezed out, the remainder is thrown into an iron caldron and heated over an open fire. By this process, the last rests of

#### FROM A 1893 PHYSICIANS' HANDBOOK

*The Cottage Physician*, published 1893 was “prepared by the best physicians and surgeons of modern practice.” It contains an introduction by George W. Post, AM, MD, Professor of the Practice of Medicine in the College of Physicians and Surgeons, Chicago, Illinois.

According to the handbook, “Cod liver oil is obtained from the livers of the common cod fish. There are three varieties according to the mode of extraction, known as pale, light brown and dark brown. . . the pale is the most palatable. . . as a remedy for consumption and other constitutional diseases of an exhausting nature, cod liver oil takes high rank. It is really more of a food than a remedy, its power of producing fat is well known. In scrofulous diseases generally, hip joint diseases, white swelling of the knee, caries of the spine, lumbar and psoas abscesses, rickets, etc., cod liver oil will nearly always do good. It is also useful in skin diseases, some forms of eye troubles and syphilis. Young children who have grown weak from diarrhoea in summer, and who seem unable to assimilate the food given them, can often be saved by rubbing cod liver oil into their skin. The common dose of cod liver oil is from one to two tablespoons, three times daily.”

oil are extracted from the hepatic tissues, which float about in the oil like hard resinous masses. . . In order to fully carry out the extraction, it is necessary to raise the temperature considerably above the boiling point of water. . . . The oil prepared in this way is very dark, almost black, and with a greenish fluorescence in reflected light. In thin layers and by transmitted light it shows a brown colour, and it is therefore termed brown oil. . . ”

The writer then describes processing methods introduced to Norway in the 1850s by Peter Möller, which resulted in a much purer, consistently light-colored oil made from fresh, not putrefied livers, considerably more palatable in terms of taste and smell. He notes, however, that the “brown oils are actually used to a certain extent for medicinal purposes at the present day.”

After reading this passage, and foreseeing the demise of the last natural cod liver oil from Europe, I was determined to produce a light brown fermented cod liver oil according to the old methods.

## PRODUCTION OF FERMENTED COD LIVER OIL

But how to do this on a large scale? That was the challenge I was facing. It has taken six dedicated years of work to get to the point of offering the fermented cod liver oil to the community. The first challenge was to figure out a way to ferment the livers in large vats; and the second was to find the livers.

The method we have developed processes the cod liver oil through a proprietary non-heating natural lacto-fermentation. The process can take up to six months and is carefully handled throughout the process to ensure the oil is clean and natural. Industrialized fish oils, including cod liver oil, are heavily carbon filtered and heated after rendering or extracting. We have developed a unique cleaning process that does not use carbon filters or heat. Both heat and carbon filters remove flavors, odors, colors and nutrients, and also denature the fragile unsaturated fatty acids such as DHA and EPA.

Our cod liver oil “factory” is a large building in north central Nebraska. We prefer to call it our cod liver oil green house. The building

was built to store potatoes, but was gutted by fire soon after completion. It had been sitting empty all these years and came on the market at just the time we were looking for a facility, and became available to us at virtually no cost. We cleaned it out, washed and painted the walls, painted it and installed a new steel roof. The building currently holds six fermenting vats of just under 10,000 gallons each.

The roof is a solar roof and we use natural sunlight for heat and light—we have lots of sunlight in Nebraska. Our next project is to start sun drying fish eggs in a part of the building.

My other task was to find the livers. The search began several years ago—I picked up the phone and made many cold calls, most of which got me nowhere. People said I was crazy to want to purchase thousands of pounds of cod livers. Finally I met a Russian who took an interest in the project and found the livers for me—in Russia, they know about cod livers.

The first load of 10,000 pounds, which we used for experimental purposes, arrived two years ago. The first load for commercial production—40,000 pounds of frozen cod livers—arrived in a tractor trailer—packed into pallets. Future deliveries will come by railroad!

## TESTING COD LIVER OIL

Our next challenge was to test the oils for nutrient content. Of course, we do the standard tests for pathogens, PCBs and heavy metals. We do this to every batch, and our batches are small, so the number of tests per gallon of product is substantially greater than typically carried out in the industry. The heavy metal levels are “not detectable” and the PCBs meet WHO .090 ppm standards, the limit to which these compounds can be measured.

Measuring nutrient levels turned out to be complicated. When you test industrial cod liver oils to which have been added synthetic vitamins A and D, you get graphs with well defined peaks, indicating the presence of vitamin A or D. But the tests for our fermented cod liver oil came back showing a jagged line, with numerous peaks, no matter which method we used, and these peaks did not always match up with synthetic control peaks. The lab technicians were as surprised as we were. Their explanation was that this natural

We have never found any contaminants in our naturally produced fermented cod liver oil.



oil contains many isomers of vitamins A and D. We have to add the peaks to get some idea of the total. We currently receive a wide range of nutrient values depending on the laboratory test method and interpretation of the analysis.

In general, the test totals are substantially higher for vitamin D than one would find in any industrialized cod liver oil. Whereas the high-vitamin cod liver oil contains almost 12,000 IU vitamin A and 1200 IU vitamin D per teaspoon (five milliliters), the fermented oil contains 4,000 - 9,000 IU vitamin A per teaspoon and 3,000 - 4,000 IU vitamin D. The vitamin levels likely test lower because we are only testing for retinol and palmitate, not for all the other vitamin A isomers.

Anticipating increasingly stringent controls

on supplements, we have decided to label the fermented cod liver oil as a food—which it certainly is. Thus the label will contain a suggested dose and list vitamin A as a percentage of the RDA. There will be no mention of vitamin D on the label.

The suggested dose will be about 2 - 2.5 ml or about 1/2 teaspoon for adults, double for pregnant and nursing women and those under stress, and half that for children. Some practitioners are giving larger doses to treat serious health problems. The experience of Dr. Rosann Volmert (see page 31) indicates that best results are obtained using a combination of fermented cod liver oil and high-vitamin butter oil—a confirmation of Dr. Price's own experience.

Since this product is a fermented one, we surmised that it would contain vitamin K<sub>2</sub> as well as vitamins A and D. What we found was a range of quinones, which include the various forms of K<sub>2</sub>. The fermentation increases the total quinone count by 700-1600 percent compared to readings prior to the fermentation process. We have not identified the specific quinones but I suspect that the K<sub>2</sub> category and Co-enzyme Q family will

## FATHER JOHN'S MEDICINE

Father John O'Brien was an Irish-born priest who came to America before his ordination. He served in Virginia and Newburyport, Massachusetts before coming to the mill city of Lowell in 1848. It was the time of massive Irish immigration with each newcomer seeking employment and a new life. The good pastor understood the balance that was needed for these people who were caught between two worlds, the need to retain their own identity as Irish men and women, and that of identifying themselves as Americans. It was during his pastorship that the Irish became an active and prominent factor in Lowell's population.

Tradition has it that Father John was taken ill in 1855. He made his way to the pharmacy of Carleton and Hovey on Merrimack Street to get something for relief. He was given a tonic that was composed of cod liver oil, which had a licorice taste. Unlike many other medicines of its time, the prescription contained no alcohol. It worked so well for the priest that he began recommending folks to visit the apothecary and ask for "Father John's Medicine." From this, a legend was born.

Soon the shop was packaging the medicine for sale. Father John was given a small stipend for using his name and picture. It was agreed that anyone Father John sent to the shop personally would not have to pay for the medicine. The pastor was always looking after his flock. For many years the company was overseen by the Donehue family. The generosity of the management to its employees was well known, even so far as keeping workers long past the need to, just so an employee could have a job. Within 50 years the medicine was known far and wide. Early literature claimed it worked on "consumption, grip, croup, whooping cough, and other diseases of the throat," which it most certainly did. Pamphlets given to customers stated, "All disease is due to a run-down condition of the body, unhealthy tissue, blood poisoned with impurities, and general weakness." Guarantees were made by the manufacturer of its restorative powers. The potion was sold in numerous countries. Pharmacies built huge displays in their windows advertising the product.

The factory building was a model of production. Every process from manufacturing, to bottling, to packaging, to advertising was done in that one spot. Freight cars pulled in back of the building to ship cartons to parts unknown. A second factory was built in Montreal, Canada. In the 1970s the company was sold. The building was made into an elderly housing complex, and the product no longer made its home in Lowell. It continued to be produced by the Oakhurst Company in New York for a number of years. The brown-orange bottle with the trusting face of Father John O'Brien was a sign of assurance to people for 140 years.

Source: <http://library.uml.edu/clh/Fath/Fath1.Html>





## BENEFITS OF FERMENTED COD LIVER OIL AND BUTTER OIL ARE MANY AND VARIED

Rosann Volmert, DO

I am a family practice physician in Pasadena, California. I have been using Green Pasture's fermented cod liver oil and high-vitamin butter oil with my patients for only nine months now, and I have noticed dramatic results. The most dramatic of these is the effect the oils have had on lowering blood pressure in patients with hypertension. This effect has enabled several of my patients to lower their dose of prescription medication, and hopefully eliminate it all together. In addition, I have found that patients have lost weight and lowered their blood sugars without any change in diet or activity. I have also had reports of less stiffness and pain of joints in arthritic and temporomandibular joint dysfunction patients, improvement in eczema, elevated mood in depressed patients, lessening of symptoms of PMS and increased energy and overall well being. I have a very small practice so these testaments are drawn from a few patients here and there, but they are indicative of tremendous benefits for a large number of people.

All of this has really illustrated for me the huge nutritional deficiency people have been suffering from due to a fear of cholesterol. For many years now a fear of cholesterol-containing foods has kept people from consuming healthy amounts of butter, eggs, cheese, milk, animal fats and many other foods rich in nutritious fats and fat-soluble vitamins. It is no wonder that the vitamin D level is pitifully low in 95 percent of my patients. Due to continued bias against cholesterol-rich foods, I am at times unable to convince my patients to eat more of these foods. However, I have been successful in getting them to take the Green Pasture's oils. This is mainly because they are easy to take, and only small amounts are needed. Using these products has enabled me to give back to my patients the fat-soluble nutrients their bodies have been lacking for some time now, and they are feeling better for it.

Because Green Pasture's fermented cod liver oils and butter oils contain such a wide variety and potency of fat-soluble nutrients, they not only enhance my patients' lives, but simplify them as well. Patients are able to take much less cod liver oil than with their old brand and eliminate the need for additional supplements, which are lacking in other brands. (I recommend 3 ml or 3/4 teaspoon fermented cod liver oil and 2.5 ml or 1/2 teaspoon butter oil.) When I introduce them to the oils, I ask them to bring in all the supplements they are taking. I show them that with taking this oil combo they can eliminate one-half to two-thirds of their other supplements, and sometimes all of them. Often my patients are taking so many different types of synthetic vitamins, they literally walk in with a big box full of them. The reason they are taking so many is because each bottle usually contains only one or maybe a couple types of synthetic vitamins or nutrients. Obtaining nutrients through natural food sources allows them a more potent and broader range of nutrition, thus eliminating the need for boxes of bottles and huge dosing.

One of the nutrients found in cod liver oil is vitamin D. I found that it took just 2,800 IU of the vitamin D contained in Green Pasture's fermented cod liver oil in combination with the butter oil to raise one patient's serum 25-hydroxy vitamin D level from 12.6 ng/ml to 82.3 ng/ml in just three months. According to the guidelines for supplementing synthetic vitamin D<sub>3</sub> it would have taken 7,000 IU to achieve this and without all the benefits of the many other fat-soluble nutrients found in these oils. What a testament to the power of nutrients in their natural form!

I am finding similar results in other patients. Several have raised their vitamin D levels from the teens or low twenties into the forties within several months using the combination of fermented cod liver oil and high-vitamin butter oil alone, in easy-to-take capsule form, and without any other vitamin D supplementation. Since the patients are also getting substantial amounts of vitamin A with this regimen, it is difficult to conclude that vitamin A interferes with vitamin D assimilation as critics of cod liver oil have claimed.

be important components within the quinone nutrients. The fermented cod liver oil tests at 4-8 mg per gram, compared to the high-vitamin butter oil at 23-25 mg per gram. Quinone testing presents a fertile field for future research.

### TAKING COD LIVER OIL

Most of those who have consumed the fermented cod liver oil report that it is not as fishy tasting as the industrialized varieties. However, because it is a lacto-fermented product, it can leave a slight sting on the back of the throat,

which some find bothersome. It is best to take the oil mixed with a small amount of warm water, swallowing quickly. Adding something acidic such as lemon juice, apple cider vinegar or kombucha may help with the tingling at the back of the throat. Others report good results adding a little honey or maple syrup or "chasing fat with fat" by following the cod liver oil with cream, egg yolk or butter. Another way to minimize the throat-tingle effect is to take it during or after a fatty breakfast.

### NEW PRODUCTS

Our current batch of fermented cod liver oil will come in plain, cinnamon and liquorice flavors, as well as in one-milliliter capsules. In the future we will offer Viking strength (unflavored), Mediterranean (garlic,

## WHAT ABOUT FISH AND KRILL OILS?

Fish oil and krill oil, sold as supplements to provide omega-3 fatty acids, are by-products of the fish and krill meal industries. They are produced in large factories humming with the noise of conveyer belts, grinders, separators, extractors and dryers. We provide two descriptions of fish oil manufacture and one of krill oil manufacture, and let our readers decide whether or not they want to consume these products. Remember that omega-3 fatty acids are very fragile and highly subject to damage when exposed to heat and oxygen.

**FISH OIL MANUFACTURE, METHOD ONE:** “The bulk of the world’s fish meal and oil is today manufactured by the wet pressing method. The main steps of the process are cooking for coagulation of the protein thereby liberating bound water and oil, separation by pressing of the coagulate yielding a solid phase (presscake) containing 60-80% of the oil-free dry matter (protein, bones) and oil, and a liquid phase (press liquor) containing water and the rest of the solids (oil, dissolved and suspended protein, vitamins and minerals). The main part of the sludge in the press liquor is removed by centrifugation in a decanter and the oil is subsequently removed by centrifuge. The stickwater is concentrated in multi-effect evaporators and the concentrate is thoroughly mixed with the presscake, which is then dehydrated usually by two-stage drying. The dried material is milled and stored in bags or in bulk. The oil is stored in tanks. . . . An important prerequisite for efficient [oil] separation is high temperature, implying that the press liquor should be reheated to 90°-95°C before entering the centrifuges. This applies to sludge removal as well as to separation of oil and water. . . Oil polishing, carried out in special separators, is the final refining step done at the factory before the oil is pumped into storage. Polishing is facilitated by using hot water, which extracts impurities from the oil and thus ensures stability during storage. . . . good temperature control is required; the temperature of the feed should be maintained at about 95°C, but not less than 90°C” (*The Production of Fish Meal and Oil*, <http://www.fao.org/DOCREP/003/X6899E/X6899E00.HTM>).

**FISH OIL MANUFACTURE, METHOD TWO** (We are not making this up!): “Phospholipid-deprived fish oil is obtained by mixing fish oil with water and a monosodium glutamate (MSG) by-product with stirring, fermenting the mixture in the presence of urea, processing the mixture with steam, and centrifuging the mixture to separate water and phospholipids from the fish oil. Further steps are neutralizing the separated fish oil with NaOH [caustic lye], washing and drying the washed fish oil in vacuum; mixing the dehydrated fish oil with powders of earthworm excrement, subjecting the mixture to reaction at least 30 °C or higher for 0.5-1 hour, bleaching the fish oil absorbed into the earthworm excrement powders by use of activated clay, and filtering the bleached fish oil through a filter, and deodorizing the bleached and filtered fish oil under a steam atmosphere in a high vacuum, deodorizing apparatus, cooling and filtering the fish oil and packaging it into a closed vessel. The refined fish oil is significantly improved in acid value and peroxide value” (Method for Manufacturing Refined Fish Oil, <http://www.wipo.int/pctdb/en/wo.jsp?wo=2001042403>).

**KRILL OIL MANUFACTURE:** Frozen Antarctic krill are crushed and the lipids and proteins are extracted using acetone. Following extraction, the krill proteins and lipids are filtered through an organic solvent-resistant filter under reduced pressure to enable physical separation of lipids and proteins. Excess acetone is evaporated and water is separated from the oil. The oil is subjected to additional filtration and purification to remove impurities and is packaged in a modified nitrogen-containing atmosphere and stored. The notifier provides product specifications for krill oil, including specifications for fatty acids, total phospholipids, esterified astaxanthin, saturated fatty acids, and trans-fat (<0.1 percent). Specifications also include limits on residual acetone (<10 milligrams per kilogram (mg/kg), lead (<0.1 mg/kg), mercury (<0.1 mg/kg), arsenic (<0.1 mg/kg), cadmium (<0.1 mg/kg), pesticides, and microbiological contaminants” (<http://www.cfsan.fda.gov/~rdb/opa-g242.html>).

oregano, pepper oil and unrefined salt), salty cod (unrefined salt) as well as a gel product in several flavors that can be eaten off a spoon. We will also offer a cod liver oil-butter oil combo in gel as well as capsules. The products will be available through Green Pasture Products and also through several distributors, including Radiant Life, Dr. Ron’s UltraPure and others in the U.S., as well as in Canada, Australia, New Zealand, the UK and the European Union.

Finally, we will be offering skate liver oil in capsules and possibly liquid. Our Russian supplier swears by the many benefits of skate oil.

We are also exploring different types of packaging. Currently the products are packaged in green glass from China. We are looking into recycled PETE plastic products that do not leach oils, and which are made in the U.S. This keeps our product completely domestic and also cuts down on shipping costs.

Other products in the works: dried fish eggs and an all-natural fish sauce. It’s been quite an adventure. Stay tuned! ☺☺

## SOME COD LIVER OIL TESTIMONIALS

After about two weeks taking a one-half teaspoon high vitamin cod liver oil I noticed that my hands were not cracked anymore. I have had dry skin my whole life and in winter they will crack and bleed. My mother is 99 years old and has had skin cancer on her forehead. They have burned it off several times but it always bleeds and never really healed. I got her to take the cod liver oil so she wouldn't get a cold. Incredibly, her forehead has now healed up. WL

Since I started using fermented cod liver oil in my naturopathic practice, I have two completely resolved cases of endometriosis, women experiencing pain-free periods for the first time in their lives, surprisingly within two or three weeks of starting the fermented cod liver oil at a dose of 5 ml per day. Up to this point in my six-year career, I had yet to have any luck whatsoever when it came to endometriosis. I have another very complicated case of endometriosis combined with Wolf-Parkinson's-White-like heart problems and this particular woman experienced twelve to fifteen days of excruciating pain monthly related to the endometriosis. Within six weeks of starting the fermented cod liver oil she is down to three days of pain per month, which she is thrilled about. While her WPW symptoms persist, her endometriosis symptoms are all but a thing of the past. Again, I put her on a dose of 5 ml per day. I have another patient who came to me, a mother in her thirties, who was experiencing hair thinning and had not had a period in over nine months for no apparent reason. Within three weeks of starting the fermented cod liver oil, she had a period again. Laura Margaritis, ND, Hamilton, Ontario, Canada

I have a handful of clients that I have on high vitamin or fermented cod liver oil and when they stop taking it, they have discomfort and pain rather quickly in their arthritic areas, not to mention a return of depression and mood problems. They tell me they won't give up cod liver oil no matter what anyone says to them. . . our bodies don't lie. Anabela Bacchione

I have been using fermented cod liver oil for about eighteen months. I have been checking my vitamin D levels over the last four years and this year I went from 37 to 48, whereas the three years previous I went from 16 to 26 (ten points total, for the three years). During those years I was taking vitamin D in doses from 10,000 to 50,000 IU. The only thing I can attribute the increase to is the fermented cod liver oil. I also have a few customers who swear that the cod liver oil wards off depression, especially in the winter (Minnesota). BS

We've been using high-vitamin cod liver oil and the butter oil for the Weston Price protocol for several years. The biggest changes reported have been improved muscle strength, stamina and immunity. I have also noted improved moods in my family—they are less irritable. I also feel the Weston Price protocol, including bone broths, raw goat milk kefir, etc., helped save my mother's life when she was stricken with severe sepsis several years ago. The frequent drops of cod liver oil and butter oil appeared to increase her strength and improve her ability to absorb and utilize her food. LH

One of my patients, an active but hobbled sixty-five-year-old female, kept complaining of joint pain and stiffness for the past year. Our chiropractic work did wonders to keep her feeling quite well and able to maintain a busy schedule as well as go skiing in Colorado, but she would always return with the same old complaints. After two months on the high vitamin cod liver oil, her complaints of joint pain were gone! Michael J. Kudlas, DC, MA, MEd

My son's acne completely cleared up and he is so happy on cod liver oil that it is the one thing he will consistently take. Also he noticed that his seasonal affective disorder was much better last winter taking the cod liver oil (for his skin) and his grades and general energy were markedly improved over previous winters when he didn't take it. Megan McCoy, MD

At eight months, my one-hundred-percent breast fed daughter had a bad case of eczema and an allergy to egg whites. We tried everything (different soaps, oils, creams etc.) to get rid of the eczema and nothing worked till our homeopathic pediatrician told us to give her 1-2 ml of high-vitamin cod liver oil along with high-vitamin butter oil every day, as well as a teaspoon of coconut oil. Today she is a happy healthy two-year-old who takes 1-2 ml cod liver oil almost every day. She has perfect skin and her allergy to egg whites is gone as well. Her amazing recovery from the eczema and egg allergy inspired me to go back to school and become certified as a nutritional therapy practitioner. Our whole family of five has been taking 1-2 ml of high-vitamin cod liver oil for the past two years. We are all healthy and happy. The children, ages two, four and six, have never had a cavity and are noticeably healthier than the majority of their friends. Shelley Ballantyne, NTP

I am writing for myself and my family with all the changes which have taken place after the consumption of high-vitamin butter oil and cod liver oil and all good fats. First, I was deeply ill, with many local doctors diagnosing me with severe depression and anxiety. I was unable to sleep, digest or eliminate foods in a healthy way; I could not work or take care of myself at all. I was unable to do simple tasks like do the wash or button a shirt, for my coordination was impaired. I would trip often and could not finish a thought or sentence. I was severely paranoid of all things and people. With many medicines, my symptoms became even more severe and intense. I was scared to death, along with my family! I became very suicidal. I should explain that previously I was in the hair salon business and was quite successful, but using many chemicals all day long, five days a week. My diet was filled with wrong foods. I was taking care of a very sick family member daily. Thanks to Dr. Roy Ozanne I learned about good fats and fermented foods. With his help I eliminated all sugars, caffeine, alcohol, white flour, etc., but more importantly, I added cod liver oil and butter oil. Over the course of two years, my body healed itself. I am now able to communicate with all, I am motivated, and I am back to work (not in the hair business!). My children on this diet report that they are able to focus much better than they used to. LMP

In our clinic we've used Premier Natural Cod liver oil for about five or six years with great success. Our babies born to patients of the clinic in many cases have facial structures Weston Price found in his travels of traditional cultures. They have broad jaws, ears with unattached, slightly elongated lobes, and have great emotional dispositions. Many sleep through the night at a fairly early age, and developmentally are either early or right on target. Many parents have reported that their children do well academically and conditions such as allergies, behavioral disorders are markedly absent in these children. All our patients take two capsules pre-pregnancy and continue this during pregnancy and during lactation along with a diet that includes Chinese medical theories and Weston A. Price principles. In addition, half of those patients also take butter oil pre-pregnancy and during pregnancy and lactation. Adult patients with anxiety or depressive disorders do extremely well with our treatments which, of course, include cod liver oil. Dagmar Ehling, MAc, LAc, DOM(NM), Dipl OM, FABORM

I have had chronic fatigue syndrome for over seventeen years. At first, when I took the fermented cod liver oil, it gave me a headache so I stopped taking it. After I had the flu awhile back, I was left with a symptom where I could not lie down without feeling like I was smothering, even though I could breathe fine. This was accompanied by deep anxiety. The doctor suggested I had a classic symptom of congestive heart failure and suggested an angiogram, but that wasn't really an option for me because I have terrible reactions to drugs. Meanwhile, I found out I had low vitamin D levels (I live north of Seattle, WA) and learned that low vitamin D can cause heart problems. I started taking vitamin D<sub>3</sub> and it helped a bit but I kept needing more to keep the awful smothering symptom away. I was up to 6,000 IU per day of D<sub>3</sub> but kept feeling colder and colder and sleeping more fitfully. Finally, I got to the point where I didn't sleep all night and I knew it was the vitamin D keeping me awake. Fortunately, I had just bought some raw Jersey milk for my husband—not for myself because I thought milk didn't agree with me, but I tasted his and decided to have a glass of my own because it was so good. It calmed my nerves and I was able to sleep. Then I decided to try taking the fermented cod liver oil again because I knew I needed to get vitamin D somehow. The first dose did give me a headache for a short time, but I felt some well being afterwards. So for the past nine days I've been drinking three glasses of raw milk per day with no digestive upset and taking one to one and one-half teaspoons fermented cod liver oil daily. Pain and inflammation seem to be subsiding, my energy is improving, the constant feeling of heat and pressure in my head is gone, and I am so amazed and grateful that the awful smothering feeling is quickly becoming a bad memory. As an added bonus, I no longer feel bothered at all by the gray Pacific Northwest winter days. Given the improvement I have experienced in just a few days, I'm looking forward to seeing what happens as this winter progresses and I keep taking cod liver oil and drinking raw creamy milk! JI

Finally my vitamin D test results are back, and my vitamin D level has risen from 39 to 46 after taking two bottles of the fermented cod liver oil. Previously I had taken the regular high-vitamin cod liver oil for a year and my vitamin D level stayed at 39 before and after. SH

I come from a family that suffers from arthritis so was concerned when I developed stiff hands and knees in my mid forties. Several months after taking high-vitamin cod liver oil and high-vitamin butter oil, the stiffness disappeared, never to return. SM

Since taking fermented cod liver oil, my libido has returned (after three years' absence), and my periods are not painful now. My hands no longer ache as they did and my skin is clearer. My daughter's fungal rash went away within a couple of weeks after she began taking it. LM



# A Response to Dr. Joe Mercola on Cod Liver Oil

By Sally Fallon Morell, MA

**O**n December 23, 2008, Dr. Joseph Mercola, owner of the popular holistic website [mercola.com](http://mercola.com), issued a statement, “Important Cod Liver Oil Update,” in which he rescinded his long-standing recommendation to take cod liver oil. The Weston A. Price Foundation received dozens of inquiries about this statement and it is for this reason that we have devoted much of this issue to the subject of cod liver oil.

Mercola’s official pronouncement is a strange mixture of true statements and illogical sequelae, conflicting reasoning and unexplained omissions. While it is unfortunate that Mercola has joined establishment voices against vitamin A, what concerns us most is not the fact that Dr. Mercola disagrees with us, but that he misrepresents the WAPF message on the importance of vitamin A in the modern diet.

The following is a point-by-point rebuttal, with Mercola’s statements in italics.

For thousands of years, traditional peoples from Northern Europe, the Mediterranean, Russia, North America and the South Seas have valued the oil from cod and other species of fish and shark.

*For years, I have recommended cod liver oil as a dietary supplement to support healthy vitamin D levels. However, based on more recent findings, I am updating my recommendations regarding cod liver oil, as it may not serve you as well as previously believed. My previous recommendation was based on the fact that cod liver oil contains vitamins D and A in addition to healthy omega-3 fats. These vitamins are essential for most everyone who cannot get regular sun exposure year-round.*

It is a true statement that vitamins A and D are essential for “most everyone” but contrary to the implication that follows, we do not get vitamin A from sunlight. Mercola is correct in stating that cod liver oil may not serve us as well as previously believed. That is because most cod liver oil today has had a large part of the vitamin D removed during processing. We warned our readers about this situation in an article on the manufacture of cod liver oil in the Winter 2005 issue of *Wise Traditions*. This is why we recommend only those brands of cod liver oil that contain adequate vitamin D (as well as adequate vitamin A).

*But more recent research has discovered that the ratios of these two vitamins may be of paramount importance in order to extract optimal health benefits, and unfortunately, modern cod liver oil does not supply these vitamins in healthy ratios to each other.*

A detailed explanation of this research was compiled by Chris Masterjohn and published in *Wise Traditions*, Fall, 2005. The Weston A. Price Foundation was the first organization to provide the public with this important information. We noted that most—but not all—cod liver oil does not supply vitamins A and D together in the right ratio. Mercola avoids telling his readers that we can still obtain cod liver oil that contains adequate vitamin D, a fact with which he is surely familiar since he seems familiar with all the other information on cod liver oil posted at [westonaprice.org](http://westonaprice.org).

Basically, adults need about 1000 IU vitamin D daily to avoid vitamin A toxicity. This can be supplied by a dose of a recommended brand of cod liver oil that provides 10,000 IU vitamin A, which is a completely safe dose of natural vitamin A. Our recommended brands of cod liver oil are listed in our shopping guide and posted at [www.westonaprice.org/basicnutrition/cod-liver-oil-menu.html](http://www.westonaprice.org/basicnutrition/cod-liver-oil-menu.html).

#### WHAT YOU NEED TO KNOW ABOUT VITAMINS A AND D IN COD LIVER OIL

*At least 2,000 genes, or nearly 10 percent of your genes, have been identified that are directly influenced by vitamin D, which in turn impact a wide variety of health issues, from preventing the common cold and flu to inhibiting at least sixteen different types of cancer. There's even evidence linking vitamin D to the process of brain detoxification of heavy metals such as mercury.*

*Widespread vitamin D deficiency has also been strongly linked to the childhood epidemics of autism, asthma, and diabetes, both type 1 and 2. Vitamin A, which is essential for your immune system just like vitamin D, is also a precursor to active hormones that regulate the expression of your genes, and they work in tandem. For example, there is evidence that without vitamin D, vitamin A can be ineffective or even toxic. But if you're deficient in vitamin A, vitamin D cannot function properly either.*

These statements are all true. The information about the importance of balance between vitamins A and D comes from our website.

*There are many problems with modern cod liver oil but one of the primary ones is that there is no standard definition of what constitutes cod liver oil. Manufacturers are free to add or subtract as much vitamin A or D as they see fit.*

This is a true statement to which we have alerted our readers in several places on our website. When it comes to cod liver oil, it is important to read the labels!

*In fact cod liver oil was discovered in the sewers of England several hundred years ago by starving children who drank it and scientists noticed they did not get rickets. Cod liver oil is in fact a highly processed food that was never consumed by humans prior to this.*

Reference please?? In fact, for thousands of years, traditional peoples from Northern Europe, the Mediterranean, Russia, North America and the South Seas have valued the oil from cod and other species of fish and shark. Medical research on the benefits of cod liver oil dates back to the 1700s. The notion of cod liver oil running through the sewers of England is ludicrous—if cod liver

oil is a new, highly processed food, how did it get into those English sewers hundreds of years ago? How could it have been manufactured before it was even discovered?

PRIMARY JUSTIFICATION FOR WHY YOU SHOULD  
AVOID COD LIVER OIL

*There have been two recent meta-analyses done. The first one showed that people who took vitamin A supplements in cod liver oil, or in supplements, had an 18 percent increase in death rates.*

Mercola is referring to a meta-analysis by Bjelakovic and others published in the *Journal of the American Medical Association* (2007 Feb 28;297(8):842-57), cited in the Cannell study and discussed in depth on page 23. This analysis looked at selected randomized trials involving adults given beta-carotene, vitamin A, vitamin C, vitamin E and selenium. By manipulating the data in a certain way, the researchers claimed they found an association with supplement consumption, including vitamin A consumption, and increased mortality. Actually, only two of the studies included in the meta-analysis involved vitamin A given alone, neither of which even mentioned cod liver oil. Both were small studies and in neither did the authors claim that vitamin A had any effect on mortality. By referring

to the meta-analysis rather than the individual studies, Cannell was able to avoid mentioning the fact that the two small studies offered no useful information about the effect of vitamin A on mortality.

*The other study showed that unlike third world countries where vitamin A supplementation appears to decrease infections, vitamin A supplementation in developed countries like the U.S. actually increases infections.*

*The researchers believe this is due to massive nutritional deficiencies in the third world because most of their calories are from grains and they simply don't have an opportunity to consume as many fresh fruits, vegetables, butter, eggs and other vitamin A-containing foods that those in the developed world do.*

*In fact current research could not find any vitamin A deficiency at all, but approximately 5 percent had vitamin A toxicity. The converse is*

A PRELIMINARY LOOK AT THE EFFECTS OF COD LIVER OIL ON VITAMIN D LEVELS

Nineteen volunteers had their vitamin D levels tested using the home blood test from ZRT Laboratories and reported their vitamin D levels, cod liver oil usage and vitamin D supplementation to the Weston A. Price Foundation. The results are shown below. All volunteers are from northern latitudes and none reported recent sun exposure.

VIT D LEVEL	A/D FROM COD LIVER OIL	CLO TYPE	VITAMIN D SUPPLEMENT	DURATION
23	none	None	0	NA
32	6000/600	Fermented	0	12 mo
34	857/107	Carlsons 1000 mg capsules	2000	3 mo
34	10000/1000	High-Vitamin	0	48 mo
37	10000/1000	High-Vitamin	50,000 IU x 2, before onset of a cold	15 mo
39	2500/250	High-Vitamin	0	60 mo
39	20000/2000	High-Vitamin	0	30 mo
40	800/80	High-Vitamin	0	60 mo
40	6000/600	Fermented	0	12 mo
41	2000/200	Fermented	6000	24 mo
44	10000/1000	High-Vitamin	50,000 IU x 3 before onset of a cold	15 mo
45	2500/250	High-Vitamin	0	60 mo
45	10000/1000	High-Vitamin	0	36 mo
49	17500/1750	High-Vitamin	0	36 mo
53	12000/1200	Fermented	0	36 mo
57	12000/1200	Fermented	0	24 mo
62	20000/2000	High-Vitamin	5000	36 mo
63	20000/2000	High-Vitamin	5000	36 mo
77	5000/500	High-Vitamin	0	60 mo

While these results are merely preliminary, a tentative conclusion is that consumption of cod liver oil containing vitamin A does not interfere with the assimilation of vitamin D. Of the twelve individuals who had vitamin D levels of 40 or above, eight took cod liver oil alone, with no supplemental vitamin D. More carefully controlled studies are needed to provide definitive confirmation of this hypothesis.

*true in the third world where vitamin A toxicity is virtually unheard of, yet vitamin A deficiency is pervasive.*

As discussed on page 21, the analysis cited by Mercola did not even look at vitamin A supplementation in the U.S. but was a meta-analysis that pooled the results of nine studies conducted in India, Ecuador, Indonesia, Brazil, Ghana, Mexico and the Republic of Congo. Several of these studies have suggested that vitamin A may reduce the incidence of respiratory infection in malnourished children but increase it in well-nourished children, but none of them present evidence that the effect of vitamin A depends on vitamin A status or that vitamin A is helpful in the Third World but harmful in the developed world.

A number of studies included in the meta-analysis showed vitamin A to have no effect on respiratory infections while nevertheless reducing severe diarrhea by over 20 percent, gastrointestinal-associated mortality by over a third, infection-associated mortality by half, and measles incidence by 95 percent. The general picture that emerges from the scientific literature is that vitamin A consistently reduces mortality from severe infectious diseases but has a more complicated relationship to lower respiratory infections that we still do not completely understand.

*Additionally new research has shown that vitamin D protects against cancer. But a paradox was found as those with higher vitamin D levels did not seem to have this benefit. A bright Harvard researcher carefully analyzed the data in the study that showed this and found that when he removed the people with high vitamin A and vitamin D levels, those with normal vitamin A levels and high vitamin D levels continued to have reduced risk of colon cancer. So those that did not take vitamin A had the protective effect from higher levels of vitamin D.*

In this report, which was based on data drawn from the Nurses' Healthy Study and published in the *American Journal of Epidemiology*, 2007, total intake of vitamin D from foods and supplements was associated with a lower risk of colon cancer when total vitamin A intakes were below 5,000 IU, but not when total vitamin A intakes were above 5,000 IU. The vitamin D

intakes in this study, however, were very low. Even the 20 percent of people consuming the most vitamin D consumed an average of less than 600 IU. If the participants were receiving a lot of sunshine, the thousands of IU from that source would likely have diluted any effect of the vitamin D, so the strong association at low vitamin A intakes suggests they were not receiving much sunshine. Basic adequacy of vitamin D status would require over three times the highest intakes consumed in the study.

In order to truly indict intakes of over 5,000 IU of vitamin A as excessive, evidence should be provided from a population consuming adequate vitamin D. As soon as someone begins taking vitamin D supplements at the levels recommended by Dr. Mercola and the Vitamin D Council, they are no longer a member of the vitamin D-deficient population studied in the Nurses' Health Study so the results of that study do not apply to them. It must be emphasized, moreover, that correlations never show causation. We can use the observations in this study to hypothesize that high vitamin A intakes antagonize the beneficial effects of vitamin D intakes when vitamin D intakes are very low, but in order to demonstrate this premise, studies must be performed showing that increasing vitamin D intakes or decreasing retinol intakes reduce the risk of colon cancer compared to controls.

*Other research is now showing a connection between high levels of vitamin A and osteoporosis. In fact many Scandinavian countries that regularly supplement with cod liver oil have rampant osteoporosis even though they are getting adequate amounts of oral vitamin D.*

We have thoroughly addressed the problems of osteoporosis in Scandinavian countries in an article published in the Winter 2005 issue of *Wise Traditions*. The vitamin A in this study does not come from cod liver oil but from milk and cereals to which vitamin A is added. In the context of a vitamin D-deficient diet, consumption of high levels of synthetic vitamin A was associated with a higher risk of osteoporosis. Although human and animal evidence strongly suggests that vitamin A can only exert harm against the backdrop of vitamin D deficiency, it also suggests that the body's requirements for vitamin A are even higher than once thought.

Although human and animal evidence strongly suggests that vitamin A can only exert harm against the backdrop of vitamin D deficiency, it also suggests that sufficient levels of vitamin A are even higher than once thought.



*Dr. John Cannell, head of the Vitamin D Council, along with fifteen other researchers, recently released an article “Cod Liver Oil, Vitamin A Toxicity, Frequent Respiratory Infections, and the Vitamin D Deficiency Epidemic” in the November issue of Annals of Otology, Rhinology and Laryngology. In this paper Dr. Cannell raised questions about the efficacy of cod liver oil due to its highly variable and frequently excessive amount of vitamin A. Typically modern cod liver oil contains far less vitamin D than it used to, due to the deodorization process used today which removes much of this essential nutrient.*

Most of this paper is a review of studies showing the benefits of vitamin D in protecting against various illnesses, including respiratory infection. This paper does not present any information whatsoever indicating that cod liver oil is toxic and, in fact, admits that vitamin A can significantly reduce the incidence of acute lower respiratory tract infections in Third World children.

A portion of the review article is an attempt to explain why a 2004 study providing 600 to 700 IU of vitamin D and 3,500 IU of vitamin A in the form of cod liver oil and a multivitamin failed to meaningfully reduce upper respiratory tract infections when studies from the 1930s found that cod liver oil could reduce the incidence of these infections by 30 to 50 percent. The authors of the recent commentary suggested that the older studies were more effective because cod liver oil in the 1930s contained much more vitamin D. They suggested that modern cod liver oil is low in vitamin D because the deodorization process removes the vitamin while manufacturers fortify the oil with only a fraction of the original amount. As an example, they cited cod liver oil made by Nordic Naturals, advertised as containing only “naturally occurring vitamins A and D,” which has only 3 to 60 IU of vitamin D per tablespoon but between 150 and 12,000 times as much vitamin A.

This conclusion is essentially the same as the conclusion reached by the Weston A. Price Foundation and the research of Chris Masterjohn; we have continually pointed out that vitamins A and D work together and that without vitamin D, vitamin A can be ineffective or even toxic. We do not recommend Nordic Naturals regular cod

liver oil or any brand of cod liver oil that is low in vitamin D.

But it is completely inappropriate to conclude from this 2004 study that cod liver oil is toxic because of its vitamin A content. Similar reviews could be put together showing the benefits of vitamin A and cod liver oil in numerous studies—see page 42 for a list of recent studies showing a wide range of benefits from cod liver oil. Obviously the solution is to use the type of cod liver oil that people took in the 1930s, which did not have most of the vitamin D removed by modern processing techniques.

During the first half of the century, cod liver oil was the focus of a worldwide health initiative. Parents were urged to give cod liver oil to their children by doctors, by government officials, by teachers and principals in schools, and even by their ministers in churches. A large portion of adults in America born before the Second World War received cod liver oil as children and this practice contributed to a high level of health, intelligence and physical development in those lucky enough to receive it. In Europe in many countries, children received a daily ration of cod liver oil, especially during the war years. In the UK, for example, the government issued cod liver oil to all growing children until the early 1950s. The cod liver oil used during this period was obviously not toxic, but contributed to the good health of a whole generation of people. Surely the answer is to provide the current generation with the benefits of the same kind of cod liver oil.

*Dr. Cannell and other prominent researchers believe the vitamin A contained in most cod liver oil is excessive, and can reduce the effectiveness of vitamin D by inhibiting the binding of its active form to your DNA, effectively preventing its ability to regulate the expression of your vitamin D-responsive genes.*

According to a comment posted on the Internet, Dr. Veith, the second author of the paper and a prominent vitamin D researcher, does not agree with Cannell’s outright ban of cod liver oil. Dr. Veith is ultimately concerned with the possibility of vitamin A toxicity, but he stated that one teaspoonful per day of cod liver oil is not of concern ([onibasus.com/archives/nn/105447.html](http://onibasus.com/archives/nn/105447.html)).

While Mercola states earlier that vitamins A

During the first half of the century, cod liver oil was the focus of a worldwide health initiative.

If vitamin A in the American diet is adequate for vitamin D activation, why are Cannell and Mercola obliged to recommend such high levels of vitamin D—levels much higher than those found in traditional diets—in order to bring serum vitamin D levels into the normal range?

and D are synergistic, he now states that vitamin A antagonizes the actions of vitamin D. The Vitamin D Council report claims that the vitamin A in cod liver oil is excessive and antagonizes vitamin D by inhibiting the binding of its active form to DNA and thus prevents its ability to regulate the expression of vitamin D-responsive genes.

Vitamins A and D are both precursors to active hormones that regulate the expression of genes. The body possesses certain enzymes that convert each of these in a two-step process to their active forms: vitamin A is converted to retinol and then to active retinoic acid while vitamin D is converted to calcidiol and then to active calcitriol. While directly consuming either retinoic acid or calcitriol would be unnatural, consuming vitamins A and D, together, as in cod liver oil, is perfectly natural. The enzymes involved in these conversions are responsible for producing incredibly powerful hormones and are therefore highly regulated.

In order for vitamin D to activate the expression of its target genes, it must bind to the vitamin D receptor (VDR) and then combine with the retinoid X receptor (RXR), which is activated by a particular form of vitamin A called 9-cis retinoic acid. Researchers from Spain recently showed that vitamin D can only effectively activate target genes when its partner receptor is activated by vitamin A.

*The Weston Price Foundation, of which I am an advisory [honorary] member, holds a contradictory view. They believe vitamin D can only effectively target genes when its “partner receptor” is activated by vitamin A. If vitamin A is absent, certain molecules called co-repressors bind to the receptors and prevent vitamin D from functioning. It is their position that cod liver oil is still a highly recommended supplement.*

Dr. Mercola is no longer a member of the Weston A. Price Foundation honorary board. Research does indeed indicate that vitamin D can only effectively target genes when its partner receptor is activated by vitamin A.

*After reviewing the evidence, I am personally convinced that there is sufficient vitamin A in the current American diet to facilitate sufficient vitamin D activation. This does not appear to be the case in third world countries, where cod liver oil, or some other preformed retinol supplement,*

*would still be useful.*

Please supply us with this evidence. Where does the average American get vitamin A in the modern diet? If vitamin A in the American diet is adequate for vitamin D activation, why are Cannell and Mercola obliged to recommend such high levels of vitamin D—levels much higher than those found in traditional diets—in order to bring serum vitamin D levels into the normal range?

#### ***MOST COD LIVER OILS HAVE EXCESSIVE VITAMIN A (PREFORMED RETINOL)***

*However, even the Weston Price Foundation acknowledges that there are dangerous versions of cod liver oil out there, even from some highly reputable companies like Nordic Naturals, which produces a cod liver oil that is clearly excessive in vitamin A as it only has 3 to 60 units of vitamin D per tablespoon but between 150 and 12,000 times as much vitamin A. It's a delicate balance.*

*Both vitamins are essential to obtain optimal health benefits, however, the ratios can become dangerously unbalanced—much like the omega-3/omega-6 balance, which has become inversed in our modern diet.*

*Nearly all brands of cod liver oil provide a token amount of vitamin D, typically a mere 400 to 1,200 IU of vitamin D per tablespoon but anywhere between 4,000 to 30,000 IU of vitamin A. This is clearly inappropriate. About the lowest ratio I have seen is ten times as much vitamin A as vitamin D but, as I stated above, it can be as high as 12,000 times as much vitamin A.*

*First of all, this is clearly an insufficient amount of vitamin D for even the smallest child. This is in part due to the government recommendations, which are FAR too low to offer any health benefits; the recommended daily dosage being no more than 200 to 600 IU, depending on age. Meanwhile, researchers have since established that the therapeutic dosage is anywhere between 2,000 to 10,000 IU per day, depending on your weight and other factors, such as skin color and level of regular sun exposure. (Some people may require, and can safely take, as much as 20,000 IU daily.)*

A dose of 1000 IU vitamin D daily is adequate to avoid problems with vitamin A in adults. If the ratio of A to D in cod liver oil is 10 to 1,

then it is easy to obtain a safe amount of vitamin A along with an adequate amount of vitamin D.

*Consuming such high amounts of vitamin A as contained in cod liver oil and most multi-vitamins, while not getting nearly enough vitamin D, combined with the fact that most people are deficient in vitamin D to begin with, could potentially cause vitamin A to become toxic.*

We agree with this statement and have consistently warned people not to use multivitamins and not to take brands of cod liver oil that are low in vitamin D.

*The concern Dr. Cannell and the other researchers have is that vitamin A in cod liver oil is excessive and actually antagonizes vitamin D by inhibiting the binding of its active form to DNA and thus preventing its ability to regulate the expression of vitamin D-responsive genes.*

As stated earlier, vitamin A can be toxic when vitamin D is absent. Vitamin A does not antagonize vitamin D—both are needed for optimal assimilation. It would be amazing if vitamins A and D were antagonistic since they are so often found in the same foods.

*The Weston Price Foundation's strong belief is that vitamin A is not at all toxic but is necessary for optimal vitamin D function. However they believe there is sufficient vitamin A in the diet of most Americans, especially if they are taking a multivitamin.*

If Dr. Mercola is so familiar with all the information on cod liver oil on our website, how can he make this fundamental misrepresentation of Dr. Price's research? Our primary message is that vitamin A levels are far too low in the modern American diet compared to primitive diets. Primitive peoples consumed very high levels of vitamin A from organ meats, insects, fish eggs, fish heads, liver and fish liver oils, as well as from butterfat and egg yolks from grassfed animals. Since most of our animals are raised in confinement today, and many of the vitamin A-rich foods are unacceptable to modern palates, we recommend taking cod liver oil on a daily basis. We have *never* recommended taking a multivitamin. Likewise, we have never stated that vitamin A is "not at all" toxic.

*In the third world this is not the case and they would likely benefit from vitamin A supplementation.*

Why would the average Westerner have more sources of vitamin A in the diet than people in the Third World? At least in the latter, people who are not literally starving are more likely to eat organ meats, fish heads, insects and other sources of vitamin A. But it is certainly true that children in the Third World have greatly benefitted from vitamin A supplementation. Why would children in the West be any different?

*The Weston Price Foundation does not agree with Dr. Cannell's conclusion that cod liver oil itself may cause vitamin A toxicity, however they also do not recommend taking any cod liver oil that is low in vitamin D. Yet even their recommendations, in my opinion have far too low amounts of vitamin D to be clinically useful. But more importantly it appears that the high amounts of vitamin A may limit the effectiveness of vitamin D even if more is taken in addition to that received in the cod liver oil.*

As shown on page 37, we are seeing good serum D levels in people taking balanced cod liver oil without supplemental vitamin D; Cannell and Mercola are recommending very high levels of vitamin D supplementation to get the same results. We have a genuine concern that such high levels without supporting vitamin A could suppress the immune system and be toxic in other ways. Too much vitamin D can result in calcification of the kidneys, arteries, joints and other soft tissues.

*Although it's still unclear exactly what the balance should be, Dr. Cannell and most of the prominent expert researchers in this area believe that the ratios of these two essential nutrients likely should be reversed from those typically seen in cod liver oil, as you need far greater amounts of vitamin D as opposed to vitamin A.*

Reference please?? If Cannell is unclear what the balance should be, why is he recommending a ratio that is impossible to achieve in traditional diets? It may be possible in primitive diets to obtain an A-to-D ratio of approximately 1:1 from food, but certainly not 1:10. This can only be done with modern supplements.

*After carefully reviewing the arguments on both sides of the issue I am convinced that Dr. Cannell's approach is far more likely to be consistent with producing high levels of health and decreased illness.*

What's needed is a study comparing the health status of individuals taking a balanced cod liver oil and those taking large amounts of vitamin D without cod liver oil, as recommended by Cannell and Mercola. Meanwhile, it would be wise to err on the side of traditional diets, which generally contained higher levels of A than D in terms of International Units.

#### **MY REVISED COD LIVER OIL RECOMMENDATIONS**

*As the prevalence of vitamin A deficiency (which would benefit from cod liver oil) in the U. S. is much lower than the prevalence of subclinical vitamin A toxicity, while most everyone suffers from vitamin D deficiency, I no longer recommend taking cod liver oil for either adults or children. You're likely getting the vitamin A you need if you regularly consume fresh vegetables high in this nutrient, such as sweet potatoes, carrots, cantaloupe, and other colorful fruits and vegetables, and butter especially, if obtained from grass fed cows.*

Here Dr. Mercola repeats the myth that we can obtain adequate vitamin



A from plant foods. We have thoroughly explored this topic and shown that plant foods are a very poor source of vitamin A for humans, especially for babies and children, diabetics, and those suffering from thyroid and digestive disorders. (See <http://www.westonaprice.org/basicnutrition/vitaminasaga.html>.)

*Although you can obtain vitamin D from your diet, it is very difficult, and I believe it is very unnatural. It is my strong belief that we were designed to obtain virtually all of our vitamin D from exposing appropriate areas of our skin to sunshine. If this is not possible, the next best choice would be exposure to UVB rays from safe tanning beds, and if that is not possible then one should resort to a high quality vitamin D<sub>3</sub> supplement.*

Why is it unnatural to get vitamin D from the diet? Is it more unnatural than taking vitamin D pills? What did our ancestors do during the winter months? Mercola was not there to sell them vitamin D pills or tanning beds. Even in the tropics, traditional peoples obtained high amounts of vitamin D from their food.

*As it stands, it is my strong belief that you're simply not getting the appropriate balance of vitamin A to vitamin D from cod liver oil, which is why I believe it is best to avoid it.*

With the right brands of cod liver oil, it is indeed possible to get the right balance of A and D and a myriad of well documented health benefits.

*Please note that this new recommendation does NOT apply to either fish oil or krill oil, as neither of them contain the vitamins A or D, but rather are excellent sources of essential omega-3 fats. EVERYONE still needs a regular high quality source of these absolutely essential and vital nutrients.*

Dr. Mercola sells krill oil. Is this why he recommends it? The omega-3 fatty acids in krill oil are likely to be highly damaged from heat treatment during industrial processing. (See our description on page 32.) In addition, there is a danger from over-dosing on omega-3 fatty acids, which can depress the immune system and potentially lead to cancer. By taking a high-vitamin cod liver oil, you can obtain adequate vitamins A and D without overdosing on omega-3 fatty acids.

*Another potential point of confusion is that beta carotene is not a concern, as that is PRE vitamin A. Your body will simply not over convert beta carotene to excessive levels of vitamin A. So taking beta carotene supplements is not going to interfere with vitamin D.*

Several studies have shown that taking beta-carotene supplements result in higher mortality. The body cannot convert beta-carotenes into adequate levels of vitamin A. To achieve optimum health, we need liberal amounts of preformed vitamin A from foods like liver, seafood, butter, egg yolks and cod liver oil, along with vitamin D from the same types of foods, not from vitamin D pills. ☺☺

#### RECENT STUDIES ON COD LIVER OIL

Numerous recent studies have shown wide ranging benefits from cod liver oil, as indicated by these summaries from articles published between 2000 and 2009.

**PAIN IN RHEUMATOID ARTHRITIS:** Cod liver oil supplements were better than controls in relieving pain and can be used as NSAID-sparing agents in rheumatoid arthritis patients (*Rheumatology* (Oxford). 2008 May;47(5):665-9).

**VITAMIN D STATUS AND BONE LOSS:** Inclusion of cod liver oil in the diet appears to attenuate the seasonal variation of vitamin D status in early postmenopausal women at northerly latitudes where quality of sunlight for production of vitamin D is diminished. Cod liver oil can thus protect against greater bone turnover, bone loss and obesity (*Bone*. 2008 May;42(5):996-1003).

**DIABETES-RELATED CARDIOVASCULAR DISORDERS:** Cod liver oil treatment in diabetic rats completely prevented endothelial deficiency and partly corrected several biochemical markers for cardiovascular disorders (*J Pharm Pharmacol*. 2007 Dec;59(12):1629-41).

**MULTIPLE SCLEROSIS:** In Arctic climates, supplemental cod-liver oil during childhood may be protective against multiple sclerosis later in life (*J Neurol*. 2007 Apr;254(4):471-7).

**BREAST CANCER:** Reduced breast cancer risks were associated with increasing sun exposure and cod liver oil use from ages ten to nineteen. "We found strong evidence to support the hypothesis that vitamin D could help prevent breast cancer. However, our results suggest that exposure earlier in life, particularly during breast development, maybe most relevant" (*Cancer Epidemiol Biomarkers Prev*. 2007 Mar;16(3):422-9).



**DEPRESSION:** Regular use of cod liver oil is negatively associated with high levels of depressive symptoms in the general population (*J Affect Disord.* 2007 Aug;101(1-3):245-9).

**WOUND HEALING:** The combination of zinc oxide and cod liver oil was found to be superior to the formulations containing only one active ingredient. This combination was also found to be most efficient in accelerating wound healing when it is retarded by repeated dexamethasone treatment (*Dtsch Tierarztl Wochenschr.* 2006 Sep;113(9):331-4).

**BREAST MILK:** Women using cod liver oil had a significantly higher levels of docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA) in their breast milk. "As this may have an impact on the health and development of breast-fed infants in later life, regular maternal cod liver oil intake could be relevant for the infant as well as for the nutritional adequacy of the maternal diet" (*Ann Nutr Metab.* 2006;50(3):270-6).

**PAIN AND JOINT STIFFNESS:** Cod liver oil application allows reduction of the dose of nonsteroidal anti-inflammatory drugs, and improves chief clinical symptoms, reducing pain and morning joint stiffness (*Klin Med Mosk* 2005;83(10):51-7).

**HIP FRACTURE:** Multivitamin or cod liver oil supplementation was associated with a significantly lower risk of any fracture. "We found no evidence to support any skeletal harm associated with increased serum indices of retinol exposure or modest retinol supplementation in this population" (*J Bone Miner Res.* 2005 Jun;20(6):913-20).

**HIGHER BIRTH WEIGHT:** Women who used liquid cod liver oil in early pregnancy gave birth to heavier babies, even after adjusting for the length of gestation and other confounding factors. "Higher birth weight has been associated with a lower risk of diseases later in life and maternal cod liver oil intake might be one of the means for achieving higher birthweight" (*BJOG.* 2005 Apr;112(4):424-9).

**UPPER RESPIRATORY TRACT INFECTIONS IN CHILDREN:** Children supplemented with cod liver oil had a decrease in upper respiratory tract infections and pediatric visits over time (*Ann Otol Rhinol Laryngol.* 2004 Nov;113(11):891-901).

**VITAMIN D STATUS:** In Norway, three mølje meals (consisting of cod liver and fresh cod-liver oil) provided an amount of vitamin D equal to 54 times the recommended daily dose. Subjects with food consumption habits that included frequent mølje meals during the winter sustained satisfactory vitamin D levels in their blood, in spite of the long "vitamin D winter" (*Public Health Nutr.* 2004 Sep;7(6):783-9).

**DIABETES:** Use of cod liver oil in the first year of life was associated with a significantly lower risk of type 1 diabetes. Use of other vitamin D supplements during the first year of life and maternal use of cod liver oil or other vitamin D supplements during pregnancy were not associated with lower risk of type 1 diabetes (*Am J Clin Nutr.* 2003 Dec;78(6):1128-34).

**INTELLIGENCE IN CHILDREN:** Children who were born to mothers who had taken cod liver oil during pregnancy and lactation scored higher on intelligence tests at age four compared with children whose mothers had taken corn oil (*Pediatrics.* 2003 Jan;111(1):e39-44).

**RHEUMATOID ARTHRITIS:** Use of cod liver oil decreased occurrence of morning stiffness, swollen joints and pain intensity in patients suffering from rheumatoid arthritis (*Adv Ther.* 2002 Mar-Apr;19(2):101-7).

**EAR ACHES IN CHILDREN:** Children prone to ear aches (otitis media) receiving cod liver oil plus selenium needed lower amounts of antibiotics during supplementation compared to before supplementation (*Ann Otol Rhinol Laryngol.* 2002 Jul;111(7 Pt 1):642-52).

**DIABETIC NEUROPATHY:** Use of cod liver oil in mice played an important role in the prevention of diabetic nephropathy (*Lipids.* 2002 Apr;37(4):359-66).

**FAT-SOLUBLE VITAMINS IN BREAST MILK:** Maternal use of cod liver oil resulted in higher levels of fat-soluble vitamins in breast milk, especially vitamins E and A. (*Ann Nutr Metab.* 2001;45(6):265-72).

# **Worse Than We Thought**

## **The Lowdown on High Fructose Corn Syrup and Agave “Nectar”**

By Sally Fallon Morell and Rami Nagel

**H**igh fructose corn syrup (HFCS) entered the market place in the early 1970s and within twenty years, accounted for over half the refined sweeteners used in the U.S. food supply. Produced mainly by the two food processing giants, Archer Daniels Midland and Cargill, it is the main sweetener in soft drinks and is increasingly replacing sugar in baked goods, bread, cereals, canned fruits, jams and jellies, dairy desserts and flavored yoghurts. Sweeter and less expensive than sugar, HFCS represents the major change in the American diet over the last forty years. Although the food industry made this change very quietly, consumers are beginning to ask a lot of loud questions about the new sweetener as research accumulates to indicate that it is much worse for us than we thought.

Although the corn industry claims that HFCS received GRAS (Generally Recognized as Safe) status when it filed for it in 1983, the FDA did not grant GRAS status until 1996 after considerable pressure from the industry, which was becoming nervous with the publication of negative research findings described in the first anti-HFCS articles.<sup>1</sup>

Growing consumer resistance to HFCS is the likely explanation for a recent industry campaign to put the new sweetener in a favorable light. Ads run on television and in popular magazines portray HFCS as benign and its critics as bossy, overbearing, unqualified and misinformed.

For example, a full-page ad in *Better Homes and Gardens* portrays two attractive women engaged in the following conversation:

“My dry cleaner says high fructose corn syrup is loaded with calories.”

The reply: “A registered dietitian presses your shirts?”

Then comes the official statement: “There’s a lot of misinformation out there about sugars made from corn. Truth is, high fructose corn syrup is nutritionally the same as table sugar. The same number of calories too. As registered dietitians recommend, keep enjoying the foods you love, just do it in moderation. We welcome a healthy discussion. Get the facts. You’re in for a sweet surprise. [www.SweetSurprise.com](http://www.SweetSurprise.com).”<sup>2</sup>

On the surface, the official statement is true. Both HFCS and sugar have approximately the same number of calories, both are pure carbohydrate and both are virtually devoid of vitamins and minerals. For this reason alone, HFCS should be strictly avoided. Since refined carbohydrates, sugar and HFCS included, tend to be addictive, it is difficult to follow the platitudinous advice of registered dietitians who urge us to consume them

in moderation. In fact, the entire food industry has succeeded very well over the past thirty years in getting Americans to consume far more than moderate amounts of refined sweeteners, particularly high fructose corn syrup. Between 1970 and 2000, the per capita consumption of HFCS in the U.S. increased from less than one pound per person to over sixty pounds yearly.<sup>3</sup>

There can be no debate about the fact that both sugar and HFCS, with their empty, depleting, addictive calories, are bad for you. But the real question is whether HFCS is actually worse for you—more depleting and more damaging—than ordinary sugar. The research indicates that it is.

## THE OBESITY DEBATE

The public became aware of the possible downside of HFCS with the publication of a 2004 paper in the *American Journal of Clinical Nutrition*.<sup>4</sup> Authors Bray and others noted the parallel

## HOW CORN SWEETENERS ARE MADE

Called “one of the greatest achievements in the sugar industry,” the development of the various types of corn syrups, maltodextrins and high-fructose corn syrup from corn starch sources, represents the pinnacle of food processing. Corn starch can be hydrolyzed into glucose relatively easily, but it was not until the 1970s that it became a major commercial product, bringing about major changes in the food industry.

Corn starch is processed and refined from the kernels of corn by using a series of steeping (swelling the kernel), separation and grinding processes to separate the starch from the other parts of the kernel (which are used for animal feed.). The starch is hydrolyzed using acid, acid-enzyme, or enzyme-enzyme catalyzed processes. The first enzyme is generally a thermally stable alpha amylase which produces about 10-20 percent glucose. Further treatment with the enzyme glucoamylase yields 93-96 percent glucose. The final corn syrup (glucose syrup) products include dried corn syrup, maltodextrin and dextrose (glucose).

With the development of glucoamylase in the 1940s and 1950s, it became a straightforward matter to produce high-percent glucose syrups (corn syrup). However, these have shortcomings in the sweetener industry. D-glucose has only about 70 percent of the sweetness of sucrose, on a weight basis, and is comparatively insoluble. Fructose is 30 percent sweeter than sucrose, on a weight basis, and twice as soluble as glucose at low temperatures, so a 50 percent conversion of glucose to fructose overcomes both problems, giving a stable syrup that is as sweet as a sucrose solution of the same concentration.

According to food industry literature, one of the “triumphs” of enzyme technology so far has been the development of glucose isomerase, which in turn led to the commercialization of high fructose corn syrups. Several types of bacteria can produce such glucose isomerases. The enzymes are resistant to thermal denaturation and will act at very high substrate concentrations, which means that they are stable at higher operational temperatures and can be used over and over during processing. This is key to the production of an inexpensive substitute for sugar.

Glucose isomerases convert the glucose in corn syrup into fructose, resulting in high fructose corn syrup (HFCS). HFCS comes in three different formulations. Forty-two percent fructose corn syrup is used mostly in processed foods like pastries, cookies and ketchup. However, soft drink manufacturers requested a high-fructose blend, one containing 55 percent fructose. This is produced by using vast chromatographic columns of zeolites or the calcium salts of cation exchange resins to absorb and separate the fructose from the other components. A very sweet 90 percent high fructose corn syrup is used as a sweetener in low-calorie “diet” products.

Source: [en.wikipedia.org/wiki/High\\_fructose\\_corn\\_syrup](http://en.wikipedia.org/wiki/High_fructose_corn_syrup)

increase in obesity and HFCS consumption in the U.S., and a number of columnists publicized his theory that, calorie for calorie, HFCS is more likely to cause weight gain than sugar.

The Bray paper provides an explanation for the mechanism whereby fructose would be more fattening. Sugar is a disaccharide that breaks down into two monosaccharides—glucose and fructose—in the intestinal tract. After absorption, fructose must pass through the liver. Small amounts of fructose added to glucose in the diet increase the production of glycogen (stored sugar) and reduce the release of glucose into the bloodstream, an outcome that is theoretically helpful to those suffering from type 2 diabetes. However, large amounts of fructose in the diet rapidly turn into fatty acids—a process called “de novo lipogenesis”—which are then stored as fat or released into the bloodstream as triglycerides.

Small amounts of L-fructose—the type of fructose that human beings have traditionally consumed in fruit—can actually be beneficial to diabetics because L-fructose does not stimulate insulin secretion. However, research indicates that insulin concentrations in the central nervous system have a direct inhibitory effect on food intake—when insulin secretions increase, food consumption declines. Furthermore, insulin increases release of leptin, a hormone that also inhibits food intake. Individuals who are genetically unable to produce leptin are massively obese; low leptin concentrations are associated with increased hunger and gains in body fat.

Thus, to the extent that fructose inhibits insulin and leptin levels, one would expect an increase in food intake in a diet that includes HFCS. Bray cites a 2002 study by Teff and others, published in *Diabetes*, in which consumption of high-fructose meals reduced 24-hour plasma

insulin and leptin concentrations and increased triglyceride levels in women.<sup>5</sup> (Although published in a major medical journal, this study does not appear in a Medline search.)

According to Bray: “Because insulin and leptin act as key afferent signals in the regulation of food intake and body weight, this suggests that dietary fructose may contribute to increased energy intake and weight gain.”<sup>6</sup>

There is another difference between fructose and glucose metabolism. Glucose enters the cells through the action of insulin; fructose enters the cells through the action of something called a Glut-5 transporter, which does not depend on insulin. This transporter is absent from pancreatic B-cells and the brain, which indicates limited entry of fructose into these tissues. Glucose provides “satiety” signals to the brain that fructose cannot provide because it is not transported into the brain.

Once inside the cells, fructose facilitates the formation of triglycerides more efficiently than does glucose. Bray references a study by Bantle and others in which a diet containing 17 percent fructose (very typical of today’s consumer), caused a highly significant increase of 32 percent triglyceride levels in the blood in male subjects, although not in female subjects.<sup>7</sup>

Bray also discusses the fact that sweetened beverages in general, as compared to sweeteners added to solid foods, have a greater tendency to cause weight gain, citing a randomized, double-blind European study by Rabin and others, which found that drinking calorically sweetened beverages resulted in greater weight gain over the ten-week study than did drinking diet drinks.<sup>8</sup> Since the beverages in this study were sweetened with sucrose, Bray called for a second randomized controlled study to compare sucrose- and HFCS-sweetened beverages.

#### INDUSTRY RESPONSE

But instead of support for such a study, the industry has responded with a wallop of damage control in the form of a report by the Center for Food, Nutrition and Agriculture Policy.<sup>9</sup> The study was supported by a gift from British sweetener company, Tate & Lyle, Inc.

The magnitude of the deleterious effects of fructose varies depending on such factors as age, sex, baseline glucose, insulin, triglyceride concentrations, the presence of insulin resistance, and the amount of dietary fructose consumed.<sup>10</sup> Some people are more sensitive to fructose than others. They include hypertensive, hyperinsulinemic, hypertriglyceridemic, non-insulin dependent diabetic people, people with functional bowel disease and postmenopausal women.<sup>11</sup> The expert panel was able

#### A RETURN TO SUGAR?

A recent *Wall Street Journal* article (January 11, 2006) reports that many outfits are importing Coca-Cola from Mexico into the U.S., not because Mexican Coke is cheaper (it’s actually more expensive), but because in Mexico it is made with sugar, which many consumers prefer. By one estimate, such imports have eroded up to 25 percent of total U.S. sales. Pepsi and Coke are testing demand with Kosher-for-Passover versions of the soft drinks containing sugar rather than HFCS. (Corn is one of the grains forbidden in Passover.) According to one report, Pepsi and Mountain Dew will test consumer preferences with sodas made from sugar for a limited time starting in April, and Snapple has made a permanent switch from HFCS to sugar (webstv.com, February 23, 2009).



to confuse the issue by citing studies carried out with individuals known to be less sensitive to fructose. Conspicuously absent in their review were the Teff, Bantle and Rabin studies cited by Bray.

The report dismisses both the epidemiological correlation and the large amount of research showing that HFCS is metabolized differently from sucrose. It also dismisses the fact that U.S. fructose consumption has increased over 30 percent since 1970, claiming instead that the fructose: glucose ratio (F:G) in the U.S. food supply has not appreciably changed since the introduction of HFCS in the 1960s—an amazing claim given the fact that the HFCS in sodas has a F:G ratio of 55:45, and the HFCS used in diet foods has a F:G ratio of 90:10.

While admitting that “studies analyzing the differences between HFCS and sucrose consumption and their contributions to weight gain do not exist,” the authors do not join Bray in calling for such a study. Instead, they conclude that HFCS “does not appear to contribute to overweight and obesity any differently than do other energy sources.”

#### THE BIG DIRTY SECRET ABOUT HFCS

Many researchers have pointed out that the fructose in HFCS is free, unbound fructose, which is not the same as the fructose in fruit, which is bound to other sugars, and is part of a complex that includes fiber, fatty acids, vitamins and minerals.

Leaving this obvious difference aside, the industry would have the public believe that the fructose in fruit and in HFCS are chemically identical. However, most of the fructose in fruit is in the form of L-fructose

or levulose; the fructose in HFCS is a different isomer, D-fructose. Small amounts of D-fructose do occur in fruit, but the D-fructose in HFCS has the reversed isomerization and polarity of a refined fructose molecule.<sup>12</sup> As explained by Russ Bianchi, Managing Director and CEO of Adept Solutions, Inc., a globally recognized food and beverage development company, the fructose in HFCS is therefore not recognized in the human Krebs cycle for primary conversion to blood glucose in any significant quantity, and therefore cannot be used for energy utilization.<sup>13</sup> Instead, these refined fructose sweeteners are primarily converted into triglycerides and adipose tissue (body fat). In fact, a new study, published in the *Journal of Clinical Endocrinology and Metabolism*, found that obese people who drank a fructose-sweetened beverage with a meal had triglyceride levels almost 200 percent higher than obese people who drank a glucose-sweetened beverage with a meal.<sup>14</sup>

Chronic high triglycerides translate into increased insulin resistance, inflammation and heart disease. Thus, according to Bianchi, HFCS is a recipe for obesity, lack of energy and meta-

#### MERCURY IN HFCS

Almost half of tested samples of commercial high-fructose corn syrup (HFCS) contained mercury, which was also found in nearly a third of 55 popular brand-name food and beverage products where HFCS is the first- or second-highest labeled ingredient, according to two new U.S. studies.

“Mercury is toxic in all its forms. Given how much high-fructose corn syrup is consumed by children, it could be a significant additional source of mercury never before considered. We are calling for immediate changes by industry and the [U.S. Food and Drug Administration] to help stop this avoidable mercury contamination of the food supply,” the Institute for Agriculture and Trade Policy’s Dr. David Wallinga, a co-author of both studies, said in a prepared statement.

In the first study, published in *Environmental Health*, researchers found detectable levels of mercury in nine of 20 samples of commercial HFCS. And in the second study, the Institute for Agriculture and Trade Policy (IATP), a non-profit watchdog group, found that nearly one in three of 55 brand-name foods contained mercury. The chemical was found most commonly in HFCS-containing dairy products, dressings and condiments.

The most likely source of the mercury is mercury-containing caustic soda, used in the production of HFCS. “This study appears to be based on outdated information of dubious significance,” said Audrae Erickson, president of the Corn Refiners Association, in a statement. “Our industry has used mercury-free versions of the two re-agents mentioned in the study, hydrochloric acid and caustic soda, for several years.”

However, the IATP told the Minneapolis *Star Tribune* that four plants in Georgia, Tennessee, Ohio and West Virginia still use “mercury-cell” technology that can lead to contamination.

“The bad news is that nobody knows whether or not their soda or snack food contains HFCS made from ingredients like caustic soda contaminated with mercury. The good news is that mercury-free HFCS ingredients exist. Food companies just need a good push to only use those ingredients,” Wallinga said in his prepared statement (*Washington Post*, January 28, 2009).

The industry response: “The article’s authors and IATP engage in unfounded claims and speculations based on scant data of questionable quality. High fructose corn syrup is safe for use in foods and beverages. To imply that there is a safety concern based on this incomplete and flawed report is irresponsible” ([www.sweetsurprise.com](http://www.sweetsurprise.com)).

## OTHER CONCERNS ABOUT HFCS

- Research indicates that free refined fructose interferes with the heart's use of key minerals, like magnesium, copper and chromium. In humans, fructose feeding leads to mineral losses, especially higher fecal excretions of iron and magnesium, than do subjects fed sucrose. Iron, magnesium, calcium, and zinc balances tended to be more negative during the fructose-feeding period as compared to balances during the sucrose-feeding period.<sup>15</sup>
- Because fructose competes with glucose and galactose for absorption, excess fructose can be carried to the lower intestine where it provides nutrients for the existing gut flora, which produce gas. It may also cause water retention in the intestine. These effects may lead to bloating, excessive flatulence, loose stools, and even diarrhea depending on the amounts eaten and other factors.<sup>16</sup>
- All fructose must be metabolized in the liver. The livers of test animals fed large amounts of fructose develop fatty deposits and cirrhosis, similar to problems that develop in the livers of alcoholics.<sup>17</sup> Excessive fructose consumption is also believed to contribute to the development of non-alcoholic fatty liver disease.<sup>18</sup>
- Fructose is a reducing sugar, as are all monosaccharides. The spontaneous chemical reaction of simple sugar molecules to proteins, known as glycation, is thought to be a significant cause of damage in diabetics and an important contribution to senescence and many age-related chronic diseases.<sup>19</sup> In one study, glycated products were significantly higher in fructose-fed rats compared with the other sugar-fed and control rats.<sup>20</sup>
- Although the body does not require insulin to assimilate fructose, some studies indicate impaired insulin action in the liver and peripheral tissues after longterm feeding. Fructose reduces the affinity of insulin for its receptor, which is the hallmark of type-2 diabetes. This is the first step for glucose to enter a cell. As a result, the body needs to pump out more insulin to handle the same amount of glucose.<sup>21</sup>
- Fructose ingestion acutely elevates blood pressure in healthy young humans.<sup>22</sup>
- Fructose consumption leads to more lactic acid formation compared to glucose. Extreme elevations cause metabolic acidosis, even leading to death.<sup>23</sup>
- A number of studies report elevations in plasma uric acid after dietary consumption of fructose, especially in

patients with high blood pressure.<sup>24</sup> Elevated uric acid may be a risk factor in coronary disease. This may explain the findings of a recent study published in *British Medical Journal* linking fructose to gout.<sup>25</sup> Cases of gout have risen in recent years, despite the fact that gout is commonly considered a Victorian disease. The suspect is fructose found in soft drinks and other sweetened drinks.<sup>26</sup>

- Studies on the Maillard reaction indicate that fructose may contribute to diabetic complications more readily than glucose. The Maillard reaction is a browning reaction that occurs when compounds are exposed to various sugars. Fructose browns food seven times faster than glucose, resulting in a decrease in protein quality and a toxicity of protein in the body.<sup>27</sup> This is due to

the loss of amino acid residues and decreased protein digestibility. Maillard products can inhibit the uptake and metabolism of free amino acids and other nutrients such as zinc, and some advanced Maillard products have mutagenic and/or carcinogenic properties. The Maillard reactions between proteins and fructose, glucose, and other sugars may play a role in aging and in some clinical complications of diabetes.<sup>28</sup>

- In studies with rats, fructose consistently produces higher kidney calcium concentrations than glucose. Fructose generally induces greater urinary concentrations of phosphorus and magnesium and lowered urinary pH compared with glucose.<sup>29</sup>

There is significant evidence that high-sucrose diets may alter intracellular metabolism, which in turn facilitates accelerated aging through oxidative damage. Scientists found that the rats given fructose had more undesirable cross-linking changes in the collagen of their skin than in the other groups. These changes are also thought to be markers for aging. The scientists say that it is the fructose molecule in the sucrose, not the glucose, that plays the larger part.<sup>30</sup>

- Researchers found that rats fed a high-calorie diet supplemented with high-fructose corn syrup for eight months exhibited impaired spatial learning ability and reduced function of the hippocampus, thus impairing cognitive function.<sup>31</sup>
- Fructose intake is associated with small LDL particle size in overweight schoolchildren. Small LDL is associated with higher rates of heart disease.<sup>32</sup>



bolic syndrome—the very portrait of the modern American addicted to a diet of HFCS-sweetened sodas.

### AGAVE “NECTAR” TO THE RESCUE

As the educated public has shied away from foods containing HFCS, the industry has brought a new sweetener on the scene, one used especially in foods aimed at the health-conscious consumer: agave “nectar.” Agave nectar is advertised as a “diabetic friendly,” raw, and “100% natural sweetener.” Yet it is none of these.

Agave nectar is found on the shelves of health food stores primarily under the labels, “Agave Nectar 100% Natural Sweetener,” and “Organic Raw Blue Agave Nectar.” In addition, it can be found in foods labeled as organic or raw, including ketchup, ice cream, chocolate, and health food bars.

The implication of its name, along with the pictures and descriptions on the product labels, creates the impression that agave is an unrefined sweetener that has been used for thousands of years by native people in central Mexico. “For thousands of years natives to central Mexico used different species of agave plants for medicine, as well as for building shelter.” Thus reads the copy on an agave package. And it is true that natives would also allow the sweet sap or liquid of one species of agave to ferment naturally, which created a mildly alcoholic beverage with a very pungent flavor known as *pulque*. They also made a traditional sweetener from the agave sap or juice called *miel de agave* by simply boiling it for several hours. But, as one agave seller explains, the agave nectar purchased in stores is neither of

these traditional foods: “Agave nectar is a newly created sweetener, having been developed during the 1990’s.”<sup>33</sup>

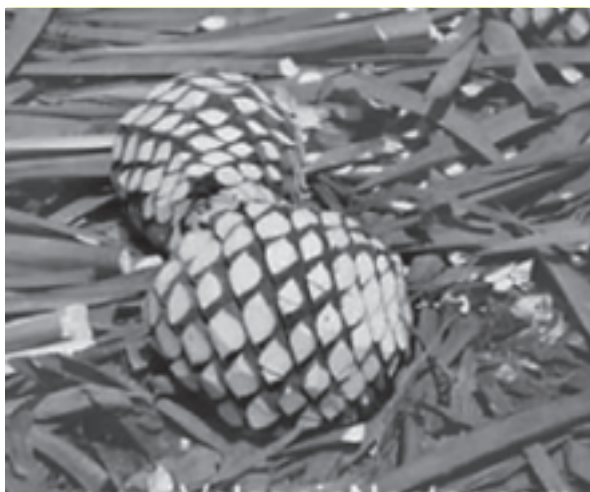
### THE BIG DIRTY SECRET ABOUT AGAVE

In spite of manufacturers’ claims, agave “nectar” is not made from the sap of the yucca or agave plant but from the starch of the giant pineapple-like, root bulb. The principal constituent

of the agave root is starch, similar to the starch in corn or rice, and a complex carbohydrate called inulin, which is made up of chains of fructose molecules. Technically a highly indigestible fiber, inulin, which does not taste sweet, comprises about half of the carbohydrate content of agave.<sup>34</sup>

The process by which agave glucose and inulin are converted into “nectar” is similar to the process by which corn starch is converted into HFCS.<sup>35</sup> The agave starch is subject to an enzymatic and

chemical process that converts the starch into a fructose-rich syrup—anywhere from 70 percent fructose and higher according to the agave nectar chemical profiles posted on agave nectar websites.<sup>36</sup> (One agave manufacturer claims that his product is made with “natural” enzymes.) That’s right, the refined fructose in agave nectar is much



The starchy agave root bulb.

### BEES ON HFCS

According to USDA, approximately 420 million pounds of honey is produced each year for human consumption in North America. Most people believe honey is produced exclusively by the natural enzymatic and digestive conversion of pollen, nectar or other organic plant materials by bees to the digestible multi-saccharide known and defined as “honey.” However, true natural honey, whether USDA-certified or not, in various grades, is only produced in the mid spring to late summer, when the biological materials are readily available for bees to digest, convert and regurgitate.

So how is honey production in many regions maintained continuously into the fall, winter and early spring, when the sources for conversion do not exist? The answer is the widespread practice of feeding bees refined sucrose or refined crystallized or liquid HFCS during the months when pollen and nectar are not available. The bees then run the sweetener through their digestive tracts. The resulting product is labeled as honey but it may not have the same quality as natural honey. Higher levels of refined fructose in honey cause accelerated Maillard browning reactions when heated above 140 degrees F.

These additional months of stress on the hives—which often include keeping the hives under light twenty-four hours per day—eventually cause mite infestation in the hives and large bee kill-offs. These cyclical kills, approximately every fourth or fifth year, cause a shortage in production, and honey prices spike upward.



more concentrated than the fructose in HFCS. For comparison, the high fructose corn syrup used in sodas is 55 percent refined fructose. (A natural agave product does exist in Mexico, a molasses type of syrup from concentrated plant nectar, but availability is limited and it is expensive to produce.)

According to Bianchi, agave “nectar” and HFCS “are indeed made the same way, using a highly chemical process with genetically modified enzymes. They are also using caustic acids, clarifiers, filtration chemicals and so forth in the conversion of agave starches.” The result is a high level of highly refined fructose in the remaining syrup, along with some remaining inulin.

In a confidential FDA letter, Dr. Martin Stutsman of the Food and Drug Administration’s Office of Labeling Enforcement, explains the FDA’s food labeling laws related to agave nectar: “Corn syrup treated with enzymes to enhance the fructose levels is to be labeled ‘High Fructose Corn Syrup.’” According to Mr. Stutsman, agave requires the label “hydrolyzed inulin syrup.”<sup>37</sup> Even though, like corn, agave is a starch and fiber food processed with enzymes, it does not require the label “High Fructose Agave Syrup.”

Agave “nectar” is a misnomer; at the very least, it should be labeled “agave syrup.”

Agave syrup comes in two colors: clear or light, and amber. What is this difference? Mr. Bianchi explains: “Due to poor quality control in the agave processing plants in Mexico, sometimes the fructose gets burned after being heated above 140 degrees Fahrenheit, thus creating a darker, or amber color.” However, the labels create the impression of an artisan product—like light or amber beer.

As consumers are learning about problems with agave syrup, the label “chicory syrup” is beginning to appear as a non-conforming word for the product. Consumer beware!

#### THE SAPONIN PROBLEM

*Yucca* species are known to contain large quantities of saponins. The industry describes saponins in agave syrup as beneficial: “Agave’s rich density of saponins increases hydration as the soapy, surfactant nature of saponins change the wetting angle of water it contacts. This eases and accelerates cellular water uptake, especially when used with a high-quality salt.”<sup>38</sup>

However, the truth is that the saponins found in many varieties of agave plants are toxic steroid derivatives, capable of disrupting red blood cells and producing diarrhea and vomiting,<sup>39</sup> to be avoided during pregnancy or breastfeeding because they might cause or contribute to miscarriage by stimulating blood flow to the uterus.<sup>40</sup> At the very least, agave products should carry a warning label indicating that the product may cause a miscarriage.

#### THE AGAVE INDUSTRY

In the year 2000, with warrants in hand, federal agents from the Office of Criminal Investigations of the Food and Drug Administration (FDA) came banging on the door of North America’s largest agave nectar distributor, Western Commerce Corporation in California. In an extremely rare case of the FDA protecting consumer interests (rather than supporting big business, while shutting down legitimate and health consciousness competition), they discovered that Western Commerce Corporation was adulterating their agave syrup with high fructose corn syrup (to lower the cost even more and increase profit margins). While the federal agents confiscated material in the warehouse, the owners of Western Commerce Corporation were nowhere to be found. Those who ran the company fled the country with millions of dollars in assets to avoid criminal prosecution.

This adulterated agave syrup (refined fructose) was also labeled as certified organic to fool consumers into thinking they were getting a pure product. This shows you how unverified organic labels are used in the USA.

Today, high fructose agave syrup is made primarily by two companies: Nekutli, and IIDEA. A third agave marketer, by the name of Volcanic, has a suspicious claim on their website. “If your agave comes from one of the other two companies in Mexico, something has been added.” They are referring to Nekutli and IIDEA. Their claim is based upon an analysis, which they say shows that Volcanic’s agave nectar has a lower level of refined fructose.

When Western Commerce Corporation was shut down, the large retail establishments in the food industry stayed away from agave syrups. They knew better than to risk lawsuits and consumer fraud. “They understood that agave was criminally mislabeled per the U.S. Code of Federal Regulation labeling laws, with an untried sweetener, new to the market, that contained saponins, and was not clearly approved as safe for use,” explains Mr. Bianchi. For many years following this bust, the supermarket and health food store industry avoided using agave.

But recently, some sellers in the agave syrup field, once quiet, have begun sneaking back into the food and beverage chains. And retail food giants like Whole Foods, Wegman’s, Trader Joe’s and Kroger, who should know better, and who should know the food labeling laws and requirements, still have no hesitation in selling the toxic, unapproved and mislabeled refined fructose agave syrup, as well as products containing it.

Source: Russ Bianchi



## JUST SAY NO TO AGAVE


Since the FDA makes no effort to enforce food-labeling laws, consumers cannot be certain that what they are eating is what the label says it is. New sweeteners like agave syrup were introduced into the market to make a profit, not to make consumers healthy. Clever marketing has led many consumers to believe that the high level of fructose in agave syrup makes it a safe and a natural sweetener. Agave syrup labels do not conform to FDA labeling requirements, thus deepening the false illusion of an unprocessed product. As we have demonstrated here, if a sweetener contains manufactured fructose, it is neither safe, nor natural, especially at levels up to 70 percent.

Agave syrup is a manmade sweetener which has been through a complicated chemical refining process of enzymatic digestion that converts the starch and fiber into the unbound, manmade chemical fructose. While high fructose agave syrup won't spike your blood glucose levels, the fructose in it may cause mineral depletion, liver inflammation, hardening of the arteries, insulin resistance leading to diabetes, high blood pressure, cardiovascular disease and obesity.

If you want something sweet, eat a piece of

fruit, not a candy bar labeled as a "health food." If you want to create something sweet, use sweeteners that are known to be safer. For uncooked dishes, unheated raw honey or dates work well. For cooked dishes or sweet drinks, a good organic maple syrup, or even freshly juiced apple juice or orange juice can provide delicious and relatively safe sweetness; dehydrated cane sugar juice or maple sugar may be used in moderation in cookies and desserts that contain nutritious ingredients and good fats such as butter, egg yolks and nuts.

However, to be healthy, we cannot eat sugar all day, no matter how natural the form. One should limit total sweetener consumption to less than five percent of daily calories. For a diet of 2500 calories per day, that's less than three tablespoons of honey, maple syrup or dehydrated cane sugar juice, or several pieces of fruit. And many people do best by avoiding sweeteners completely.

The lack of standards in the health food world comes as depressing news; but let this news encourage you to consume more pure and unrefined foods and sweetener sources. Good health depends on wise food choices, and wise food choices depend on constant vigilance. 

New sweeteners like agave syrup were introduced into the market to make a profit, not to make consumers healthy.

## THE SNACK BAR BUSINESS

A good example of the recent shift in consumer awareness about food ingredients is found in the category of snack, diet, functional and energy bars. In 1989, in the USA and Canada, the total granola, breakfast, snack and energy bar market was less than \$60 million yearly, with twelve major brands. In 2004, according to several industry sources, the market share was approximately \$3.2 billion with twenty-five major brands. During this period, the major multinationals acquired many of the smaller brands, and when they did so, often switched to cheaper ingredients such as HFCS.

We have clear economic evidence that consumers are reading ingredient labels and avoiding refined sweetener intake, because the bar sector that has used more natural sweeteners has taken almost 100 percent of its market share from those made with refined sweeteners. The successful bar brands avoid polyols (like maltitol and xylitol), glycerin, HFCS, maltodextrin and refined sucrose. Acquiring multinationals that failed to heed the lesson on why these brands were successful have lost market share to those that do understand this fact. The days of confusing or tricking the consumer are waning.

A similar economic shift has occurred in the European Union (EU) over genetically modified organisms, and to a lesser extent organic ingredient sourcing. American suppliers lost hundreds of millions of dollars in market share, virtually overnight, to suppliers who had foreseen the fact that authentic GMO-free raw material sources were not merely requested by consumers, but demanded.

The refined sweetener category is equally problematic in the EU, as elsewhere, because consumers are increasingly likely to read ingredient labels. Many major brands on American supermarket shelves in the early 1990s have been acquired or have disappeared, because their labels looked like chemistry catalogs. Consumers are waking up to phony and illegal avoidance labeling, often found in the American natural health food sector, with such fanciful labels as hydrolyzed protein to avoid the term "MSG," "evaporated cane juice" to avoid the term "sugar," and "agave syrup" or "chicory syrup" for hydrolyzed high fructose inulin syrup.

Source: Russ Bianchi

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The authors are grateful for the information provided by Russ Bianchi, Managing Director and CEO of ADEPT SOLUTIONS, INC, a Soquel, California, based global product development creation, conversion, and stabilization company. Mr. Bianchi has three decades' experience in many thousands of successful food, beverage, pharmaceutical, cosmetic, confectionery, flavor, and functional, as well as dietary supplement and brand development.

Ramiel Nagel is an internationally published author of two life-affirming books based in part upon the work of Dr. Weston Price: *Cure Tooth Decay: Heal and Prevent Cavities With Nutrition*, [www.curetoothdecay.com](http://www.curetoothdecay.com) and *Healing Our Children: Sacred Wisdom for Preconception, Pregnancy, Birth and Parenting*, [www.healingourchildren.net](http://www.healingourchildren.net).



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# The Good Scots Diet

By Katherine Czapp

**T**he healthy Scots diet of two hundred years or so ago consisted of a fairly limited bill of fare composed of local foods: oats as chief cereal grain; root vegetables such as turnips and potatoes; leeks, cabbage and kale supplemented by wild vegetables such as nettles, sorrel and garlic; butter, cheese and other dairy products; fish, shellfish and seaweed; some meat and game; and numerous varieties of wild berries in summer.

The emphasis in this diet on fish livers and fish liver oils, shellfish, organ meats, blood, and healthy fats like lard—and the resulting robust health of the traditional Scots—helps dispel the modern myth that vitamin A is toxic and the modern notion that we cannot obtain sufficient vitamin D from food.

The mistress of the Scots kitchen turned these honest, simple ingredients into a nourishing assortment of dishes which are quite distinct from those represented by the bulk of other British Isle cuisines. This distinction in some part recalls the days of the Auld Alliance—Scotland's political consolidation with France against the English from the thirteenth century until the end of the sixteenth—which left a bright and lasting influence on Scottish cuisine both in its style and its lexicon.



The foods, menus, history and folklore of Scottish domestic culture are celebrated with a robust affection and pride that are delightfully infectious in Florence Marian McNeill's *The Scots Kitchen: Its Lore and Recipes*. McNeill first published *The Scots Kitchen* in 1929, with the aim of commemorating and extolling the Scots national tradition as expressed in its regional gastronomical heritages that she, even by the start of the last century, feared might be lost forever "in this age of standardization."

McNeill was born in 1885 in Orkney, the archipelago of islands just north of Scotland, at a time when the previous century of Agrarian and Industrial Revolutions had wrought their stark and sometimes brutal dislocations and disruption of the ancient Scots traditions in social and domestic life. Her early years on the islands helped to shape her life-long fascination and pride in Scottish history and cultural traditions. Later in her life she produced a four-volume history of Scottish customs, folklore and ancient festivals called *The Silver Bough*, today considered an essential source by historians in the field.

*The Scots Kitchen* evokes the era before the forced pace of social change brought about by industrialization, and conjures the image of the self-sufficient farmstead, and within, the capable mistress at the helm of her bubbling cauldrons and sizzling "girdles" over the peat fire. McNeill generously interlards the many old recipes with historical, literary and contemporary commentaries that animate the period, as well as provide a constant social context for the heritage of the recipes and menus.

Speaking of the period pre-dating the Agrarian Revolution (which spanned roughly 1750 to 1850) McNeill paints the scene of the early Scot amid the gifts of his homeland: "In olden times, when the population was small and sparse—by the beginning of the sixteenth century it did not exceed half a million—the means of sustenance were on the whole plentiful. The moors and forests abounded with game; elsewhere 'herds of kye nocht tame' with flesh 'of a marvelous sweetness, of a wonderful tenderness, and excellent delicateness of taste' ranged the hills. Rivers, lochs, and seas teemed with fish. Sheep were valued mainly for their wool, cows for their milk. Butter and cheese were in use in the earliest

times and the oat and barley crops have always provided the staple bread."

By the end of the seventeenth century, however, the Scottish peasantry suffered a period of great scarcity of food and even famine that lasted intermittently into the first fifty years of the next century. Partially a result of civil and religious wars, as well as the continuous struggles with England, and partially a result of failing farming techniques, the life of the rural poor was one of grinding poverty and want. Gradual improvements in the raising of crops as the eighteenth century drew near brought dietary improvements to most rural dwellers, and to the gentry, a gradual development from a plain to a more sophisticated daily menu.

#### MAIRZY DOATS AND SCOTS EAT OATS

"Look at the Scotch, with their oatmeal porridge, as robust a set of men as ever lived. A Highlander will scale mountains all day upon a diet of oatmeal stirred in water fresh from a gurgling spring with his finger, in a leather cup."<sup>1</sup>

Oats "were hardly known on the continent . . . but were raised in Scotland to the highest perfection. One gathers, indeed, that in early times abroad oats were regarded as a weed."<sup>2</sup>

Oats thrive in the cool, damp Scottish climate, even though the soil is sometimes thin and poor. The ancient custom of composting the oat straw thatch of their cottages—replaced each year when saturated with the residues of constant peat smoke oozing through—has likely been one secret to their oats' vigor.

Weston Price conducted his own experiments in the 1930s to prove the efficacy of smoked roof thatch to fertilize oats, which permitted them to produce heavily in the short and cool northern season. McNeill simply asserts that something in the good earth made them "the flower of our Scottish soil, and through that magic cauldron, the porridge pot, Scottish oatmeal has been transmuted through the centuries into Scottish brains and brawn. (Alas for the deterioration wrought in our cities by the abandonment of the 'halesome farin' of rural Scotland for cheap imported food stuffs!)"

"There is one kind of food," the distinguished doctor, Sir James Crichton-Browne, writes in 1901 in *Stray Leaves from a Physician's*

The *Scots Kitchen* evokes the era before the forced pace of social change brought about by industrialization, and conjures the image of the self-sufficient farmstead.

*Portfolio*, “that is helpful to the brain and to the whole body, throughout childhood and adolescence, and that is oatmeal. Oats are the most nutritious of cereals, being richer than any other in fats, organic phosphorus and lecithins. . . . At one time it was the mainstay of the Scottish peasants’ diet and produced a big-boned, well-developed and mentally energetic race, but it is so no longer, having given way to less useful and economic foods, and in the case of children in the large towns. . . to tea and [wheat] bread with dripping, margarine or jam.”

The sting of Samuel Johnson’s oft-repeated witticism scorning the Scot’s preference for horse-fodder is mitigated by another of his own admiring observations during a visit to Scotland about the oat-heavy diet. “Such food makes men strong like horses, and purges the brain of pedantry.”

McNeill marks the progression of grain preferences among the Scots in the last several centuries wherein ancient barley gave way to the supremacy of oats, which in its turn, during the most recent hundred years is “threatened by wheaten flour, the victory of which would be regarded by many as a national disaster.”

“Up until the middle of the last [nineteenth] century,” lamented Lord Boyd Orr, director of the Rowett Nutrition Institute at Aberdeen in the early 1920s, “the people of Scotland were eating natural foodstuffs. With the introduction of machinery, this has been changed. . . . Natural foods have been changed into artificial foodstuffs, with the very best substances purified away that the Almighty put there to keep us in perfect health.”

As these comments reveal, the Scots themselves were well aware of the detrimental changes that modern agriculture and food processing were wreaking on their long-venerated primary foodstuff. McNeill often turns to the details of careful oat milling and

preparation that she fears will one day be utterly abandoned: “A good miller knows just what samples of grain to select, just how long the process of drying in the kiln requires, just how to set the stones for the correct shelling and grinding of the cleaned and dried oats. The method of kiln-drying is somewhat more arduous than the modern method of mechanical drying, but it is to the kiln that we owe the delectable flavor of the best oatmeal.”

At one time, water-driven oat mills with stone grinders dotted the Scottish landscape at intervals of about every eight miles. McNeill continues, “In meal from the local mills, as in château wines, there are constant minor differences in taste, due in part to the quality and age of the grain, and in part to the temperature and time taken in the kiln. Country folk with a natural palate always appreciated the fact that the age-old primitive structure of the local mills provided an agreeable variation in the flavour of the meal. Far too much of the meal in the market today [1920s] is mass-

milled by a process which affects adversely both its flavour and nutritive qualities. That is why so many children do not enjoy the porridge as their parents did. . . .”

“The best oatmeal is well-ripened on the stalk, dried by sunshine and, if necessary, in the gentle warmth of a small kiln, and ground between two honest mill-stones. Some sort of virtue disappears with rapid drying, while high-speed milling between opposed surfaces of steel may possibly add a trace of iron to our diet, but cannot achieve the effect of a little fine sandstone dust.”<sup>23</sup>

Before, during and after the advent of the water-driven mill, with which the Scots had experimented perhaps as early as 700 AD, farmwives milled their oats by hand with the use of a quern, “a hand-mill composed of two circular stones with a hole in the centre of the upper one, through which it is fed corn [grain], and a wooden handle. The meal falls from all sides on to a wide tray, and by means of a wooden spindle can be ground

coarse or fine at will...” The ancient quern worked so efficiently that it had continued in common use through the nineteenth century and even well into the twentieth.

Farmers who grew their own oats but sent them to the local mill to be threshed, winnowed and ground into meal also received in return a bag of



Hearty Scottish fisherfolk. Note the size of the upper arms on the fisherman.

“sids”—the inner husks of the oats to which some of the nutritious kernel would adhere. From these sids an ancient Celtic dish called sowans”(or sowens) was made.

The sids were soaked in water for approximately one week (or even more) until they were well soured. The liquid was then poured off and reserved, the sids squeezed to extract the last bits of goodness, and then discarded. The reserved liquid would sit another two days, collecting as sediment at the bottom of the vessel. McNeill comments that this sediment “contains practically all the nutritious properties of the oatmeal in its most easily digested form. When required for use, pour off all of the clear liquid (swats) and put some of the sediment (sowans) into a saucepan, allowing a gill [five ounces] for each person, with two gills of water and salt to taste. Bring to the boil, stirring continuously, and cook gently for ten minutes or longer, until thick and creamy. Serve like porridge, in wooden bowls or deep plates, with cream or rich milk.”

In his 1904 work *Scottish Life and Character*, William Sanderson quotes an Englishman’s impression of sowans to his friends after his return south: “The lady of the house boiled some dirty water, and by the blessing of God it came

out a fine pudding.”

Ubiquitous oats were prepared in many ways, and many of them deceptively simple. “The ancient way of dressing corn [grain],” writes Martin Martin circa 1695 in *A Description of the Western Isles of Scotland*, “which is yet used in several Isles is called Graddan, from the Irish word Grad, which signifies quick. . . . A Woman sitting down, takes a handful of Corn [sheaf of grain, in this case oats], holding it by the Stalks in her left hand, and then sets fire to the Ears, which are presently in flame; she has a Stick in her right hand, which she manages very dexterously, beating off the Grain at the very Instant, when the Husk is quite burnt, for if she miss of that, she must use the Kiln, but experience taught them this Art to perfection. The Corn may be so dressed, winnowed, ground and baked within an Hour after reaping from the Ground. The Oatbread dressed as above is Loosening, and that dressed in the Kiln is Astringent, and of greater strength for laborers: but they love the Graddan, as being more agreeable to their taste.”

#### THE KAIL YARD

“As oats and barley were the staple grains,” McNeill explains, “so kail [kale] was long the

The best oatmeal is well-ripened on the stalk, dried by sunshine and, if necessary, in the gentle warmth of a small kiln, and ground between two honest mill-stones.

#### PORRIDGE

The following instructions for “the one and only” oat porridge, from *The Scots Kitchen*, are wonderful to contemplate if only for the theatricality of the ritual!

“The halesome parritch, chief o’ Scotia’s food.” –Robert Burns  
(The One and Only Method)

*Oatmeal, salt, water*

“It is advisable to keep a goblet [cast iron cooking pot] exclusively for porridge.

Allow for each person one breakfastcupful of water, a handful of oatmeal (about an ounce and a quarter), and a small saltspoon of salt. Use fresh spring water and be particular about the quality of the oatmeal. Midlothian oats are reputed to be unsurpassed, but the small Highland oats are very sweet.

Bring the water to the boil and as soon as it reaches boiling-point add the oatmeal, letting it fall in a steady rain from the left hand and stirring it briskly the while with the right, sunwise, or the right-hand turn for luck—and convenience. A porridge-stick, called a spurtle, and in some parts a theevil, or, as in Shetland, a gruel-tree, is used for this purpose. Be careful to avoid lumps, unless the children clamour for them. When the porridge is boiling steadily, draw the mixture to the side and put on the lid. Let it cook for from twenty to thirty minutes according to the quality of the oatmeal, and do not add the salt, which has a tendency to harden the meal and prevent its swelling, until it has cooked for at least ten minutes. On the other hand, never cook porridge without salt. Ladle straight into cold porringers or soup-plates and serve with individual bowls of cream, or milk, or buttermilk. Each spoonful of porridge, which should be very hot, is dipped in the cream or milk, which should be quite cold, before it is conveyed to the mouth.”

The traditional Scots seasoning for porridge is only salt; sugar, as used by the English, was early on considered “deplorable.”

staple vegetable. His kail-yard was, in fact, to the old Scots crofter what his potato plot was to the Irish peasant. There he planted cabbages for summer and green kail for winter use, in addition, of course, to potatoes. . . . The vogue of kail, however, was originally confined to the Lowlands. The Highlander preferred the common nettle in his broth, and appears to have regarded the use of kail as a symptom of effeminacy.”

Kail was so ubiquitous a vegetable that it lent its name to the vegetable garden in general (the kail-yard) as well as to the evening meal, regardless of what else might be served (“Will you come and tak’ your kail wi’ me?”), and, by extension, the general term for broth or soup.

The potato traveled to Scotland via Ireland, and its first recorded appearance there is in 1701. In his *Domestic Annals of Scotland*, published in 1885, Robert Chambers tells us that “About 1773 it was beginning to be cultivated in gardens, but still with a hesitation about its moral character,

for no reader of Shakespeare requires to be told that some of the more uncontrollable passions of human nature were supposed to be favoured by its use. . . .”

Turnips were introduced at about the same time. Carrots, summer cabbages and other “cole-worts” provided welcome variety in the diet.

## FISH AND SEAFOOD

The Scots have traditionally eaten more fish than their carnivorous neighbors in England. McNeill describes the vast bounty of fish and sea food available to the Scots: “The great salmon-rivers and innumerable lochs and trout streams,

## TRADITIONS IN PORRIDGE PREPARATION

The old Scottish preparation of sowans resembles almost precisely the ancient Russian dish called oat *kissel* (pronounced “kee-SYELL”)—made from whole oats, which also produced a smooth, soured gel that was understood to be easily digested and especially nourishing for children, the elderly and convalescents. This complex method of preparation was certainly a means to address all of the components in grain that have been a challenge for the human digestive anatomy.

Oats contain more phytates than almost any other grain—in fact their high phosphorus content is largely bound up in their phytates. At the same time, oats possess relatively small amounts of phytase, the enzyme needed to neutralize phytate. The usual means to reduce phytate content in wheat or rye—by soaking for eight to twelve hours in a warm, slightly acid medium—is far less effective with oats. Germination and/or fermentation are the means to best convert phytate in oats. The old, traditional harvest methods provided natural opportunities for the oats to start and stop germination after harvest in their ripening and storage out doors, when in contact with light applications of dew or rain. The scythed sheaves first stood in the fields for days or even weeks until the crop was fully harvested. The sheaves were then collected and expertly piled in large, twenty-foot tall stacks and lashed down with ropes against wind, rain and snow. Of course it would be a disaster if the oats were actually to sprout fully before they were needed, but it seems likely that natural conditions allowed for some conversion of phytates while in storage. Drying in the kiln removed excess moisture and allowed for better milling and removal of the outer hull. The “sids” that the miller returned to the Scots farmer would contain most of the phytate still present in the oat groat—as it is contained in greatest concentration in the bran. The very long souring process—a week or more on average—would give the sids the time they needed to ferment, while also converting the gluten, starches and sugars into a nearly pre-digested form.

Another common preparation of oat porridge in the Scottish kitchen included the farm wife cooking a large pot of porridge early in the week that would be poured into the drawer of the kitchen cupboard and left to cool and congeal. All week, family members would cut a slice to take with them to the fields and eat cold under its new name, calders. Certainly the calders soured pleasantly as the days went by. Slices were also fried in butter to accompany fish or eggs.

“Whey-whullions,” according to *The Scots Kitchen*, was “formerly a common dish among the peasantry of Scotland, consisting of the porridge left at breakfast, which was beaten down among fresh whey, with an additional quantity of oatmeal.”

Although one finds numerous references to the old tradition of soaking the oatmeal overnight before making breakfast porridge, there are just as numerous old methods that do not employ a pre-soaking stage. In particular, the preparation of brose is a very early version of “quick oats” if there ever was one: “Put into a bowl two handfuls of oatmeal. Add salt and a piece of butter. Pour in boiling water to cover the oatmeal and stir it up with the shank of a horn spoon, allowing it to form knots. [The oatmeal inside the knots is raw.] Sup with soor dook [buttermilk] or sweet milk, and you have a dish that has been the backbone of many a sturdy Scotsman.”

Milk brose is made similarly, except with boiling milk instead of water, and sometimes the liquid left from boiling kail was used to prepare kail-brose. At one time servants in straitened circumstances had to make do with plain brose three times a day, with perhaps pease-meal brose or turnip brose on a Sunday and not much else. A skin ailment called Scotch fiddle was also common at this time, so called because of the constant itching between the fingers of the sufferer. Whether this was a kind of dermatitis or eczema brought about by an excessive near-raw oat diet, or a deficiency symptom because of a general lack of nutrients, or even scabies mites from cramped and abject living quarters is now difficult to tell. At the time, the cure was to stop eating oats and subsist on pease porridge until the skin cleared.



together with the wide sea-track that skirts our shores from Stornoway to Eyemouth—the immemorial route of the annual migration of our herring shoals—provide us with a wealth of fish of high quality. The most important of our white fish are haddock, cod, plaice and hake; others are whiting, halibut, turbot, lemon-sole and ling; and in our herring (as in our oats) we possess a foodstuff of the highest nutritional value and of a quality unexcelled in any other part of the world.”

A diet high in fish and sea foods, including sea weeds, was observed to bestow particular vigor and lustiness to seaside inhabitants. Martin Martin in *A Description of the Western Isles* tell us “It is a general Observation on all such as live on the Sea Coast, that they are much more prolific than any other people whatsoever.”

And McNeill remarks in a footnote that “Aphrodite was born of the sea, and was commonly held to exercise her influence through certain products of the sea, notably (in the Scottish tradition) trout, skate, shell-fish and salt. Skate-bree (the liquor in which skate has been boiled) is a famous old Scottish love-potion.”

Shellfish was also very important as a staple of the diet—of these, oysters reigned supreme

throughout the seventeenth and eighteenth centuries, with Scottish oysters shipped by the thousands of barrels all through the British Isles.

In *The Good Scots Diet: What Happened to It?* author Maisie Steven emphasizes the fact that fresh fish would have made a significant contribution to the diet of inland dwellers to such a degree that they actually became tired of it—a startling thought to us nowadays when such bounty would be relished as the highest luxury.

In *The Scottish Gael* (1831), James Logan writes, “In Aberdeenshire the servants, during the summer, had so much salmon that they refused to eat of it oftener than twice a week.” “But on the West Coast,” comments Maisie Steven, “the fish which added most to the frugal diet of the common people was unquestionably the herring. . . . Because of the herrings’ well-known habit of arriving periodically in great shoals, it is easy to understand how some technology for preserving surpluses came to be devised, and how this led eventually not only to each cottage having its own barrel of salt herrings as a bulwark against want, but also to the emergence of that succulent item so beloved of gourmets everywhere, the Scots kipper. It is of interest, however, that in earlier times the term ‘kipper’

A diet high in fish and sea foods, including sea weeds, was observed to bestow particular vigor and lustiness to seaside inhabitants.

#### NETTLE KAIL [BROTH]

*“If they would eat nettles in March  
And drink mugwort in May,  
So many fine maidens  
Would not go to the clay.”*

Funeral song for a Scottish mermaid.

“This simple but delicious soup is associated especially with the month of March, when nettles are young and fresh and the black March cockerel [young rooster] is exactly a year old, with young and tender flesh . . . . In the old days, March time was tonic time, and it was believed that nettle kail—taken three times during the month, sometimes on three consecutive days—purified the blood, cleared the complexion, and in general, ensured good health for the ensuing year.

*A year-old cockerel, young nettles, oat or barley meal, butter, salt, pepper, wild garlic or onion, water.*

Gather a sufficient quantity of young nettles—it is advisable to wear gloves. Strip off the young, tender leaves at the top, discarding the coarser ones, and wash in several changes of salted water. Dry in a clean cloth and chop finely, unless the leaves are very small. Put the dressed and stuffed bird (see below) into the kail-pot with two quarts of cold water. Bring slowly to the boil, and add the nettles—about three-quarters of a pint—and a handful of oat or barley meal, stirring well. Add salt to taste, a good pat of butter, and a little wild garlic or onion. Simmer until the bird is tender, then season the kail to taste.

For the stuffing, rub a piece of butter into twice its weight in oatmeal or barley meal, or substitute finely chopped suet for the butter. Season with salt, pepper and a little wild garlic. Mix the ingredients well and stuff the bird. Insert a skewer in the opening.

Nettles make an excellent substitute for spinach in early spring.”

frequently refers to salmon rather than the herring. . . . The traditional cereal-based diet being short in vitamins A and D meant that herrings, richly endowed with these, could provide an excellent supplement.”

McNeill provides at least a dozen recipes for fish liver dishes, attesting to their popularity, and remarking that “The livers, which must be perfectly fresh, make a rich and nourishing stuffing. (Cod liver is richest in oil.) In Shetland, where they are much used, a special utensil called a *pannabrad* (*panna*, kettle and *brad*, melting) is used for melting fish livers, and the oil obtained is stored for winter use.”

*The Cook and Housewife's Manual* of 1826, allegedly written by Mistress Meg Dods, the dauntless landlady of the inn in Sir Walter Scott's novel *St. Ronan's Well*, was actually penned by Mrs. Isobel Christian Johnson, wife of an Edinburgh publisher and herself the editor of *Tait's Magazine*. McNeill shares many of Meg Dods's recipes in order to exemplify the Anglo-Gallic style of cooking that Mrs. Dods/Mrs. Johnson considered the greatest the world had ever known. McNeill feels that the work, filled with practical culinary advice as well as sound gastronomic philosophy, is “not unworthy to be placed alongside its French contemporary, Brillat Savarin's *Physiologie du Goût*.”

The *Manual's* simple but refined method of vegetable preparation would be appreciated today: tender vegetables are steamed—never boiled to death in water—and served with complementary fresh herbs and butter; potatoes are to be fried in goose fat; sorrel is cooked in butter. Luscious

#### COMMON FISH DISHES FROM *THE SCOTS KITCHEN*

##### TO FRY HERRING IN THE SCOTS FASHION

*Wha'll buy my caller [fresh] herrin'?*  
*They're bonnie fish and dainty fairin'*  
*Wha'll buy my caller herrin'*  
*New drawn frae the Forth?*  
—Lady Nairne: *Caller Herrin'*

*Fresh herring, oatmeal, pepper, salt, dripping*

“Cleanse, dry and trim the herring. Score across slantwise in two or three places on each side. Sprinkle with pepper and salt and toss in coarse oatmeal on a sheet of kitchen paper until they are thoroughly coated. An ounce of oatmeal and the same quantity of dripping should be allowed for every two herring. Make the dripping smoking hot in a frying-pan and brown the herring nicely on both sides, allowing them from ten to fifteen minutes. Drain on paper and serve very hot. They may be garnished with parsley and cut lemon. In Buchan, vinegar and oatcakes are considered the perfect accompaniment to this dish.”

##### CRAPPIT [STUFFED] HEIDS

Formerly a favorite supper dish all over Scotland.

*Heads of haddock, forcemeat*

“The original Scots farce was simply oatmeal, minced suet or butter, pepper, salt, and onions made into a coarse forcemeat for stuffing the heads of haddock and whiting. Modern crappit heads are farced with the fleshy parts of a boiled lobster or crab, minced, a boned anchovy, the chopped yolk of an egg, grated bread or pounded biscuit, white pepper, salt, cayenne, a large piece of butter broken down into bits, with beat eggs to bind, and a little oyster liquor. A plainer and perhaps as suitable stuffing may be made of the roe of haddock or cod parboiled, skinned and minced, mixed with double its bulk of pounded rusks or bread-crumbs, a good piece of butter, shred parsley, and seasonings, with an egg to cement the forcemeat. Place the crappit heads on end in the bottom of a buttered stew-pan, pour the fish-soup gently over them, cover and boil a half-hour.”

##### CRAPPIT HEIDS FROM THE ISLE OF LEWIS

*The heads and livers of fresh haddock, oatmeal, pepper, salt, milk*

“Chop the livers, which must be perfectly fresh, mix them with an equal quantity of raw oatmeal, add pepper and salt, and bind with the milk. Stuff the heads with this mixture, and boil them with the fish. The liquor makes good stock for fish soup.

A similar stuffing is made with cods' livers, but the body, not the head, is stuffed, through the gullet.”

soups, such as oyster, are thickened with egg yolks and cream, and again with the addition of simple, but fresh and complementary herbs.

#### BREAKFAST IN SCOTLAND

McNeill readily admits that it is not dinner, but breakfast, that is the meal upon which the Scots particularly pride themselves. In Scotland, she gently but wryly comments, dinners are generally “more distinctive than distinguished.”

“In the breakfast,” asserts Dr. Johnson, “the Scots, whether of the Lowlands or the mountains, must be confessed to excel us. . . . If an epicure could remove by a wish in quest of sensual gratification, wherever he supped, he would breakfast in Scotland.”

Neither tea nor coffee—fashionable amendments to wealthy tables which made their way to Scotland via France and England in the early eighteenth century—appears on the Highland breakfast-table described by Tobias Smollett in *Humphrey Clinker*:

“One kit of boiled eggs; a second, full of butter; a third, full of cream; an entire cheese made of goat’s milk; a large earthen pot, full of honey; the best part of a ham; a cold venison pasty; a bushel of oatmeal, made into thin cakes and bannocks; with a small wheaten loaf in the middle, for the strangers; a stone bottle full of whiskey; another of brandy, and a kilderkin [half a barrel] of ale.”

No less than dinner, the first meal of the day was a social occasion in which guests, extended family and travelers alike were regaled with the best the gentry household had to offer.

McNeill recounts another bounteous breakfast spread enjoyed by a French visitor: “In 1784, at the house of Maclean of Torloisk, on the island of Mull, Faujas de St. Fond found the breakfast table ‘elegantly covered with the following articles: Plates of smoked beef, cheese of the country and English cheese, fresh eggs, salted herrings, butter, milk and cream; a sort of *bouillie* of oatmeal and water [clearly porridge was a novelty to the Frenchman!], in eating which, each spoonful is plunged into a basin of cream; milk worked up with the yolks of eggs, sugar, and rum; currant jelly, conserve of myrtle, a wild fruit that grows among the heath; tea, coffee, three kinds of bread (sea biscuits, oatmeal cakes, and very thin and fine barley cakes); and Jamaica rum.”

“The breakfast!” exclaims Dr. Redgill in Susan Ferrier’s *Marriage*, after vigorously abusing the Scottish dinner, “that’s what redeems the land—and every county has its peculiar excellence. In Argyllshire you have the Lochfyne herring, fat, luscious, and delicious, just out of the water, falling to pieces of its own richness . . . . In Aberdeenshire you have the Finnan haddo’ with a flavour all its own, vastly relishing. . . . In Perthshire there is the Tay salmon, kippered, crisp and juicy—a very magnificent morsel. . . .”

In *My Schools and School-masters*, Hugh Miller, describing the “genuine Highland breakfasts” he enjoyed on his visits to an aunt in Sutherland, writes: “On more than one occasion I shared in a not unpalatable sort of blood-pudding, enriched with butter, and well seasoned with pepper and salt, the main ingredient of

In Argyllshire you have the Lochfyne herring, fat, luscious, and delicious, just out of the water, falling to pieces of its own richness.

#### HIGH FISH

Mrs. Dods/Mrs. Johnson preferred her fish to be “ripened” for two days or more, as fresh fish was considered “harsh”—this last a Scots predilection of the time for slightly “high” fish dishes. Two descriptions follow.

#### KIOSSED HEIDS

“These are fish heads rolled in a cloth and put into the crevice of a stone wall, where they are left until they acquire a gamey flavour. They are then cooked—usually roasted—and are eaten with butter and potatoes.”

#### EARTH-DRIED SKATE

This description is attributed to the early twentieth-century English naturalist and author Harry Mortimer Batten: “Skate are placed on damp grass and covered with sods for a day or two. They are too tough if eaten fresh, but seasoned for just the right time they are the most excellent breakfast dish I know. And they make very good soup. . . . Skate must be fried or baked and served with the skin on, never boiled. . . . Skate are said not to take salt. They are frequently hung up unsalted and eaten ‘high’—an acquired taste—as in the Island of Lewis.”

which was derived from the yeld [young] cattle of the farm. The practice was an ancient and by no means unphilosophic one. . .”

Another contemporary writer also recalls collecting vitamin D-rich blood from living animals: “Some of the stronger cattle were bled in the spring by an expert. The blood was carefully prepared, salted in a tub, and set aside for use. We called it black pudding.”

Blood sausages, or blood puddings, were made from ox, pig’s, sheep’s and goose blood. The blood was often thickened with oatmeal or barley meal, enriched with suet, lard or other fat, and seasoned with onions, pepper, salt and other spices. Tripe skins were used as casings, except in the case of goose blood sausages, for which the skin of the goose’s neck served this purpose.

Although never great meat-eaters, the Scots raised beef and mutton of excellent quality; in fact, the famous roast beef of Olde England, according to McNeill “at its best is Scots beef, which always fetches a higher price in the London market.”

## DAIRY PRODUCTS

Milk from cows, sheep, and goats has been an important cornerstone of the Scots diet, and especially to help eke out the times when the diet

was largely cereal-based. Fresh milk, buttermilk and whey were primary beverages for a very long time, along with supplemental ale brewed from barley and oats.

Whey was drunk fresh, or fermented further to create a sparkle, and was a favorite thirst-quencher. Of interesting historical note, McNeill explains that “Whig, (Old Scots *quhig*) is the acetous liquid that subsides from sour cream, and is the origin of the political term, which was first applied by Scottish Episcopalians (who were almost invariably Tories) to Presbyterians, and by Presbyterians of the Established Church to those of the dissenting bodies.”

Buttermilk was also in great demand in the summertime, both among the rural people and city dwellers. McNeill notes it “was valued as both food and drink, and was held to cool the stomach in fever and to aid the cure of dysentery and other ailments.” J. Jamieson in the *Book of the Old Edinburgh Club* recounts the popularity of buttermilk in the city: “In old Edinburgh, throughout the summer months, one might witness daily the picturesque sight of milkmaids on horseback riding into town with soor-dook [buttermilk] barrels strapped across the saddle behind them. . . . It has been estimated that at the end of the eighteenth century a thousand pounds a year was paid in Edinburgh during the months of June, July, August, and September for this very inexpensive beverage, which was sold for a penny the Scots pint (i.e. two Imperial quarts).”

Yet one more romantic evocation of the era from Alexander Carmichael’s *Carmina Gadelica* paints an irresistible bucolic scene:

“The milking-songs of the people are numerous and varied. They are sung to pretty airs, to please the cows and induce them to give their milk. The cows become accustomed to these lilt and will not give their milk without them. This fondness of the Highland cows for music induces

## CHEESE IN SCOTLAND

The Scots have made cheeses since time immemorial, and although they never matched the inventiveness and variety of the French, their cheeses have been an important and loved food for generations. Here is a recipe for a fresh curd cheese that was often made especially for children.

### HATTED KIT

(An old Highland Recipe)

*Buttermilk, new milk, sugar, nutmeg, double cream*

“Warm two quarts of buttermilk slightly at milking time. Carry the vessel to the side of a cow and milk into it a pint of milk. Stir well. At the next milking, add another pint and stir again. Let it stand till it firms and gathers a hat. Remove the curd, place it on a hair sieve, and press the whey through till the curd is stiff. Put into a mould and leave for half an hour. Turn out and strew with sugar and nutmeg, and serve with thick cream.”

“Crowdie” is another common farmstead cheese product—“crowdie” derives from Old Gaelic for “curd.” In good times, oatcakes were adorned with thick coatings of crowdie.

### CROWDIE OR CRUDDY BUTTER

“In Iverness and the Ross shires there is a rural breakfast article called crowdie, not the common composition, oatmeal and water or milk, but made thus: Take two parts fresh sweet-milk curd and one of fresh butter. Work them well together and press them in a basin or small shape and turn it out, when it will slice nicely. When whey is much used for drink in hot weather the curd may be usefully thus disposed of. It is eaten with bread and butter and keeps a long time, if goût is liked. This preparation, when the curd is well broken and blended with the butter, is sometimes made up in wooden moulds and kept for months, when it becomes very high flavoured though mellow.”



owners of large herds to secure milkmaids possessed of good voice and some 'go.' It is interesting and animating to see three or four comely girls among a fold of sixty, eighty or a hundred picturesque Highland cows on meadow or mountain slope. The moaning and heaving of the sea afar, the swish of the wave on the shore, the caroling of the lark in the sky, the unbroken song of the mavis on the rock, the broken melody of the merle in the break, the lowing of kine without, the answering of calves within the fold, the singing of the milkmaids in unison with the movement of their hands, and of the soft sound of the snowy milk falling into the pail, the gilding of hill and dale, the glowing of the distant ocean beyond, as the sun sinks into the sea of golden glory, constitute a scene which the observer would not, if he could, forget."

McNeill adds that well into the twentieth century, the milkmaids in many parts of Scotland would call their cows with "Proochey, leddy, proochey moo!" [*Approchez moi!*]

## HOW TO HUNT A HAGGIS

Haggis is simply the apotheosis of the sausage. Poet Robert Burns regaled it as the "great chieftain o' the puddin' [sausage] race," and further honored it with a long, mock-heroic poem, "Address to a Haggis," that in recent times is ritually recited before serving forth the haggis during Burns Night suppers, held each January 25 on the anniversary of Burns's birth. (This year he celebrated his 250th.)

The origin of the name haggis is sometimes attributed to the French *hacher*—from which we derive the terms "hash" and "hatchet" in English—but it is more likely that it simply came from the Scots verb *hag*, meaning to hack or chop. Similar stuffed concoctions were prepared by many peoples since antiquity, but only the Scots seem to have preserved the custom to the present day. McNeill semi-humorously rails against

the modern prejudice suffered by haggis: "Why everybody except the Scots stopped stuffing the paunch whilst they went on stuffing the intestines, the annals of gastronomy do not reveal. And why so many people furth of Scotland regard the haggis as an uncivilized dish and sausage as a civilized one is another mystery.

"The choice of haggis as the supreme national dish of Scotland is very fitting. It is a testimony to the national gift of making the most of small means; for in the haggis we have concocted from humble, even despised ingredients a veritable *plat de gourmets*. It contains a proportion of oatmeal, for centuries the national staple grain, whilst the savoury and wholesome blending of the cereal with onion and suet. . . is typically Scottish. Further, it is a thoroughly democratic dish, equally available and equally honoured in castle, farm and croft. Finally, the use of the paunch of the animal as the receptacle of the ingredients gives that touch of romantic barbarism so dear to the Scottish heart."

George Saintsbury, perhaps the most influential English historian of the early twentieth century, Professor of English at the University of Edinburgh, and a "distinguished critic of food and wine as well as letters" writes: "Generally speaking, Scotch ideas on food are sound. The people who regard haggis and sheep's head as

## HAGGIS (Traditional Cottage Recipe)

*The large stomach bag of a sheep, the pluck (including heart, lungs and liver) beef suet, pin-head oatmeal, onions, black pepper, salt, stock*

Brown and birstle (dry or toast) a breakfastcupful of oatmeal before the fire or in the oven. Clean the great bag thoroughly, washing it first in cold water and then, after turning it inside out, scalding and scraping it with a knife; then let it soak overnight in cold salted water. In the morning put it aside with the rough side turned out. Wash the pluck well and put on to boil covered with cold water, letting the windpipe hang over the side of the pot to let out any impurities.

Let it boil for an hour and a half, then take it out and cut away the pipes and any superfluities of gristle. Mince the heart and lungs and grate half the liver. (The rest of the liver is not required.) Put them in a basin with half a pound of minced suet, two medium-sized onions finely chopped, and the toasted oatmeal, and season highly with black pepper and salt. (A pinch of cayenne, say some housewives, 'makes all the difference.') Over the whole pour, preferably when cold, as much of the liquid in which the pluck was boiled (or, better still, good stock) as will make the mixture sappy.

Fill the stomach bag rather more than half full—say five-eighths—as it requires plenty of room to swell. Sew it up securely and place it on an enamel plate in a pot of boiling water (to which half a pint of milk is often added), or, better still, boil it in stock. As soon as it begins to swell, prick it all over with a large needle to prevent its bursting. Boil steadily, without the lid, for three hours, adding boiling water as required to keep the haggis covered. Serve very hot without any garnish.

The usual accompaniments are mashed potatoes and mashed turnips or, better still, the two mashed together with a good piece of dripping.

things that the lips should not allow to enter them, and the tongue should refuse to mention, are, begging their pardons, fools.”

#### THE SCOTS TRADITION TODAY

In 1985, Maisie Steven published *The Good Scots Diet: What Happened to It?* The cry of distress in her title reflects recent alarming trends in the modern Scots diet that one sees, to greater or lesser degree, in all parts of the industrialized world. Steven noted that health workers recorded a decline in the quality of the diet in certain areas in Scotland in the 1920s, but the health of children in some agricultural districts was still quite sound as revealed in the findings of the Medical Research Council’s Report No. 101:

“The town children appeared to be poorly developed, often pale, and in Glasgow frequently rachitic, thus forming a striking contrast to the country children, who were sturdy, well-developed and rosy-cheeked, and in whom rickets was almost non-existent.”

Their food, Steven notes, “consisted of soups, stews, porridge, milk, oatcakes and scones, the cottage gardens contributed a limited variety of vegetables and some soft fruit. [The researchers] noted the fact that although the parents were in general very poorly paid, they did at least have rent-free houses and received some extras such as meal, potatoes and milk; fresh air and exercise were also duly acknowledged as having contributed to the altogether superior physique of the country children.”

In the 1960s, rickets made a disturbing reappearance among children in Glasgow, and many of the elderly were found to be suffering from anemia and osteomalacia, while middle-aged citizens were commonly plagued with overweight, hypertension, and heart disease. Typical modern Scots foods were flour and sugar products of numerous kinds, tinned meats and soups, pasta, syrups, buns, cakes and biscuits. Stevens relates the habitual daily menu for children as consisting of a packet or two of crisps (potato chips) for breakfast—or no breakfast at all—followed by pastry or rolls for lunch (a West Scotland “specialty” was a white roll stuffed with crisps) and for supper a meat pasty or sausage roll, followed by pie or trifle or ice cream.


Could there be an alternative to this dietary

wasteland? Stevens relates an interesting story: “A few years ago a Dane, Paul Stemmann, wrote a most interesting account of his trek across the Highlands with a pack pony. While he greatly appreciated the people and the superb scenery, his comments on the food were less than complimentary. He missed nothing—the tired vegetables in the shops, the general lack of well-cultivated gardens on the West coast—but especially he wondered why it was that fresh food seemed to play such a small part in the daily menus. ‘All through the Highlands,’ he writes, ‘there were venison, salmon, lobster, crab, wild raspberries, rowanberries, chanterelles—all the most delectable foods. It was all around, but never put in front of you.’”

Steven was still able to find living persons who could indeed remember alternatives: “An elderly lady from the Outer Hebrides who kindly cast her mind back for the benefit of this study to the food of her childhood early this century, recalled that main meals in those days frequently centred around fish of one kind or another—salted herring or mackerel, dried salt fish, shellfish—although mutton, fowls and rabbits were also regular fare. Potatoes still formed a basic part of the food—not infrequently twice in the day—other vegetables apart from turnips being comparatively rare except in broth. Oats, Indian (maize) meal and flour, along with dairy produce, formed the basis of the other meals; puddings were almost exclusively rice and carrageen (purple seaweed); fruit remained as scarce as it had ever been.

“She recollected: ‘The “piece” we carried to school consisted of oatcakes or sometimes scones, with crowdie [curd with butter], treacle or jam. And well I remember how ravenous we always were by the time we had walked the long miles home! A bottle of seal oil always stood on the mantelpiece and we seemed to be given a dose for every kind of ailment.’”

The industrial standardization of food that F. Marian McNeill feared would overtake Scottish cooking spells the death not only of culinary culture, but eventually of the people who once were sustained by their native dietary culture. McNeill refuses to consider defeat, however: “We may rest confident that out of the domestic travail through which our women folk are now passing there will emerge a new delight in the home, and, not least, in the kitchen.

“*Lean gu dlùth ri cliù do shìnnse,*” says the Gaelic proverb: “Let us follow in the brave path of our ancestors.” 

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## TRADITIONAL MEAT DISHES FROM *THE SCOTS KITCHEN*

### POTTED HEAD (Old Family Recipe)

*Ox head, ox foot, salt, pepper, cayenne, mustard, bay leaf, mace, cloves or allspice or nutmeg, water*

Soak half an ox head and a foot for a few hours. Break them up into several pieces. Remove from the foot as much of the fat and marrow as possible. Scald head and foot with boiling water and, when cool enough, scrape and clean them thoroughly. Put them into a large saucepan, plentifully covered with cold water, and add two tablespoons of salt. Bring this very slowly to the boil, skim carefully, and let it simmer for three hours. Take out the head and foot and remove all the best meat from them. Return the bones to the pan, adding more water if there is not enough to cover them. Add a bay leaf, a blade of mace, and a very few cloves, if liked. Let this simmer for two or three hours longer. Strain into a basin and put aside till it gets cold. There should be at least eight breakfast-cupfuls of liquid. Next day (or sooner) remove all the fat from the top of the stock, which should now be a jelly. Trim and chop the meat and put it into a clean saucepan with the stock. Let this simmer for fifteen or twenty minutes. Add half a teaspoon of mustard, the same of allspice or nutmeg if cloves have not been used, and season rather highly with pepper and cayenne. Pour into wetted moulds and put in a cool place to set. Turn out and serve with salad.

### TO DRESS A SHEEP'S HEAD

*O Lord, when hunger pinches sore,  
Do Thou stand us in stead  
And send us, from Thy bounteous store,  
A tup or wether head.*

—Robert Burns: *A Grace*

The head, after singeing, should be boiled long and gently, as for Powsowdie (see below) along with the trotters. It is then split and laid flat on a large ashet [serving tray] with the trotters around it, the tongue sliced, and, if liked, balls of yolk of egg. The dish is garnished with sliced vegetables—carrots, turnips and onions—that have been cooked in the broth. Parsley or brain sauce may be served with it.

### POWSOWDIE OR SHEEP'S HEAD BROTH (*Pow* = head; *sowdie* = sodden, or boiled)

*Sheep's head and trotters, mutton, barley, peas, carrots, turnips, onions, parsley, salt, pepper, water*

Choose a large, fat, young head. When carefully singed by the blacksmith, soak it and the singed trotters for a night, if you please, in lukewarm water. Take out the glassy part of the eyes, scrape the head and trotters, and brush till perfectly clean and white; then split the head with a cleaver, and lay aside the brains, clean the nostrils and gristly parts, split also the trotters, and cut out the tendons. Wash the head and feet once more, and let them blanch till wanted for the pot.

Take a large cupful of barley, and about twice that quantity of soaked white (dried) or fresh green peas, with a gallon or rather more of water. Put to this the head, and from two to three pounds of scrag [bony parts of the neck] or trimmings of mutton, perfectly sweet, and some salt. Take off the scum very carefully as it rises and the broth will be limpid and white as any broth made of beef or mutton. When the head has boiled rather more than an hour, add sliced carrot and turnip, and afterwards some onions and parsley shred. A head or two of celery sliced is admired by some modern gourmands, though we would rather approve of the native flavour of this really excellent soup. The more slowly the head is boiled, the better both the meat and the broth be. From two to three hours' boiling, according to the size of the head and the age of the animal, and an hour's simmering by the side of the fire, will finish the soup. Many prefer the head of a ram [tup] to that of a wether [castrated sheep], but it requires longer boiling. In either case the trotters require less boiling than the head. Serve with the trotters and sliced carrots round the head.

McNeill supplies the following helpful home-preparation notes: "To singe the head at home, hold it over the fire, and as the wool singes scrub the burnt wool off with a knife; then hold the head over the fire and repeat until all the wool has been singed and rubbed off. Finally, go over the whole head carefully with a hot iron or poker until no trace of wool is left." It is said that the reason why the head was so tender in the old days was that the blacksmith's boys played football with it! "The decay of the smiddy [blacksmith's shop] has sadly reduced the popularity of this excellent soup."

## TWO RECIPES FOR FOWLS

### FEATHER FOWLIE

(A luncheon soup which may be a legacy of the Auld Alliance.)

*Fowl, ham, celery, onion, thyme, parsley, mace, salt, eggs, cream.*

Take a fresh fowl; joint and let the pieces soak for half an hour in cold water to which you have added a dessertspoonful of salt, then wash it well under the tap and put it into a stew-pan with a slice of ham, a stick of celery cut small, a sliced onion, thyme, parsley and a bit of mace. Cover with a quart of cold water, put the lid on, and bring it to the boil; then draw it to the side and let it cook gently for an hour and a half; strain, and immediately clear off all the grease with paper. Put it into another stew-pan and add a dessertspoonful of chopped parsley and a ladleful of first stock. Let it heat up for fifteen minutes and add the minced white meat of the fowl. Remove from the fire, stir in three strained yolks of egg and a dessertspoonful of warmed cream. Pour into a heated tureen.

MacNeill believes that “fowlie” is a corruption of *volaille*, and “feather” of *velouté*—“the more so as the soup bears a strong resemblance to the French *velouté de volaille*.”

### COCK-A-LEEKIE

(Traditional Recipe)

*A cock or plump fowl, leeks, prunes, Jamaica pepper, salt, veal or beef stock*

Cut off the roots and part of the heads of two or three bunches of leeks and wash thoroughly. Truss the fowl and place in a large pot with three or four of the leeks, blanched and chopped, and two quarts of good stock. Bring to the boil and cook gently for two hours or longer, until the fowl is tender, when it should be removed. Clear off all the grease with paper. Add the remainder of the leeks, blanched, with more salt, if required, and Jamaica pepper to taste. Simmer very gently until the leeks are tender. Half an hour before serving, add a dozen or so of prunes, unbroken. Remove the skin and bones from the fowl and mince the white meat fine and place in a tureen with the soup.

(Note courtesy of Meg Dods: “The soup must be very thick of leeks, and the first part of these must be boiled down into the soup until it becomes a lubricious compound.”)

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# Homeopathy Journal

## SHAMEFUL SUGAR CRAVINGS

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

Liz had a dirty little secret. Well, maybe not so dirty to others, but to Liz it was embarrassing so she kept it hidden from her family and friends. Sometimes she even denied it to herself.

Liz was a gourmet chef, working in one of the finest destination spas east of the Mississippi. She took pride in her reputation for having a keen appreciation of gourmet sensibility and nutrition, yet she had a personal vice. A clandestine act. A shameful indulgence that, if discovered, could taint her professionally. . . well, *she* thought so anyway. Liz was addicted to Twinkies.

This was no ordinary craving. Liz bought Twinkies by the case. . . literally. She had them stashed above the Viking refrigerator in the spa's expansive kitchen, in the glove compartment of her car for snacking during commutes, and at home she concealed them in the bedroom in her underwear drawer. She indulged in her secret sin in the mornings, when she felt overworked, and worst of all when she was exhausted, which was happening more frequently of late.

At first she saw the irony, and even humor in her choice of addiction, but her weight had been increasing steadily for the last few years and she was shaky when she tried to abstain. Recently her heart had been doing acrobatic flips in her now ample chest. It was no longer a laughing matter. Liz recognized she needed help but disdained drugs.

Instead, she turned to homeopathy, a medical method her physician grandfather had used when she was growing up in Germany. She learned of a homeopath of fine repute from one of the investors of the spa. He told her that this homeopath had helped him with his pre-diabetic condition. So she scheduled an appointment for herself.

When Liz confessed to the homeopath her awkward sugar addiction, she fully expected a

snicker. But the homeopath didn't find it odd. She merely listened compassionately as though she, too, had experienced the same covert compulsion.

"My intellect tells me no, but my stomach and salivary glands give me the OK," Liz explained. She also described her sleep habits, the details of the indigestion she sometimes suffered and at one point revealed the nightmares she used to experience. All of these features of her personality were of interest to the homeopath since homeopathic treatment is tailored to the unique aspects of the person as a whole, rather than to the disease. The practitioner explained to Liz that the remedy chosen for her would be specific to her, represented by her characteristics and symptoms. The homeopath added that despite Liz's best efforts, she might indeed find it difficult to abort the sugar cravings without a little help. Homeopathy has a reputation for stimulating the body's ability to bring itself to homeostasis, so as the pancreas becomes balanced, the cravings can diminish, clarified the homeopath. Your body will find its best way to respond.

"What way could that be?" Liz wondered.

Liz went home uplifted with renewed hope. The following day after eating three packages of her secret snack and a cup of cappuccino she started taking the remedy, *Argentum nitricum*. Then, she permitted herself the usual ration after lunch and two more upon retiring that night.

The next day was a repeat of her routine, but by day three she found herself longing for a refreshing drink instead of the Twinkies. This was noteworthy since she rarely experienced thirst. At first she considered chocolate milk, but resisted and instead found a glass of kombucha to be quite satisfying. "Hmm," she thought, "I wonder if it's the remedy making my body respond

Homeopathy has a reputation for stimulating the body's ability to bring itself to homeostasis, so as the pancreas becomes balanced, the cravings can diminish.

in a new way as the homeopath described?”

That night she settled into bed, counting. She had grown accustomed to measuring her day by the number of Twinkies she'd consumed and she realized that she had eaten only one packet over the entire day. “I'll just watch as this unfolds,” she reflected.


This routine repeated day after day until a week passed and she noticed she hadn't eaten more than one package of the little morsels in all that time! She also couldn't help noticing that her fatigue had faded and her thinking was more brisk, the way it had been in culinary school.

Two weeks into the first dose of *Argentum nitricum*, Liz discovered that her waistband was loose and her hands no longer ached when she worked the cool dough on the marble surface. But an unexpected dividend was that her heart had stopped fluttering. She had nearly become accustomed to this alarming sensation many afternoons while slicing vegetables.

“How could this be?” she wondered, as she sipped her newly beloved kombucha. “I've eaten these all my life. Could they really have been the cause of all these maladies? And have all these changes really occurred after only weeks of the little homeopathic pills?!”

It took a loss of ten pounds before she was thoroughly convinced of the reformation. The evidence was clear. . . . Liz appeared no longer to be a Twinkie junkie!

It was at this time that she made a prominent decision in her life. She threw out all the concealed little cakes. The cubbies in the big kitchen, the stash in the car, and even the store in the undies drawer were emptied once and for all. No remorse, no longing, no Twinkies. Liz was satisfied . . . she was gaining the health and figure she had always longed for.

And the other part of this story? Liz was so taken by her transformation that she implemented a sweet-free day at the spa once each week. On that day, sparkling kombucha is served in tall, frosted glasses with a twist of lime, instead of dessert. It's promoted as a refreshing aid and balance to digestion. And what a splash it has made among the employees and patrons! They affectionately call it “Fizzy Lizzy.” 

*Joette Calabrese, CCH, RSHom, a certified homeopath with a thriving practice of discerning clients throughout the United States and abroad, is a sought-after lecturer, author and radio guest. Ms. Calabrese's signature philosophy maintains that the blessing of health is not bestowed randomly, but can be achieved through the detailed and systematic method of classical homeopathy. Her nearly 25 years of extensive study and practice complement her unique methods of classical homeopathy with the precepts of slow food nutrition. She may be contacted for phone consultations, seminars, and a variety of nutritional and homeopathy CDs at [www.homeopathyworks.net](http://www.homeopathyworks.net) ; telephone: 716.941.1045.*

#### FINE TUNING THE REMEDY TO THE PATIENT

Unlike other medical modalities, homeopathy is a method of treatment that is specific to the individual, rather than to a pathology. It is holistic as it incorporates the aspects of the entire person, including the way the sufferer thinks.

*Argentum nitricum* is a powerful yet gentle remedy with a reputation for aiding people who suffer an extreme addiction to sweets and who show a marked inability to resist impulses in general. This can be seen as a desire to succumb to temptations on both an emotional as well as physical level. Since homeopathy treats the person and not the disease, when choosing this remedy for sugar addictions, these other components must also be considered. Otherwise, the remedy choice will be incorrect and the desired results will fail to materialize.

Interestingly, other remedies also address sweet addictions. *Sulphur*, for example, is useful for someone who also experiences sweet cravings, yet people who need it are those who suffer discomfort from heat accompanied by odorous perspiration. Had Liz been experiencing menopausal hot flashes attended by perspiration as well as her sugar addiction, the remedy choice might well have been *Sulphur*. But here is an interesting twist to the story and remedy choice. A person who is keenly aware of trying to avoid an ordeal is one who ought to be considered for the choice of *Argentum nitricum*. This is because this idiosyncrasy is a specific characteristic of this remedy picture. And it has been historically shown to be useful for many maladies associated with this personality trait. Other sugar addicts might not have considered this an issue, yet Liz found her addiction to be embarrassing and even shameful. One who might require *Sulphur* wouldn't have this concern. Hence, only *Argentum nitricum* would do for Liz.

These considerations underscore just how person-specific the remedies tend to be. This is the reason remedy choices for chronic illness ought to be made by a seasoned, credentialed homeopath.

Having said this, however, homeopathy indeed lends itself to self-prescribing in situations such as colds, indigestion and other self-limiting maladies. For this reason, the study of homeopathy is a perfect match for those who enjoy medical freedom via personal responsibility.

# Food Feature

## ALEWIFE: THE GIFT OF SPRING

By Ronald Halweil, MD

It's spring, so I can eat fresh alewife roe and milt for breakfast! This seasonal treat means winter is over, and many more ultra-fresh fish will be on the menu for many months to come.

The alewife have been arriving in early spring along the East Coast of the United States for thousands of years. This smallish herring fish, seldom a pound in weight or a foot in length, has always been a source of wonder and nourishment. The Native Peoples were grateful for fresh, oily fish to end the tedium of smoked dried fish, venison and oysters. The bulging roe (ovary) and milt (teste), loaded

with thousands of fine eggs and millions of sperm, were a potent winter's end natural gift of vitamins, minerals, fat and protein. And these fish appeared by the hundreds of thousands as they

exchanged their salt water life for a breeding interlude in sheltered fresh water streams and ponds, from the Gulf of St. Lawrence to North Carolina. Believe it or not, the alewife still arrives in the Hamptons.

We are not the only animals waiting for these fish. Herons, osprey, swans, sea gulls, crows, muskrats, opossums, and yes, rats, eagerly take advantage of this gift of Nature.

### A GIFT WORTH PROTECTING

I have personally indulged in this spring feast for twenty-five years, so it is very real to me. There are times when I am alone with the fish, and can quickly catch twenty or thirty fish with my dip net, a traditional way to catch them at this time of year. At other times there may be many people or fewer fish, and it's difficult to catch

even two or three. Once I witnessed thousands of fish, shoulder to shoulder, pushing and writhing to get into the freshwater stream through a narrowing, with many fish pushed onto dry land.

Sadly, this quantity is now rare; I haven't seen so many in twenty years. The sheer number of fish available, for free as a "commons" to be used by everyone, gives the false idea that there will always be these multitudes for ever and ever. We once thought that way about the American bison and the wild salmon of the Pacific. The Trustees of Southampton have rules about sharing

these fish but people can easily break these rules. The NY State DEC is impotent because the alewife is not considered a game fish, and they only regulate game fish.



The local police say the only violations for these greedy harvesters would be for littering. I have seen people with more than one thousand fish for a night's work, and they may have used nets strung across the neck of the stream, preventing even one fish from entering the breeding grounds. If no fish return to fresh water to spawn, how will we get the next generation? These fish, like salmon, only return to the stream of their birth, following the scents of their nursery waters.

### ENJOYING THE ALEWIFE

The alewife "run" can last a couple of months. When my children were young and we lived in Manhattan, they were excited to join me in this harvest. One time we took our very fresh fish to the beach where we started a small fire in the lee of a dune and roasted alewife on wooden

Through forty years in the practice of medicine, Ron Halweil, MD, never lost his love for fishing. Dr. Halweil shares his interest in health and nature with his wife of thirty-six years, his two children and two beautiful granddaughters.

Some of my favorite ways to prepare the alewife are fry 'em, bake 'em, pickle 'em, chop 'em, and even use some as bait.

skewers. It was cold and we were hungry and enjoyed this fish, though we needed to pick out the long thin bones. The flesh of the alewife, as with most other herring species, is delicious. Benjamin Franklin and George Washington both enjoyed feasting on the spring run of a larger herring, the American Shad.


The alewife has to be cleaned carefully if the roe and milt are to stay intact. This is the work the hunter-gatherer has to do to enjoy Nature's food first hand. These generative organs are the first target for the fish cleaner, and I keep a small bowl for them. I slit the belly from the anal pore to the ribs and tease out the yellow roe and white milt, rinsing them in cold spring water, and adding them to the bowl. Next, I easily scrape off the iridescent scales and place them in another bowl, which makes final clean-up easier. Then I filet the fish with a sharp thin knife, flip to the other side for the other filet, then toss the skeleton with head attached into a bucket for eventual disposal. My best speed for this whole process is three minutes, so if I have twenty fish I will be working rapidly for one hour. Thirty fish equals one and one-half hours, and so on.

But at the end of this work I will have a significant amount of fish and fish organs, maybe five or ten pounds total. And I get a reward too, as I get to eat the roe and milt and scraps of filets that I was simultaneously cooking in the oven with

sea salt and fresh water: a fisherman's breakfast with hot coffee and crispy baguette.

When people ask me how I prepare this bounty I always think of the scene in *Forrest Gump* when his shrimping partner describes all the ways to cook and eat shrimp, ending with "shrimp sandwich." Some of my favorite ways to prepare the alewife are fry 'em, bake 'em, pickle 'em, chop 'em, and even use some as bait. The roe and milt can be lightly fried or baked. Hard frying, which blackens the outside of the filets, makes the fine bones easy to eat, crunchy. With regular frying you have to be careful of bones and not just wolf it down. Children should not eat this fish without an adult to separate the bones for them so that they can enjoy this treat.

Pickling is an art, with the right balance of water, sea salt, spices, onions, garlic and vinegar. I often don't wait more than one hour before sampling the thinner pieces, which get "cured" quicker, but they're great the next day and the day after. They're usually all consumed by friends and family within a couple of days. You can't be afraid to use the sea salt liberally since pickled foods are supposed to be salty to aid their preservation. Pickled alewife goes great with fresh bread, potatoes, rice or pasta. I like a cold dark beer with them but others prefer wine.

However you prepare them, consume the alewife with the knowledge that you are eating a traditional and sacred food. 

## THE ALEWIFE

The alewife (*Alosa pseudoharengus*) is a species of herring, a relative of the larger shad. They are anadromous fish, that is, they move between fresh and salt water during their life cycle, but not to breed, like salmon. There are also landlocked forms called sawbelly or mooneye. The front of the body is deep and larger than other fish found in the same waters, and its common name is said to come from comparison with a corpulent female tavernkeeper ("ale-wife"). In Atlantic Canada it is known as the gaspereau. In southwestern Nova Scotia, it is called a kiack (or kyack). In the Southeast U.S., when sold and used as bait, the fish is often referred to as "LY". This fish has, in the past, been used as a baitfish for the lobster fishing industry. It is also used for human consumption, usually smoked. It is caught (during its migration up stream) using large dip nets to scoop the fish out of shallow, constricted areas on its migratory streams and rivers.

In the North American Great Lakes alewives are perhaps best known for their invasion of the Great Lakes by using the Welland Canal to bypass Niagara Falls. Alewives colonized the Great Lakes and became abundant mostly in lakes Huron and Michigan. They reached their peak abundance by the 1950s and 1960s. Alewives grew in number unchecked because of the lack of a top predator in the lakes (lake trout were essentially wiped out around the same time by overfishing and the invasion of the Atlantic sea lamprey). For a time, alewives, which often exhibit seasonal die offs, washed up in windrows on the shorelines of the Great Lakes. Their control was the impetus for the introduction of various Pacific salmon species (first coho, and later the chinook salmon) to act as predators on them. This caused the development of a salmon/alewife fish community, popular with many sport anglers. Alewives, however, have been implicated in the decline of many native Great Lakes species through competition and predation. Source: *Wikipedia*



# All Thumbs Book Reviews

## ***Stuffed and Starved: The Hidden Battle for the World's Food System***

**By Raj Patel**

**Melville House Publishing, 2008**

Question: How is it possible that the world contains over 800 million starving people. . . and over one billion obese people? How is it that the overweight outnumber the underfed? Answer: Because the food system suffers from a waistline problem.

Scholar, journalist and activist Raj Patel takes readers on a journey not just across Iowa's cornfields or through California's produce-laden vales, but around the world and through its recent agricultural history. While Patel gives a modest outline for the book's trajectory, from field to fork, it is more like a Tour de France of the global food system.

As the journey unfolds, Patel reveals the "how" and "why" of starvation and obesity, an answer that is stunningly simple: it just so happens that the food system suffers from a "waistline" problem. This waistline is not like the robust and growing one of the developed world, but is akin to the cinched, famine-stricken waistline of the Third World.

This constriction at the connection point between farmers and consumers—occupied by multi-national food conglomerates like Cargill, Monsanto and others—gives these companies a position of tremendous influence and control over every facet of the modern food system, from Argentine farmers in their fields to American families trawling the aisles of their local supermarket, usually without the participants' knowledge, and certainly without their say in the matter.

Patel's figures, diagrams and other visual aids help the reader grasp just how "narrow"

the waistline between farmer and consumer has become—the world's millions of farmers and billions of consumers have just a few thousand, or fewer, points of connection, and almost no viable ways to bypass this corporate bottleneck. He also lays out the astonishing repercussions of this bottleneck—cheap soy and corn as inputs for highly processed concoctions, suicidal farmers from the Midwest to India, degradation of land and despicable treatment of animals and workers, starvation for hundreds of millions of people, and degenerative diseases for even more.

These "waistline" occupants also wield unprecedented influence over countries and governments—manipulating, bribing and sometimes blatantly violating laws when these laws stop them from engaging in harmful or suspect practices, such as with the spread of GMOs in Brazil. The end result is that these companies keep the world food system's waistline "thin," reaping incredible profits and shoring up their control of the world market, while others suffer.

### **SELF-INFLICTED SORROW**

One of the most moving stories in all of Patel's work comes from South Africa, where local women lament the invasion of a grocery store chain—pointing out their accompanying loss of excellent health and fair incomes for themselves and their children and community—and yet at the same time express how much they enjoy no longer having to hand-grind their own corn. Sadly, some of the same people who suffer most from the encroachment of the modern food system are the quickest to support it with their scant resources because of its "convenience." While people may be tempted to blame the corporations or governments for their ill health, environmental pollution, unfair wages, and a host of other woes, they often overlook a key fact: we



**Sadly, some of the same people who suffer most from the modern food system are the quickest to support it with their scant resources because of its "convenience."**

# All Thumbs Book Reviews

The food system needs, of all things, fattening up at the waistline, at the point where those who grow and raise food and those who use and consume it should meet face to face.

are the ones who empowered these companies and governments with our money in the first place. We are Wal-Mart. Thus, one audience that may especially benefit from Patel's work is more conservative churches that have a hard time understanding the connection between catchy phrases such as "buy local" and "fair trade" and biblical instructions to love our neighbors as ourselves. Patel makes these connections crystal clear.

## OPPORTUNITY AND RESPONSIBILITY

While Patel's book is often grim, there are glimmers of hope appearing around the globe, from the Landless Rural Workers Movement in Brazil to America's growing farmers' markets and CSAs, models that Patel sets forth for others to emulate. One of the best facets of the whole book are his recommendations—he gives few, focusing primarily on what people choose to eat, along with who and where it comes from and how it is raised. Such recommendations are sound, since rightly addressing the first concern

goes a long way towards both simplifying and improving the others.

Patel also points out that the food system needs, of all things, fattening up at the waistline, at the point where those who raise food and those who eat it should meet face to face (more grass-fed raw butter for all, including the corporate elites!). The best way for this to happen is for consumers to connect as directly with farmers and food production as possible, and for governments to enable (or at the very least stop disabling and stop those who seek to disable) this basic freedom.

Patel's work deserves two thumbs up. It merits the first thumb because no review could begin to do justice to the book's quality and breadth—the import of his work is accessible to the average reader yet full of detailed information useful for citizen activists. The second thumb salutes Patel's personal experience, involvement, and participation in these issues which are evident throughout the work. He writes as both asgifted researcher and as a committed activist, encouraging each of us towards the same.

Review by John Moody

## CHANGE OF HEART

By Kay Baxter and Bob Corker

This lovely spiral bound cookbook puts traditional diet principles together for New Zealanders. An Introduction that discusses Weston A. Price, healthy fats and oils, modern versus traditional agriculture, raw versus pasteurized milk, fermented foods, proper preparation of seed foods, healthy stocks, soy dangers and vegetarianism is followed by a compendium of recipes that emphasizes traditional foods from down under. A section on traditional Maori vegetables discusses various types of potatoes native to the islands. Kiwis (and non-Kiwis) will enjoy the recipes for boiled kahawai fish heads, kumara hash browns, mussel chowder, puha greens with butter or mutton bird fat, corn and kamokamo bake, karengo (seaweed) kahawai steaks, smoked kahawai roe salad, whitebait fritters, mutton bird with karengo, and paua (abalone) fritters. British favorites are also well represented with roast hogget (year-old lamb), beef in stout, brawn (pig head cheese), Kiwi boil up, steak and kidney pie, venison stew and pickled pork. There are lots of wonderful fruit crumbles and ice creams too. All fats used are good fats like butter, lard and tallow. A final treat is the section on meat and fish preservation, including bottled kahawai, home cured bacon, salami, corned beef, biltong, smoked fish and dried shark fins and stingray wings.

*Change of Heart* is a great addition to our ongoing reconnection with traditional foodways. Available from Eutopia Press (61-9-4312-178 or [info@e-press.co.nz](mailto:info@e-press.co.nz).)

Review by Sally Fallon Morell

# All Thumbs Book Reviews

***Breaking the Vicious Cycle:  
Intestinal Health through Diet***  
By Elaine Gottschall, B.A., M.Sc.  
The Kirkton Press, 2004

Sometimes great misery and hardship bear unexpected fruit. When Elaine Gottschall and her husband struggled in 1958 to find answers for their eight-year-old daughter's ulcerative colitis, I cannot imagine that they might have envisioned the day when Mrs. Gottschall would detail their path to success for others with gastrointestinal disorders in her book, *Breaking the Vicious Cycle: Intestinal Health Through Diet*, now in its twelfth printing.

The Gottschalls had endured three years of medical failures and their daughter's steadily declining health, when specialists maintained that her condition was incurable, and surgery seemed imminent. With so little to lose, they turned to the Specific Carbohydrate Diet as outlined by Drs. Sidney V. and Merrill P. Haas.

Their first sign of the diet's success was the disappearance of their daughter's recurrent night terrors, and within two years she was free of all digestive difficulties. Most compelling for many to learn, however, is that she eventually returned to a more normal and unrestricted diet, and continues that way without difficulty today.

The central thesis of the book is that many digestive disorders arise from the fermentation of incompletely digested carbohydrates. While single sugar carbohydrates, or monosaccharides, require no further action on the part of the body to be fully absorbed and are therefore well tolerated, the more complex disaccharides (double sugars) and polysaccharides (starches) must be broken down by the fragile enzymes within the intestinal microvilli in order to pass into the bloodstream to be assimilated. When this process is incomplete and the sugars and starches remain

in the intestine to ferment, the stage is set for intestinal disorders.

A host of conditions can compromise the function of the enzymes within the microvilli: a nutrient-poor diet; decreased stomach acid due to aging, antacids; iodine deficiency; antibiotic therapy; and a high consumption of sugars and starches. In fact, those with Crohn's disease have been found to consume between 20 and 220 percent more carbohydrates than those without the disease.

Simply suffering from a folic acid or B<sub>12</sub> deficiency will reduce the vitality and quantity of these enzymes, and I am reminded of yet another reason not to adopt a vegetarian regime: those who do not consume animal products find it difficult at best to maintain adequate levels of B<sub>12</sub>. Most vegetarians are advised to supplement with this nutrient.

Dr. Samuel Gee, a world-renowned specialist in pediatric digestive disorders, commented in his time that "what the patient takes beyond his power to digest does harm." Gottschall details the damage that occurs within the intestine when sugars and starches are allowed to remain and ferment.

Just as the naturally alkaline rumen of cows is acidified by a grain-based diet, it is strongly suspected that when humans consume too many carbohydrates which cannot be fully digested, our intestinal pH is acidified as well. This sets in motion a chain of undesirable events.

The acidic environment facilitates mutation of harmless bacteria into pathogenic forms. Fermented byproducts nourish pathogenic bacteria, yeast and parasites, as well as encourage microbes from the colon to migrate up to the small intestine. As microbial overgrowth increases, the intestinal lining attempts to protect itself. Mucus-producing goblet cells grow in number and secrete a protective mucosal layer.



Just as the naturally alkaline rumen of cows is acidified by a grain-based diet, it is strongly suspected that when humans consume too many carbohydrates which cannot be fully digested, our intestinal pH is acidified as well.

# All Thumbs Book Reviews

As this barrier spreads, it forms a thick sludge, and the already compromised enzymes within the microvilli cannot make contact with sugars and starches. It is now impossible for digestion of these foods to occur. Fermentation increases, bacterial overgrowth and mutation flourish, damage to the intestinal lining continues, and the vicious cycle is set in motion.

While modern medicine utilizes different criteria for diagnosing the various digestive maladies that are so common today, Gottschall maintains that Crohn's and celiac disease, ulcerative colitis, diverticulitis, chronic diarrhea and some of the other digestive disorders usually have this proliferation in bacterial fermentation in common.

There are different manifestations and details, of course. With ulcerative colitis, the goblet cells may become exhausted, fail to produce the protective mucus, and ulcerations of the intestinal lining occur. Diverticulitis produces painfully inflamed pockets in the wall of the intestine. Celiac patients, the author asserts, are sensitive not only to starches and sugars, but also to the gluten which is bound to starch.

But Gottschall argues that by addressing the faulty digestion of sugars and starches, most of these disorders can be permanently resolved, regardless of their variable idiosyncrasies. This entails the elimination, for a period of at least one to two years, of every food containing disaccharides and polysaccharides. Of course, this constitutes a vast wedge of the typical American food pie chart: fluid sweet milk products; all soy; grains and sugars; potatoes, yams, corn, and most other starchy vegetables; and almost all other processed food. But the reward for eliminating these and other assorted components from the diet can be a return to robust health.

The story doesn't end there, however. Because digestive malfunction often occurs with psychological disorders (as was the case with

her daughter's night terrors), Gottschall goes on to detail how these conditions can be causally related. She quotes the French scientist, Dr. H. Baruk, summarizing his fifty years of research on schizophrenia and other mental disorders: "... it is preferable to consider the majority of psychoses or neuroses as reactions to biological factors which are very often digestive in origin."

Interesting connections between gut and psychology abound. Doctors have reported that when patients undergo surgical shortening of the small intestine, some experience accompanying neurological symptoms such as aggressiveness, disorientation, slurred speech, staggering gait and delirium. Some babies with chronic diarrhea have epileptic seizures which disappear when the diarrhea is resolved. Most schizophrenics have some form of intestinal disease. Celiac specialists have reported that patients sometimes present with degeneration of the brain, spinal cord, and other nervous tissue. Gastroenterologists acknowledge that neurological effects can arise from liver disease. And a high percentage of autistic children suffer from intestinal distress, many of whom can resolve autistic behaviors through a change of diet that includes the elimination of sugars and starches.

Gottschall explains the fact that bacterial fermentation of incompletely digested carbohydrates produces an excess of short-chain volatile organic acids such as lactic, acetic and others; a higher blood acidity; overgrowth of intestinal bacteria; the mutation of some bacteria such as *E. coli*; and toxic byproducts.

As reported in *The Journal of Developmental Disorders* in 1985, high blood levels of D-lactic acid can produce "bizarre behavioral symptoms." Dr. H. Baruk found that a harmful strain of *E. coli* could produce a toxin that affects the nervous system. Research by E. R. Bolte shows how the toxin of *Clostridium tetani* can travel from the intestine to the central nervous

Most  
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intestinal  
disease.



# All Thumbs Book Reviews

system by way of the vagus nerve. Both research and anecdotal evidence support the gut-brain connection.

While half of *Breaking the Vicious Cycle* leads us through the science behind the Specific Carbohydrate Diet, the other half translates that science into a highly detailed picture of what can and cannot be eaten, how to time the reintroduction of formerly excluded foods, and many, many recipes to ease the diet transition. This section is indispensable to the implementation of the plan, but it's also where I begin to have a few quarrels.

While explaining that the heart of her approach is to deprive intestinal pathogens of their energy source—fermented bacteria—Gottschall mentions nothing about the support of beneficial bacteria. Apart from yogurt, no information on fermented foods is forthcoming, and one is left to wonder how much more rapid the results might be if the diet incorporated both approaches. In the same vein, when discussing fats there is nothing about coconut oil, and this seems like another lost opportunity. Coconut oil is anti-bacterial, anti-viral, anti-parasitic, anti-fungal, and it nourishes the growth of good bacteria. In short, it's everything you want to ease a dysbiotic gut.

Another curiosity is the inclusion of some very processed items in a diet that otherwise eschews such foods. Saccharin gets equal billing with raw honey, diet sodas with aspartame are limited to once per week (because they may contain lactose) and those with saccharin can be consumed two to three times weekly. Inflammatory corn and soybean oils are permitted, yogurt can be made with all forms of milk, including powdered, and although saturated fat supports gut health, the author allows the substitution of low-fat foods.

But these, as I said, are smaller quarrels with an otherwise very valuable addition to the understanding of gut health. Carbohydrates are the only macronutrient without which humans can still thrive, so it is therefore no surprise that when they comprise the largest part of any diet, trouble will certainly follow.

Review by Jill Ebbott

*Jill Ebbott is a holistic health counselor in Brookline, MA specializing in helping her clients achieve vibrant health through the wise use of nutrient-dense foods.*

Carbohydrates are the only macronutrient without which humans can still thrive, so it is therefore no surprise that when they comprise the largest part of any diet, trouble will certainly follow.

## CEREAL KILLER

By Alan L. Watson

Diet Heart Publishing, 2008

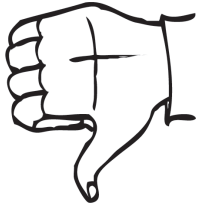
*Cereal Killer* takes us on a quick review of how the lipid theory of heart disease began and introduces us to the politically incorrect notables who dared to question it. Among those mentioned are Weston Price himself and his book *Nutrition and Physical Degeneration*, Gary Taubes (*Good Calories, Bad Calories*), Kaayla Daniel, PhD (*The Whole Soy Story*), Dr. Mary Enig (*Know Your Fats*), Sally Fallon (*Nourishing Traditions*), Dr. Robert Atkins and Dr. Ron Schmid (*The Untold Story of Milk*). He even puts in a plug for the Weston A. Price Foundation and realmilk.com. Can't complain about that.

While Watson addresses the dangers of breakfast cereals that come from an extruder, that specific topic doesn't cover as many pages in the book as you might expect from the title. He does cite the 1960 University of Michigan study showing that rats survived longer eating cardboard than eating cornflakes. He also points out oddities like Yogurt Burst Cheerios meriting awards from the American Heart Association even though the breakfast cereal is thirty percent sugar.

*Cereal Killer* does a reasonable job of painting the big picture of the current dietary mess in the U.S. and our irrational fear of saturated fat. However none of this material will be new to an educated member of the Foundation.

Review by Tim Boyd

# All Thumbs Book Reviews



***The Blue Zones:  
Lessons for Living Longer  
From the People Who've Lived the Longest***  
By Dan Buettner  
National Geographic, 2009

A very superficial first glance at this book might give one the impression that *The Blue Zones* recounts a recent tour of the globe reminiscent of Weston Price's investigative travels in the 1930s, which resulted in *Nutrition and Physical Degeneration*. Dan Buettner, a writer for *National Geographic*, went poking around the areas of the world with the highest concentrations of people on the high side of 100 years old. He calls these areas the Blue Zones. The zones are Sardinia, Okinawa, Loma Linda (California), and Costa Rica.

In Sardinia, the author caught up with Tonino, a very active, robust seventy-five-year-old "giant" who was literally up to his elbows in a cow he was slaughtering at their first meeting. Mr. Buettner mentions Toku from Okinawa who was 105 years old and liked to fish every day. In Costa Rica he met Rafael Angel Leon Leon who was one hundred years old, harvested his own corn and beans and kept some livestock. These examples of hale and hearty meat-eating elders notwithstanding, *The Blue Zones* maintains a distinctly vegetarian bias to its interpretations of longevity strategies.

And then there is Loma Linda, haven of the Seventh Day Adventists. According to Adventist Health Study-1 (AHS-1) they live several years longer than the average Californian. AHS-1 is based on life table analyses. If I understand correctly, that means human ability to predict the future is now so reliable we can base studies on it. I hope everybody will forgive me if I'm just a little skeptical about that.

The author also gives a brief history of Ellen G. White, one of the founders of the Adventists who frequently railed against eating flesh meat, butter, cheese and eggs. He neglects to mention the fact that according to contemporary reports and her own memoirs, she was unable to follow her own precepts and routinely ate all these foods.

There is no mention of any scientific measures to screen out any other such cheaters in vegetarian studies, which leads me to the bottom line. *The Blue Zones* is mostly story-telling and speculation. It is hardly scientifically rigorous. There is not a single footnote. There is the usual self-serving comparison of health-conscious vegetarians to health-oblivious omnivores. This book is nothing to stick my thumb up about. While veganism isn't explicitly promoted, the message is that the more rabbit food you eat, the longer you will live. If you are eating like that, you are not living longer. It just seems like it.

Review by Tim Boyd

Any economy  
that tries to  
force food  
production  
to exceed  
soil capacity  
is doomed  
to failure.

## STRENGTH IN NUMBERS

During these difficult economic times, the Weston A. Price Foundation derives its strength from numbers. In our most recent membership renewal period, the average check amount was \$49, with only 1 percent of membership renewals in checks over \$200. Yet, we had our most successful renewal period ever, with an increase in income over the previous period and a renewal rate of almost 70 percent. Of course, we are always grateful for members who renew at levels greater than the regular dues, and the occasional large grant allows us to pursue major new projects, but our solid financial foundation comes from regular membership dues. And all members can contribute to our growth and financial health simply by encouraging others to join. Regular membership dues remain at \$40 per year—the same as when we were founded ten years ago. The reduced rate of \$25 is available for students, seniors, persons with disabilities and those currently unemployed.

# All Thumbs Book Reviews

## ***Inquiries into the Nature of Slow Money: Investing as if Food, Farms, and Fertility Mattered***

**By Woody Tasch**

Chelsea Green Publishing, 2008

“The nation that destroys its soil destroys itself.” Franklin D. Roosevelt made that very astute observation about seventy years ago. *Slow Money* starts off by establishing the fact that any economy that tries to force food production to exceed soil capacity is doomed to failure. This is certainly a good point.

Several pages later Tasch questions the idea that all growth is good. All growth is not good. For example, economic growth that results from increasing demands for medical care is not good because it means that we are getting sicker. In the short run it may seem good to those in the medical system who stand to benefit. In the long run, however, they will run out of patients to kill—I mean treat.

Another example is increasing food production at the expense of our most critical resource: soil. The prevailing American attitude is that all growth is good, and the bigger the better. Again, I think Tasch is right to disagree with this premise. He also makes a good argument about what destructive devils we are. We work very hard at killing weeds, bugs, microbes, varmints and quite often each other.

Up to that point, he’s doing reasonably well. He goes on to list a number of businesses and pursuits that we should be engaged in rather than destroying the environment. I agree with most but disagree with some.

There are long stretches of seemingly aimless rambling through most of the last half of the book and an outline of a new kind of stock exchange that invests in a slower-paced, sustainable economy. I’m not convinced that starting another stock exchange is our solution, but there

is a much bigger problem with this book and it’s not in what it says, but in what it doesn’t say. There is really nothing in there about sustainable money. Here is what I mean by that.

World War I should have ended after about six months because all combatants would have run out of money by that point. That didn’t happen because they simply started creating fiat money out of thin air, in other words, spending money they didn’t have. The U.S. (and most of the world) has been creating money out of thin air for most of the 20th century.

This has been done before, and it has never worked in the long run. It didn’t work for the Romans two thousand years ago, or for the Germans after WWI, or for Argentina later in the twentieth century, or for Zimbabwe as I write this. This currency always inflates until it is worthless, the economy crashes, and things in general turn very unpleasant.

If all Americans understood this chain of events then maybe they wouldn’t be so complacent as we threw huge amounts of money at our failing banks. Unfortunately many don’t understand the repercussions of such behavior, so a book like this has a responsibility to address them.

Nations resort to fiat money to increase production (of weapons most often) to levels that can’t be sustained in the long run. That kind of unsustainable production has spilled over into agriculture and the results could be even more devastating than a prolonged war. I think most people have noticed the economy is melting down but they don’t seem to really understand why. When it comes time to pick up the pieces and start over, if we don’t want to make the same mistakes again of overworking our soil and other resources (including human labor), whatever else we do, we need to go back to real money. *Slow Money* ignores this elephant in the room, so the thumb is down.

Review by Tim Boyd



All growth is not good. For example, economic growth that results from increasing demands for medical care is not good because it means that we are getting sicker.

# All Thumbs Book Reviews



***Corrupt to the Core***  
***Memoirs of a Health Canada Whistleblower***  
**By Shiv Chopra**  
**KOS Publishing, 2008**

Most of our readers are probably familiar with the conflict of interest and corruption in the U.S. Food and Drug Administration. Well, guess what? The same thing goes on north of the border in Canada.

In *Corrupt to the Core*, Dr. Shiv Chopra extensively documents the racism, corporate influence, lack of scientific objectivity, and management incompetence at Health Canada. He has achieved some degree of success in opposing politicians and health ministers—who clearly have no regard for public health—by refusing, with other like-minded colleagues, to approve harmful drugs such as bovine growth hormone for use in Canada. I greatly respect his integrity, character, courage and endurance in fighting that corruption for over three decades.

As a qualified scientist, he also confirms some interesting things that I've heard elsewhere, including the fact that no truly new drugs have been introduced in the last fifty years, anthrax is not a workable weapon of mass destruction, and Ciprofloxacin is probably the worst choice available to treat it.

Given all that I would love to unconditionally endorse this book, but I must put forward a few reservations. While I think the book succeeds at doing what it set out to do, it goes into much more detail than the average reader is ever going to want to know. Further, when talking about BSE (mad cow disease), he mentions nothing about the brilliant research of Mark Purdey, which was a disappointment.

After Chopra's long and admirable struggle with Health Canada, after considerable public exposure, and after demands from high up in Canadian government to clean up the corruption, it appears that Health Canada is more corrupt than ever. The well-documented corruption in the FDA has been ongoing ever since Harvey Wiley was forced out almost one hundred years ago.

In Europe there is the corporate-driven fiasco called Codex Alimentarius. All this leads me to a conclusion that is not stated in the book and with which Dr. Chopra may or may not agree. Trying to clean up the corruption is a battle that will never end. Big industrial agriculture watchdogged by government bureaucracy does not work and never will. Local agriculture with healthy competition between small farms works. They can be kept in line by the one watchdog that can't be corrupted: the customer.

Review by Tim Boyd 



The marriage of New York City chapter leader Claudia Keel to Matt Mercier on October 4th was followed by a reception featuring nourishing traditional foods. "Chef Georgia Melnyk worked tirelessly to prepare the most delectable feast," says Claudia. "Georgia works behind the scenes in New York City with movers and shakers in the food world to help people understand traditional ways of cooking."



# Tim's DVD Reviews

***We Become Silent:  
The Last Days of Health Freedom***  
**Kevin P. Miller**  
**Narrated by Dame Judi Dench**  
**Copyright 2005, [www.WellTV.com](http://www.WellTV.com)**

In this film we are given a quick tour through Codex Alimentarius, its history and implications, all in twenty-nine minutes. If widely accepted, Codex would impose extreme restrictions on supplements and further restrict medical freedom on a global level, not just national. Americans who think this only affects Europe will not be happy to know the FDA has been quietly working to “harmonize” the U.S. with Codex.

There are several interviews of interest, but the one that I found most interesting is an interview with a high-ranking FDA official trying to explain why the anti-depressant Prozac™ was available to the public while at the time a natural alternative, the amino acid L-tryptophan, was not. This in spite of the fact that Prozac™ has thousands of documented adverse effects, while L-tryptophan has essentially none (outside of the fiasco with the Japanese chemical engineering firm Showa Denko and their late 1980s genetic engineering experiment with tryptophan production that went horribly wrong). The explanation he cobbled together was so transparently lame that even he began to realize how bad it sounded and demanded that the camera be turned off.

The thumb is pointing up for this film which makes a number of interesting points that go beyond just the issue of Codex. One insight into the nature of fear illustrates how it causes people to make very poor decisions, especially about what is truly safe. Government and industry “concern for public safety” is the most common and effective excuse used to relieve populations of their freedom. All of which leads us to the final conclusion—if we become frightened and silent, we will get the government we deserve.

***Are Vaccines Safe?***  
**By Mary Tocco**

This is a two-DVD set with a running time of almost 2 1/2 hours and is packed with information. Mary Tocco has obviously talked to the masses before and is very effective in making her points. After listing the sources that our health beliefs come from, she gets the audience involved with a little game of “finish the phrase” to illustrate how effective advertising can be. The audience had no trouble finishing phrases like “Plop, plop, fizz, fizz ...” or “Winston tastes good like a ...”, catch phrases from television ads that haven’t been widely aired for decades.

Practical information about what your rights are as a parent is covered in-depth in the video and in detail on the NVIC website (<http://www.909shot.com/>). In addition to the objectionable ingredients in vaccines that you usually hear of, she lists appetizing things like fecal matter, dog and monkey kidneys, antibiotics and rabbit brains. In some cases this is grown in a medium containing aborted fetal lung tissue. All this serious stuff is broken up with humorous but scathing observations on the medical system. She quotes several times from Robert Mendelsohn, MD which are found in his book *How to Raise a Healthy Child in Spite of Your Doctor*.

The connection is made in this video between autism and gut dysbiosis, as we’ve heard before from Dr. Natasha Campbell-McBride. Mary Tocco states outright that vaccines cause autism whereas Dr. Campbell-McBride would say are a contributing factor but are not the root cause of the condition. Either way, vaccines are a problem, but I have no problem giving this DVD a thumbs up.

*Are Vaccines Safe?* can be viewed online at [youtube.com](http://youtube.com) and [video.google.com](http://video.google.com).

The thumb is pointing up for this film which makes a number of interesting points that go beyond just the issue of Codex.

# Tim's DVD Reviews

## *The Quality of Calories:*

### *What Makes Us Fat and Why Nobody Seems to Care*

By Gary Taubes

[http://webcast.berkeley.edu/event\\_details.php?webcastid=21216](http://webcast.berkeley.edu/event_details.php?webcastid=21216)

Gary Taubes gave this presentation at UC Berkeley in November, 2007 in an attempt to challenge the paradigm accepted among experts on why we get fat. The current paradigm states that in order to lose weight, we need to eat less and exercise more. Mr. Taubes has noticed that we've been trying that for one hundred years and it isn't working.

Taubes examines other popular theories that attempt to explain obesity. The first is genetics. That one is quickly disposed of by looking at how fast obesity rates have shot up in recent history in the U.S. In less than a generation, obesity rates skyrocketed. Nobody believes human genetics can change that fast.

So, is excess weight due to excess prosperity? Do we get rich, then start eating too much rich, fatty food and play too many video games? Many seem to think that is what happened in the U.S. Taubes spends some time surveying evidence to refute that theory from around the world. "Fat Louisa" was a Pima Indian living in 1902 who was significantly overweight. So were many of her people at that time. They lived on the government reservation and were destitute. Before confinement to the reservation they were a very affluent people and almost never overweight. After a fairly detailed tour of the world, looking at Sioux, Zulu, Apaches, African-Americans, Bantu, Cherokee, Jamaicans, Europeans and many others, a pattern emerges. Being poor is much more commonly associated with being obese than being rich and having unlimited access to rich food full of saturated fat. So much for the prosperity-equals-obesity theory.

After examining in detail the science of fat metabolism, Taubes suggests a theory that fits all the facts. Studies show that under certain circumstances animals can eat unlimited quantities of food and not gain weight. Under other circumstances, they can eat almost nothing and get fat. Something controls fat accumulation independent of how much is eaten or how much exercise is done. That something is insulin. He notes that insulin production is triggered by carbohydrate intake, not fat. Counting calories in a reducing diet doesn't work because all calories are not equal.

Taubes has spoken with experts who have published the details showing the connection between carbohydrates, insulin and weight gain. He asked what makes us fat. He got answers like: we eat too much; we're too sedentary. Old habits and paradigms are apparently hard to break. Gary Taubes presents very well and is very interesting. I give this presentation a thumbs up.

## *Fat Head*

Tom Naughton

Produced by Susan Smiley/

Vine Street Pictures

Here we have a health video with a sense of humor. Tom Naughton starts off by asking some tough questions about the film "Super Size Me." For instance, you have to do a whole lot of eating to take in over 5000 calories a day, as Spurlock claimed he did. Even super-sized McMeals three times a day need a lot of supplemental desserts to add up to 5000 calories. As Tom is talking about all this you see many shots of very obese people on the streets. He noted that it took him a lot longer to find very obese people to film than he would have expected based on popular media and government reports on obesity (and he makes some interesting points about why that is). So he decided to perform his own little experiment.

Mr. Naughton weighed 206 pounds, his cholesterol was 231, and he had a little over 31 percent body fat according to his doctor at the start of his twenty-eight-day fast food diet. On this diet, he concentrated on keeping the carbs low and ate plenty of saturated fat. His experience is interspersed with interviews of Dr. Al Sears, and Drs. Michael and Mary Eades. We also see the familiar faces of Sally Fallon and Dr. Mary Enig several times through the video. (There is also a bonus section with more detailed interviews loaded with excellent information.) He goes into some detail on the work of Gary Taubes, exposing the simplistic fallacy of how calorie counting is done by mainstream nutritionists. We learn about the duplicity of the Center for Science in the Public Interest, which promoted *trans* fats for years, then turned around and sued fast food companies for using *trans* fat when the prevailing politics on *trans* fat shifted.

The funniest point in "Fat Head" comes when, after twenty-eight days on fast food,

## Tim's DVD Reviews

Naughton returns to his doctor to tell him what he has been eating (hamburgers, fried chicken, eggs, etc.). The doctor is naturally unimpressed and starts collecting vital statistics to assess the damage. First is the weigh-in. Mr. Naughton is now 194 pounds. Already his doctor has a puzzled look on his face and says, "I don't like what you're proving here." Cholesterol was 222 and body fat was 28.2 percent. The good doctor tried to argue with the results but admittedly really couldn't.

This film gets a thumbs up but you do need to be careful what you take away from it. The information from the various experts he interviewed is impeccable. If a viewer wanted to, however, he might jump to the conclusion that living on the "right kind" of fast food is okay (it's not, just in case you're wondering).

"Fat Head" is an entertaining way to underscore the fact that saturated animal fat is not the deadly poison it is cracked up to be even when present in the industrial fast food supply. And it is reassuring to know that "No fat people were harmed during the making of this documentary."

### **Dr. Mercola's Conference Call with Dr. John Cannell**

This audio recording (no longer posted on the internet) picks up somewhere after the call began. Dr. Mercola initiated the conference call and we hear at least two other women on the line with occasional questions and comments. One woman seems very impressed with everything Dr. Cannell says while the other is clearly not buying all of it. Dr. Mercola is non-committal for the most part.

After making it clear that his paper (not yet released at the time of this recording but eventually published in the November, 2008 issue of *Annals of Otolaryngology, Rhinology and Laryngology*)

was mainly about the benefits of vitamin D, with some small coverage of vitamin A and cod liver oil at the end, he goes into detail about vitamin A toxicity and cod liver oil toxicity. He does show some discernment in recognizing that cod liver oil was shown to be beneficial in the 1930s, that many modern brands are different due to over processing and high vitamin A to D ratios. He says there is an ideal ratio between A and D but he doesn't know what it is. And he knows there is considerable variation between modern brands of cod liver oil.

He then takes a mix of studies, some on vitamin A, some on cod liver oil, throws these apples and oranges into the hopper and pulls out some results he believes are adequate to make blanket condemnations of all cod liver oil. He doesn't seem to grasp the fine point that the Weston A. Price Foundation has been saying for years, namely that not just any cod liver oil is OK. His reasoning gets even more chaotic when he brings evolution into the discussion. He claims that to know how much vitamin A humans need, we need to look at how much we needed in our evolutionary development. To figure that out, we must look at the great apes. I know it is controversial and politically incorrect to say this, but there are reputable scientists (not all of whom are religious zealots) who don't unquestioningly accept evolution over long periods by chance mutations as fact. But let's suppose it is a fact. I remember hearing years ago that the idea that humans evolved from apes was abandoned in favor of both of us evolving from a common ancestor. Also, as one of the listeners during the call pointed out, vegetarian apes are pretty shaky examples on which to base human nutritional needs.

The other glaring problem with his reasoning in general is his insistence on taking a reductionist, fragmented view of nutrition. As Chris Masterjohn has made clear in several articles, all of the fat-soluble vitamins must be present, balanced and working together. Despite paying some lip service to this reality, Dr. Cannell keeps pulling isolated nutrients out of the line-up and examining how they might work by themselves. That's the problem. They don't. He managed to come up with sixteen experts who agreed with him, which apparently implies the case is closed. I continue to insist that the truth is not up to a vote.

Dr. Cannell may be well-intentioned and I'm sure he has done a lot of work. I'm sure he's very intelligent. He brought up a very interesting observation that high vitamin D levels raise glutathione levels, greatly reducing mercury toxicity. He was so certain that very high levels of vitamin D make one almost immune to mercury that he bandied about the idea of drinking mercury at large demonstrations to prove the point. Cod liver oil is toxic but mercury is OK. . . . I can't help wondering whether he has already experimented. That would explain. . . everything. ☺☺

# Growing Wise Kids

## ENJOYING LITTLE MISS MUFFET'S CURDS AND WHEY

By Jen Allbritton, CN

Followers of a traditional foods lifestyle well understand the benefits of cultured dairy products such as yogurt and kefir. However, there is a bit more mystery involved when these nourishing foods are separated into curds and whey. You may be surprised to learn just how many scrumptious dishes both these ingredients can make. So while Little Miss Muffet sits on her tuffet eating her plain curds and whey, get ready to indulge your palate with flavorful foods made with homemade, fresh curd cheese and healing liquid whey.

### SEPARATING CURDS FROM WHEY

The cultured dairy products buttermilk, kefir, yogurt and pima milk are wonderful foods in their own right; however, when separated they make beautiful curds and whey. Dry curds can also be referred to as farmer's cheese, pot cheese or yogurt cheese. It is creamy or crumbly, depending on how long it has drained, spreadable and brimming with health-giving properties.

A home-made uncultured cream cheese can be made from milk, cream, yogurt and rennet. The details of this process are found in the fun resource, *The Home Creamery* by Kathy Farrell-Kingsley.<sup>1</sup> After the milk, cream and yogurt are warmed, rennet is added. The mixture sits a short while until firm curds form and then the whole mixture is strained.

While the above quick home technique may be an entertaining project on a drizzly day, I will stick with my easy-as-pie method discussed below. Not only is it easier, but I also end up with rennet-free, cultured whey, which is an indispensable ingredient in the kitchen of the traditional foodie (more on this later). So throughout this article, it is this latter homemade, cultured version to which I am referring when I speak of curd cheese or yogurt cheese.

### THE HEALING BENEFITS OF CURD CHEESE

Homemade curd cheese is a well-spring of nourishment. It is packed with protein, rich in healing fats (the best coming from properly raised grass-fed animals) and, most important, is an excellent digestive aid. Fresh, unripened cheese made from raw cultured dairy products is bursting with probiotic (pro-life) activity.

Regarding these living friendly bacteria, Sally Fallon explains, "These friendly creatures and their by-products keep pathogens at bay, guard against infectious illness, and aid in the fullest possible digestion of all food we consume. Perhaps this is why so many traditional societies value fermented milk products for their health-promoting properties and insist on giving them to the sick, the aged and nursing mothers."<sup>2</sup>

A hallmark practice among traditional cultures is to consume some sort of naturally preserved, lacto-fermented vegetable, fruit, beverage, meat and/or condiment at every meal. Tack homemade curd cheese onto your list of powerfully healing foods. And the best thing is, this cheese is so versatile, your family will be happy to include this food in any meal!

### TRADITIONAL USES OF YOGURT CHEESE

Fresh curd cheese is not a new idea. For traditional dishes found in the Middle East and South Asia, this ingredient is often referred to as strained yogurt, yogurt cheese or Greek yogurt. In Greece and Turkey, curd cheese (typically made from goat or sheep's milk) is used for tzatziki dip, which also contains cucumbers, garlic, salt, olive oil, pepper, dill and oftentimes lemon juice and parsley.

In India, the sweet dessert *shrikhand* is made with yogurt cheese, dried and fresh fruit, sugar,

Children  
teach us to  
loosen up,  
view the  
world with  
awe, give of  
ourselves in  
ways we  
never  
thought  
possible,  
and to  
practice  
patience.



cardamom, and saffron. And yogurt cheese balls preserved in olive oil, called *labneh anbaris*, is a popular food in the Middle East (see recipe on page 86).

## WAYS TO USE WHEY

Whey is the tart, golden liquid known to the Greek doctors of antiquity as “healing water.” In fact, Hippocrates and Galen, two founding fathers of medicine, frequently recommended whey to their patients.<sup>3</sup> Whey from fully fermented milk no longer contains lactose, and with its dose of probiotic organisms will help maintain a synergistic balance of the inner ecosystem and encourage repair of gut dysbiosis. Whey also contains a fair number of minerals, particularly potassium, and a notable amount of vitamins, especially B<sub>2</sub>.<sup>4</sup> So what do you do with all your nourishing whey?

- Drink it! Drink it straight or mix it in with a fermented beverage or hot tea.
- Freeze whey into ice cubes and blend them into smoothies for a more slushy texture or cool-down a beverage on a hot day.
- Replace a portion of the water used to cook grains.
- Include in soaking water in legumes and grains to improve digestibility (see *Nourishing Traditions* for details).
- Lacto-ferment almost anything—apples, zucchini, cabbage, cherry chutney, ginger carrots—see *Nourishing Traditions* by Sally Fallon and *Wild Fermentation* by Sandor Elitz Katz.
- Feed to pets—chickens, dogs, cats, they all can benefit from this nourishing liquid.

## INSPIRING IDEAS FOR USING CURD CHEESE

Homemade, fresh curd cheese is the perfect complement or even replacement for sour cream in soups or dips and commercial cream cheese in spreads or desserts. It even does a fine job replacing mayonnaise on occasion. Best of all, curd cheese will take on any flavor, whether it be savory, salty, or sweet, so the sky is the limit when it comes to the possibilities with this ingredient. Heating homemade curd cheese will destroy the good bacteria, so I opt to keep mine

raw as much as possible; however, there are times when it is the ideal choice for a certain soup or casserole—or you just have an excess supply. Below are some ideas to help inspire your creativity when it comes to using your delectable homemade cheese.

**Herby dip:** Blend salt, garlic (maybe roasted), diced onion (white, red or green), a little olive oil and your favorite herbs (dried or fresh) with your curd cheese. Maybe toss in a few pieces of nitrate-free bacon or a dash of Worcestershire sauce for an added kick. Complements vegetables and crackers nicely.

**Sweet deliciousness:** Blend maple syrup or stevia, vanilla and perhaps a little cinnamon, nutmeg or jam into your curd cheese. Use as a topping on pancakes or waffles, filling for crêpes, frosting or fruit dip.

**Cashew honey dip:** Grind crispy cashews (see *Nourishing Traditions*) in the food processor until a fine powder results, add a similar amount of cheese curd. Toss in a scoop of honey and a dash of vanilla to taste and blend again. Add cheese curd until your desired consistency is reached and honey to taste. This makes a yummy apple dip, but can also be used on top of pancakes or in crêpes.

**Mexican dip:** Mix cheese curd with salsa, chopped green onions, shredded Cheddar cheese, and some Mexican spice mix (chili powder, oregano, cumin, garlic and onion powder) and a sprinkle of salt. Enjoy with homemade corn chips.

**Cream soup:** Make a simple batch of tomato or broccoli soup and once cooled, stir in some velvety cheese curd to add another dimension.


**Enhanced-mayo:** Replace a scoop or two of mayo in a recipe, such as chicken or salmon salad or deviled eggs, with moist cheese curd to give your dish a probiotic-boost.

**Cheese log/ball:** Use well-drained cheese curd and mix in an equal amount of shredded cheese of choice. Shape into a log or ball. Roll the log

Hippocrates and Galen, two founding fathers of medicine, frequently recommended whey to their patients.

over chopped crispy nuts. Wrap in waxed paper and refrigerate over night. Experiment with different herbs, cheeses and nuts. This is tasty with homemade crackers.

**Fudgesicles:** Mix a scoop of honey with a spoonful of cocoa or carob powder. Add an egg yolk or two and a good amount of moist cheese curd (or combine with raw cream) and stir. Taste as you go and make any needed adjustments. Pour into Popsicle molds or paper cups with a popsicle stick and freeze—yum!

The versatility of real, whole foods never ceases to amaze me. And homemade curd cheese is no exception. So go forth, Miss Muffet, and eat your curds and whey plain, while we sit on our tuffets eating our curd cheese-endowed fudgesicles, herby dip with crunchy veggies and yummy pancake spread! (Exactly what is a tuffet anyway?) 

*Jen Allbritton is a Certified Nutritionist and has been researching and writing on all topics of nutrition for over ten years. She lives in Colorado with her husband and two sons, and spends lots of time in the kitchen*

*cooking up WAPF-friendly creations. If you have topic suggestions you would like to learn more about, contact her at [jen@nourishingconnections.org](mailto:jen@nourishingconnections.org).*

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## THREE EASY STEPS FOR MAKING CURD CHEESE AND WHEY

1. Culture your desired dairy product. First you need to decide which dairy product you will use to create your curd cheese and whey. Kefir and yogurt are ready to be used. However, buttermilk and pima milk need to curdle or coagulate a bit (approximately two days at room temperature) before they will effectively separate. Fresh milk may also be used but must also be left out to curdle (clabber), which takes approximately four days. See *Nourishing Traditions* for more details on how to create all of these cultured dairy products. Kefir is my preferred dairy product for this process. Not only is it exceedingly easy to make at home (especially with the self-perpetuating grains), but it has a superior probiotic-profile compared to other dairy products. As mentioned above, it is ready to use immediately, so no additional preparation is necessary for making curd cheese. Kefir is more tart than other cultured dairy products, so keep that in mind when you are cookin' up recipes. Yogurt is my second favorite dairy product to use for curd cheese-making. It is slightly less tart than kefir, although it depends on the type of yogurt, and again is ready to use immediately. I will sometimes combine curd cheese made from kefir and yogurt to reduce the tartness in sweet recipes. One note on yogurt: commercial products can be used, but be sure to avoid those that contain stabilizers or thickeners such as gelatin or pectin, as they are there to help bind the solids and liquids and will prevent full separation of the curds from the whey. As always, choose a product that is made with the highest quality milk.
2. Choose your straining tool. There are several choices when it comes to straining whey from the curds. One way is to fit a few folds of unbleached cheesecloth or an unbleached coffee filter inside a strainer or colander, which is then placed over a bowl. Cheesecloth from muslin is the best to use, since the stringiness of loose-weave cheesecloth makes it a hassle to wash and reuse. The strainer must sit high enough to allow for the whey to drain and collect. Another technique is to tie up a thin linen dish towel to a kitchen spoon or kitchen faucet and suspend it over a bowl. But be sure to use a thin towel (or even an old t-shirt), as thicker varieties will soak up the valuable whey. There are devices on the market specifically made for straining these foods (such as the Cuisipro Donvier Yogurt Cheese Maker by Donvier or the Kefir Cheese Making Strainer by Alpha Health). I have had great success with a muslin (thin cotton) bag, often sold as a nut-milk or sprouting bag (someone handy with a sewing machine could even whip some of these up). I drape the bags over the edge of a tall glass container and the lid holds the bag firmly in place (see pictures of my set-up to the right). I prefer these bags because they clean up easily, have other kitchen uses and reduce the number of dirty dishes. About mid-way through, I pull the bag down over the rim of the glass a bit further to prevent it from touching the whey. Be creative, find what you have in your kitchen and start experimenting. It won't take long before you find the straining method that works best for you.



3. Strain the whey from the curds. It is time to pour your dairy product into your straining tool. Allow your draining curd to sit either on the counter or in the fridge. The dairy product will continue to ferment if left out, creating a tarter product than if the fermentation is slowed in the fridge. The longer the curd strains, the thicker and drier it becomes. A minimum of four hours will produce a thick cream-like texture, six hours will result in a product closer to commercial sour cream, up to 12 hours produces an even firmer product and after 24 hours you can be sure almost all the whey has drained out. Choose your draining time, then, to produce softer, moister or drier, firmer curd for the particular use you have in mind. I usually drain mine overnight and in the morning have a collection of beautiful golden whey left at the bottom (see pictures).

Different dairy products will give different yields; even various yogurt brands may produce different results. Generally, a cup of yogurt will yield approximately 1/3 to 1/2 cup yogurt cheese and produce about 1/2 cup whey. Whey keeps for up to six months and the curd cheese keeps for up to a month in the fridge. However, it also freezes well in a glass container (e.g. preferably a thick glass, such as Pyrex).

## DELIGHTFUL RECIPES USING CURD CHEESE

### NO-BAKE CHEESECAKE WITH NUT CRUST

Here is an inspired, easy and very flexible recipe from Debra Lynn Dadd's website ([www.dld123.com](http://www.dld123.com)), author of *Home Safe Home*. Remember, it needs to chill in the fridge, so leave enough time before you want to serve your creamy cake.

*Approximately 2 cups homemade curd cheese*

*1 cup raw cream*

*2 tablespoons raw honey*

*1 tablespoon vanilla extract*

In a medium-size mixing bowl, whip the cream, honey and vanilla until stiff. Fold the whipped cream into the curd cheese with a spatula. Pour this mixture on top of the crust (see recipe below) or leave as is without a crust. Refrigerate for at least four hours. Top with fruit, bee pollen, chopped nuts, jam, chocolate sauce or fermented cherry chutney (recipe found in *Nourishing Traditions*). Let your imagination soar; try almond extract instead of vanilla in the mixture, or add lemon or orange zest or maybe even cocoa nibs or carob powder.

### NUT CRUST

*2 cups crispy nuts (almonds, walnuts, pecans or filberts)*

*1 cup pitted dates*

In a food processor, process dates and crispy nuts until they form a sticky mass. Press into the bottom of a buttered 9 by 13 Pyrex pan, bottom and sides of a pie plate, or individual ramekin cups.

### YAM-CARROT SIDE DISH PUDDING

*2 medium-sized yams or sweet potatoes, scrubbed and chopped into small pieces, skins on*

*4 medium- to large-sized carrots, scrubbed and sliced thinly*

*1 tablespoon olive oil*

*1/2 - 1 cup homemade curd cheese*

*1 - 3 teaspoons maple syrup*

*1/2 teaspoon Celtic sea salt*

Preheat oven to 400°F. Toss the yams and carrot chunks onto your baking pan, drizzle them with olive oil and toss with a spatula to evenly coat. Roast the veggie chunks for 20 to 25 minutes (be sure not to burn them). Allow to cool, scoop into a food processor, add the remaining ingredients and purée. Add more curd cheese until desired consistency is achieved. Note: this makes a terrific baby food!

### YOGURT CHEESE BALLS (LABNEH ANBARIS)

*6 cups yogurt*

*2 teaspoons Celtic sea salt*

*Herbs of choice, fresh or dried*

*Olive oil, enough to fill jar*

When making curds and whey, combine the salt and yogurt (the salt makes the balls easier to form) and strain as described on pages 84-85. Allow the yogurt to drip for at least 24 hours. Either roll on the outside or mix in fresh or dried herbs, mashed garlic, chopped chives, minced sun-dried tomatoes, pepper flakes or whatever sounds good. Take about 1 tablespoon of the yogurt cheese and roll it into a smooth, round ball and place it on a tray or plate lined with a paper towel. Cover the balls with another paper towel and chill in the refrigerator for 4-6 hours, until firm and slightly dried out. Once dried out, place the balls in an air-tight glass jar and cover with olive oil. Seal the jar and store at room temperature. The *labneh* will keep for several months this way. When serving, be sure to include a drizzle of the olive oil and use as a side dish with any meal, eat with whole grain pita bread and olives or pop a few in a sandwich.



# Soy Alert!

## SOY RECOVERY: THE TOXIC METAL COMPONENT

By Kaayla T. Daniel, PhD

What's the first step in soy recovery? Eliminating soy from the diet, of course, but for the average American this is easier said than done. In brief, we must cut out processed, packaged and fast foods and return to a traditional diet based on whole foods, real foods and slow foods.

The next step is healing the gut, which usually requires eliminating wheat and other gluten-containing grains, eating lots of homemade, gelatin-rich broth and regularly consuming coconut oil and moderate amounts of cultured vegetables. Probiotic supplements play an important role in gut healing, but I have serious concerns about the safety of brands that contain *Bacillus subtilis* or other soil-based micro-organisms, especially if used long-term in high doses.

Other supplements too may be in order as determined by laboratory testing by your health care practitioner. My *Soy Alert* column in the Spring 2007 issue contains a lengthy discussion of how to live a soy-free life and achieve gastrointestinal healing.

### SODD

Sadly, for many people these two essential steps are just the beginning. The symptoms of Soy Originated Disease and Disorders (SODD) are many, multi-layered and complex. They may include thyroid damage, immune system breakdown, reproductive disorders (including infertility), ADD/ADHD and other behavioral and learning disabilities, as well as depression, anxiety and other mental health issues. Many babies are put on soy formula because of allergies and digestive difficulties, and children and grownups switch to soy foods and soy milk initially because of health challenges. These initial health problems must also be addressed in any effective soy recovery program.

Soy damages people in a variety of ways and to various degrees. Accordingly, I cannot recommend a one-size-fits-all approach. There are no silver bullets or quick fixes. Given the fact that few clients have the funds for comprehensive laboratory testing, I recommend starting with hair mineral analysis to determine levels and ratios of needed minerals as well as levels of toxic metals such as aluminum, mercury, arsenic, cadmium and lead.

### HIGH COPPER

A common finding in overly estrogenized persons is high copper. Soybeans are naturally high in phytoestrogens, plant estrogens that are not identical to human estrogens but are close enough to fool the body and cause significant endocrine disruption. Although women are a hundred times more likely to become copper toxic than men, anyone who uses soy as meat or dairy replacements or who adheres to a vegetarian diet is at risk for copper toxicity. Vegetarian staples such as nuts, seeds, grains, avocados, mushrooms and chocolate are all high in copper. So are liver and shellfish, but individuals who eat these nutrient-dense foods tend to also eat red meat and other animal foods high in zinc. And people who consume sufficient zinc are far less likely to develop copper toxicity. Since the phytates in soy block zinc uptake, diets based on soy represent a fast track to zinc deficiency.

Many WAPF members have lately been adhering to the Specific Carbohydrate Diet espoused by the late Elaine Gottschall. While this restrictive diet has helped many people, those who get carried away with the nut breads sometimes develop copper or manganese overload.

Copper toxicity is associated with a variety of reproductive health issues, including PMS,



People who consume sufficient zinc are far less likely to develop copper toxicity.

infertility, difficult pregnancies and miscarriage. It is common among people who suffer from depression, panic attacks, free-floating anxiety and other mental health issues. Adrenal fatigue, hypothyroidism, hypoglycemia and candida are other conditions that may be fueled by copper imbalance or toxicity. The body stores excess copper in various tissues such as the liver, brain and bone, to prevent it from building up in excessive amounts in the bloodstream. Safely eliminating these stores can lead to much health improvement. Curiously, the same people who are copper toxic often are deficient in the bio-available copper their bodies need for cellular oxidative metabolism and other critical functions.

#### HIGH MANGANESE

Adults and children fed soy infant formula during the first six months of life may also be high in manganese. Levels of manganese found in soy formula are 50-80 times the amount found in breastmilk or dairy formula. Excess manganese is a double whammy for neonates because their immature livers are not fully functioning and their neurological systems are growing and developing. ADD/ADHD and other behavioral disorders

and learning disabilities, as well as violent tendencies, may result. The good news is that high manganese, like high copper, can be removed safely from the body.

#### HEAVY METALS

Soy consumption can also lead directly and indirectly to heavy metal toxicity—directly, because soy products are often processed or packaged in aluminum or processed with fluoridated water, and indirectly, because soy foods contribute to low levels of cysteine, zinc, pantothenic acid and other factors needed for detoxification. This can result in a buildup of mercury, cadmium, arsenic, aluminum and other toxic metals in the body, ultimately affecting every metabolic process.

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### THE FOURFOLD PATH TO HEALING CONFERENCE, WESTFIELD, MASSACHUSETTS



Jaimen McMillan of Spatial Dynamics talks with an attendee. Jaimen will present his workshop on November 15 at the WAPF annual conference.



Delicious lacto-fermented condiments from Zukay Live Foods were served at the conference meals.



Final panel discussion with Jaimen McMillan, Tom Cowan and Sally Fallon Morell.



A WAPF baby and future member takes everything in with his proud mom.


Nickel toxicity may also be a factor. Although hair mineral analysis is a poor tool to evaluate nickel status, the very methods used to eliminate the others will take care of nickel.

Keep in mind that the body eliminates metals through the hair so hair does not reveal bodily stores. This is why people who are suffer from adrenal exhaustion or who are otherwise not healthy enough to eliminate metals from their bodies rarely show metals other than aluminum on their first hair test. Other ratios, however, will point to the likelihood of “hidden” metals. Follow-up hair tests at three-month intervals will reveal these metals as they come out the hair, and so should be used to monitor the success of any detoxification protocol.

#### OPTIMIZATION AND ELIMINATION

I consider it a high priority for SODD sufferers to optimize their levels and ratios of sodium, potassium, calcium and magnesium, to improve

the zinc-to-copper ratio, eliminate toxic copper and manganese if present and to eliminate toxic metals from the body.

My article “Mad as a Hatter: How to Avoid Toxic Metals and Clear Them from the Body” in the Summer 2008 issue of *Wise Traditions* (written with Galen D. Knight, PhD) proposes a slow, steady and safe method to do so and extensively discusses the many reasons why it is crucial to the restoration of good health. Toxic metal removal rarely solves every health problem, but it’s a crucial early step. A properly nourished body freed of the toxic burdens of soy foods and unwanted metals has a far greater capacity to heal itself and recover from soy. Any remaining health challenges—including the thyroid disorders and hormonal imbalances prevalent among former soy eaters—can then be more efficiently and effectively addressed. 

*Kaayla T. Daniel, PhD, CCN is the author of The Whole Soy Story: The Dark Side of America’s Favorite Health Food (New Trends, 2005). Dr. Daniel is a nutritionist who has worked extensively with clients from all over the country on recovery from soy and vegetarian diets as well as other health challenges, including toxic metal issues. She can be reached at kaayla@drkaayladaniel.com or 505-266-3252. She recently produced a CD “Recovering from Soy.”*

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(All articles from sold-out magazines are posted at westonaprice.org.)

Back issues are \$12 (includes shipping & handling).

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# NAIS Update

## PROTECTING YOUR RIGHT TO FARM: THE FIGHT OVER THE NATIONAL ANIMAL IDENTIFICATION SYSTEM CONTINUES By Judith McGeary

Both the proponents and the opponents of the National Animal Identification System (NAIS) have started the year with a rush. As proposed by USDA in 2005, the NAIS would require anyone who owns even one livestock animal to register their property, tag each animal (in most cases using electronic forms of ID), and report movements to the government, including private sales, regional shows, and the death of the animal. In 2006, in response to the public outcry, the USDA stated that the program would be voluntary “at the federal level,” and that implementation would be done by the states. Since then, both implementation and the efforts to stop implementation have resulted in a patchwork of events at the federal and state levels.

### USDA ISSUES MEMOS AND PROPOSES FEDERAL RULE TO MANDATE PREMISES REGISTRATION

The USDA’s interpretation of “voluntary” has been misleading, to say the least. The agency has repeatedly encouraged state efforts that either mandate NAIS or use coercive tactics to force people into the program, such as by linking it to 4H participation, disaster relief, or existing programs (brand registration, Coggins testing, or tuberculosis tagging have been some of the most common).

Last September, the USDA took another step along its path of claiming that the program is voluntary while simultaneously forcing people into it. The agency issued a memo to its Veterinary Services Management Team that required NAIS premises registration for various disease program activities. The memo included activities such as vaccinations, testing and applying official ear tags, for programs for every livestock species, for diseases ranging from brucellosis to scrapie

to equine infectious anemia. Under this memo, people who refused to have their farms registered would be registered against their will and given a special code to indicate their refusal. Animal owners who took government-required steps, such as testing and vaccinating their animals, would find themselves enrolled in the NAIS premises registration database with or without their consent.

After the memo was publicized by the Farm and Ranch Freedom Alliance and Liberty Ark Coalition, the USDA received numerous protests. It then issued another memo. On the first page, the December memo states that it revokes the September memo, leading to some reports that the USDA had cancelled mandatory premises registration. But on page 4 of the memo, the USDA included language which still provided that anyone who had an activity performed on their property under a federal disease control program would be assigned a NAIS premises identification number. The memo was much more ambiguous than the original September memo, but the basic impact appeared unchanged.

Presumably in response to the questions raised about its legal authority to take this step through a memo, the USDA proposed a new NAIS rule on January 13. The draft rule would make portions of the NAIS mandatory for thousands of people in every state. Anyone who participates in federal disease control programs for cattle, sheep, goats or swine will have their premises registered. The NAIS Premises Identification Number (PIN) will become the only form of premises identification acceptable for USDA animal health purposes, with no opt-out provision. The proposed rule would also limit official Animal Identification Numbers to the NAIS-compliant 840-numbering system, laying

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



the groundwork for future regulations that would limit people's options on the types of tags they could use.

The comment period for the proposed rule closes March 16, 2009. At the time this article went to press, thousands of people had already submitted comments opposing the proposed rule, as well as NAIS in general. Since the rule was proposed before the new Administration started, Secretary Vilsack's response to the outpouring of opposition will set the stage for what happens next.

## CONGRESS GETS INTO THE ACT

Each year for the last five years, Congress has appropriated money to fund NAIS implementation. In the Omnibus Appropriations bill for Fiscal Year 2009, which will fund the entire federal government for the rest of the year, the House included a provision for \$14.5 million in NAIS funding, which is about half of what USDA had requested. But Rep. Obey (D-WI), who chairs the House Appropriations Committee, included some very damaging statements in the record about timelines and performance goals for NAIS. Although these are not law, because they are not in the bill, they provide a lot of impetus to USDA's implementation of NAIS. As this article went to print, the Senate was debating the Omnibus Appropriations bill.

The action in Congress this year will extend far past the Appropriations bill. On March 11, the House Subcommittee on Livestock, Dairy and Poultry will hold a hearing on "animal identification programs." As of the week before the hearing, the Chair of the subcommittee still has not released the list of organizations that have been invited to testify, but it is safe to assume that it will include all of the usual suspects from Big Ag, including the technology companies and database managers who stand to make a fortune from NAIS. One anti-NAIS group has been invited to testify, and WAPF is working with other organizations to mobilize the grassroots response.

There are also five food safety bills that have been filed already, and more are expected. All five bills include "traceability" provisions, whether for animals, produce, or both. It's a confusing situation, because NAIS is not a food

safety program. The NAIS tracking ends at the slaughterhouse, while most foodborne illnesses are due to contamination that occurs at the slaughterhouse, food processing or handling facilities, or at homes and restaurants. So NAIS provides little or no relevant information in the event of a foodborne illness outbreak.

## FOOD TRACEABILITY PROPOSALS

And whether it involves meat or produce, the value of traceability in foodborne illness outbreaks is limited by the realities of such illnesses. The typical incubation period for foodborne illnesses is several days, so the main difficulty in tracking outbreaks comes from people's inability to accurately remember what they ate several days before. Yet, unfortunately, many in Congress do not understand the facts underlying foodborne illnesses (or choose to ignore them), and tracking animals continues to appear in these bills.

Senate Bill 425, introduced by Sherrod Brown (D-OH) would require FDA to establish a traceability system "for all stages of manufacturing, processing, packaging, and distribution of food." Since meat does not fall within FDA's jurisdiction, this bill would not mandate NAIS, but would establish a NAIS-type system for other foods. For meat, the bill gives USDA mandatory recall authority. Senate Bill 510, the FDA Food Safety Modernization Act, is the most recent of the food safety bills. Introduced by Senator Durbin (D-IL), it also focuses on foods within FDA's jurisdiction and includes specific requirements for pilot projects on traceback programs and regulations.

HR 814, introduced by Congresswoman Diana DeGette (D-CO), would mandate traceability for all poultry and livestock—specifically including cattle, sheep, swine, goats, horses, mules and other equines presented for slaughter for human food purposes—where the animals or the resulting food are shipped interstate. Although the bill does not use the term "National Animal Identification System," it clearly envisions a NAIS-type program in its provision that the tracking system must allow traceback to any premises at which an animal was held at any time before slaughter. The bill could also effectively mandate NAIS for many people who never ship animals interstate,

NAIS provides little or no relevant information in the event of a foodborne illness outbreak.

because the Secretary is authorized to prohibit entry into USDA-inspected slaughterhouses for animals not identified under the system. So any farmer that uses a USDA-inspected slaughterhouse could be required to be in the program, even if his or her animals are raised and marketed entirely within the state.

HR 759, the FDA Globalization Act of 2009, was introduced by Congressman Dingell (D-MI). It applies to FDA-regulated products, not USDA meat inspection. The bill would impose regulations on production and harvesting methods for fruits and vegetables, and would require farms to register under the Bioterrorism Act of 2002. It also mandates electronic record keeping and standardized lot numbers. HR 759 also calls for “registration fees” paid by food establishments to generate revenue for FDA.

HR 875, the Food Safety Modernization Act, is sponsored by Congresswoman Rosa DeLauro (D-CT). It establishes a new agency, the Food Safety Administration, within the Department of Health and Human Services. The new agency would take over the food safety responsibilities currently held by FDA, but would not affect USDA’s authority to inspect meat and poultry. The bill does cover meats that are not currently inspected by USDA, such as bison, deer, and elk. HB 875 contains some good provisions, such as increased standards for imported foods and increased inspections of food processing plants. But these positive provisions come with many extremely damaging provisions. The bill requires a traceback system for food and gives the new agency authority to inspect farms, ranches, orchards, and vineyards. HB 875 calls for “good practice standards,” which is usually a euphemism for very restrictive requirements based on industrial farming practices, such as not allowing animals to be raised on the same farm as produce.

None of the bills recognize the fundamental differences in food safety between the industrial,


centralized food system and the sustainable, local food system. To one degree or another, they all attempt to impose expensive, burdensome requirements on all farmers, regardless of the scale of operation or the management methods. True food safety reform needs to recognize that foods such as grass-fed beef, lamb and poultry, processed in local, small-scale operations, are not the same as—and should not be regulated the same as—feedlot meats processed at massive facilities and shipped all over the country. Nor should a bag of spinach from a local CSA be subject to the same sort of regulations as a mega-spinach farm in California that ships its product all over the country.

#### STATE BILLS AND NEXT STEPS

Because of USDA’s method of implementing NAIS, in 2007 and 2008 four states adopted laws barring their state agencies from implementing a mandatory NAIS. Arizona was the first, followed by Nebraska, Kentucky, and Missouri. In 2009, multiple state bills that would limit NAIS to a voluntary program had been filed. All of the bills include protections against coercion being used to force people into the program. The bills include: Arkansas HB 1046, Montana HB 551 and HB 592, South Dakota HB 1224, Texas SB 682, Washington SB 5956/ HB 2086, and Wyoming HB 263. At the time this article went to press, only the Texas and Montana bills were still alive.

Weston A Price Foundation farmers and their consumers are at the forefront of this fight because we know the value of good food. NAIS creates incentives for confined animal feeding operations, combined with particularly heavy burdens for those raising animals on pastures where tags are often lost on fences and brush. It’s time to speak up to retain your right to farm and protect the availability of grass-fed meats, eggs and milk!

We need to educate legislators in every state, and in Congress, about the important benefits of grass-based livestock operations and the differences between them and the industrial agriculture system. One of the best ways to do this is to meet with your legislator in person to talk about the concept of real food safety from local, sustainable farms. A meeting or phone call with the staffer who handles agricultural issues is also a great option for establishing a relationship that can lead to better representation of your interests in the state legislature and at the federal level.

For the latest information and action alerts, sign up for free email alerts at [www.FarmAndRanchFreedom.org](http://www.FarmAndRanchFreedom.org). The website also has materials that you are free to download to share with your neighbors, customers, and local livestock-related businesses. For more information and help with state bills and materials for educating legislators, email [Judith@FarmAndRanchFreedom.org](mailto:Judith@FarmAndRanchFreedom.org) or call 512-243-9404. 

#### SINGLES GROUP

Visit <http://ppsingles.ning.com> for a group for single people who eat traditional foods according to the research of Dr. Price and Dr. Pottenger.

# A Campaign for *Real Milk*

## RAW MILK UPDATES

by Pete Kennedy, Esq.



There's a lot happening on the raw milk front, in the courts, on the federal level, and in various state legislatures. Raw milk has definitely become a hot topic!

### ONTARIO CANADA

#### THE MICHAEL SCHMIDT CASE

From January 26-30 and then again on February 4, the trial of dairy farmer Michael Schmidt was held in the Newmarket, Ontario Court of Justice before Justice of the Peace Paul Kowarsky. Charged with twenty violations of the Ontario Health Promotion Protection Act and the Ontario Milk Act, Schmidt has received widespread media coverage—most of it favorable.

The first three days of the trial were devoted to the charges against Michael while the remainder of the trial was dedicated to a challenge that Schmidt brought against the Court for a violation of Section Seven under the Canadian Charter of Rights. That section states, "Everyone has the right to life, liberty and security of the person and the right not to be deprived thereof except in accordance with the principles of fundamental justice."

Schmidt represented himself at the trial and did an outstanding job in presenting his case. The farmer argued that when he entered into agreements with his shareholders, he was "acting in a private capacity, engaging in private contract with other individuals who were also acting in a private capacity." While Schmidt recognized that "a sovereign society has the right to regulate the trade and commerce of raw milk as it perceives necessary for the public good," he asked, "Can regulations for the public good be imposed on two or more individuals coming to an agreement and understanding in their private capacity?" Schmidt noted that there was no law banning

the consumption of raw milk in the province of Ontario.

The farmer pointed out that if there is a legitimate public health concern about providing raw milk to private individuals, the government's actions have shown no evidence of such concern. "There have been no public notices to stay away from people who drink it. And, insofar as the Crown deems cow share members to be members of the public, no calls have been made to any of them to warn them of the potential hazard."

Schmidt countered the scientific evidence introduced by government witnesses on the dangers of raw milk by using the testimony of his own expert witnesses, Dr. Ted Beals and Dr. Ron Hull, to establish the fact that there are two kinds of raw milk: raw milk intended for pasteurization and raw milk intended for direct consumption. The farmer also tried to respond to the government's "science" by entering into the record 54 sworn affidavits from his shareholders about how raw milk benefited their health. The court refused to admit the affidavits as evidence.

Shareholder Judith McGill offered the following words on why shareholder stories should be considered as evidence: "It is a science that is described through narrative—people telling each other about why they searched out raw milk and what it's meant for their health. That is our pre-test and post-test, what happened before I started drinking raw milk and what happened after I drank raw milk. There are no clever experimental controls set out in advance. No way to do factorial analysis to determine or link causal factors. Life is far too complex for that. There are just families talking to each other about what they find remarkable about the changes to their health. It is in the language of what happened as a result rather than scientific conclusions.

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

It is in the language of convictions rather than scientific claims. It is in the language of taking responsibility and managing one's own health. It is described mostly in terms of a journey back to health." [The Bovine, "Raw milk consumers not going away!", February 2, 2009]

The Court will take several months to issue a decision on the case. For more details on Schmidt's case go to [www.thebovine.wordpress.com](http://www.thebovine.wordpress.com).

#### CALIFORNIA: OPDC CRIMINAL CASE

On January 9 under a plea bargain agreement, Organic Pastures Dairy Company (OPDC) pleaded guilty in a federal district court to two misdemeanor counts of "introduction and delivery for introduction into interstate commerce of misbranded food." (See *Wise Traditions*, Summer and Fall 2008 issues for background on the case.) Under the plea bargain, sentencing was postponed for twenty-four months. If the dairy commits no further violations during that time, OPDC will be free to withdraw its guilty plea and the government will cease its prosecution of the case.

At the same time OPDC entered its plea, the company's founder and president Mark McAfee pleaded innocent to the same charges and the

government agreed to defer prosecution for twenty-four months. If no violations are committed during that time, the prosecution will drop the charges.

Still to be worked out between the dairy and the FDA was a memorandum of understanding between the two parties specifying the terms and conditions under which OPDC could sell raw milk for animal consumption in interstate commerce. The agency is willing to let the dairy ship across state lines to zoos, veterinary practices and research labs; but the requirements FDA wants to impose on the dairy and its customers are so onerous that Mark has, for now, decided to halt all shipments of raw milk in interstate commerce. For instance, the agency wants those purchasing raw milk from outside California to "destroy or return to OPDC any unused product...[and] provide OPDC with documented accounting of all quantities destroyed within 15 days of destruction." Penalties for violations of this and other conditions FDA wants to impose on the dairy and its out-of-state customers could be up to \$250,000 in fines and five years imprisonment or both. Negotiations between the dairy and the FDA are ongoing.

As of this time, there has been no resolution to the civil complaint the U.S. Attorney's Office in Fresno has filed against OPDC for distributing misbranded raw milk and raw milk products in interstate commerce. (See *Wise Traditions*, Winter 2008 issue for background on the case.)

#### CALIFORNIA: SHARON PALMER

On December 18, 2008, Santa Paula dairy farmer Sharon Palmer of Healthy Family Foods (HFF) was arrested by the Ventura County Sheriff's Department (VCSD) for "selling raw milk." Officers stopped her car about a mile from her farm, handcuffed her and eventually drove

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### INTERNATIONAL ASSOCIATION FOR FOOD PROTECTION CONFERENCE

On February 17 the International Association for Food Protection sponsored a symposium on raw milk entitled, "Raw Milk Consumption: An Emerging Public Health Threat?" John Sheehan, Director of the U.S. Food and Drug Administration (FDA) Division of Plant and Dairy Food Safety, was scheduled to speak at the symposium, but cancelled his appearance at the last minute as did a number of other FDA officials who were scheduled to attend. The likely reason for the cancellation was that Sheehan found out members of the Weston A. Price Foundation would be in attendance at the conference. FDA views the issue of raw milk safety as not debatable and will not discuss raw milk with anyone holding an opposing viewpoint.



The agency would rather work behind the scenes to impose its beliefs on the public, pressuring state officials to restrict the sale of raw milk or ban it altogether, and working with Congress to obtain more regulatory power over the intrastate sale of raw milk. FDA has never wavered from its goal of eliminating all sales of raw milk. For an amusing description of the talks given at the conference, see David Gumpert's blog at [www.thecompletepatient.com](http://www.thecompletepatient.com). Pictured, right, are WAPF "gate crashers" Michael Schmidt, David Gumpert, Tim Boyd, Geoffrey Morell and Sally Fallon Morell.



## PROPOSED FEDERAL LEGISLATION: THE GOOD AND THE DISASTROUS

### HR 778:

Nothing would do more to increase the availability of raw milk than to reduce the FDA's power to regulate it. Current proposed federal legislation would take away FDA's biggest weapon, the interstate ban on raw milk for human consumption.

On January 28 Congressman Ron Paul (R-TX) introduced HR 778, a bill "to authorize the interstate traffic of unpasteurized milk and milk products that are packaged for direct human consumption." Under the bill, the federal government "may not take any action...that would prohibit, interfere with, regulate, or otherwise restrict the interstate traffic of milk, or a milk product, that is unpasteurized and packaged for direct human consumption solely on the basis that the milk or milk product is unpasteurized...." The bill defines "interstate traffic" as "the movement of any conveyance or the transportation of persons or property...from a point of origin in any State or possession to a point of destination in any other State or possession...."

Passage of the bill into law would repeal the federal regulation prohibiting raw milk and raw milk products for human consumption in interstate commerce. That regulation (21 CFR 1240.61) provides, in part, that "no person shall cause to be delivered into interstate commerce or shall sell, otherwise distribute, or hold for sale or other distribution after shipment in interstate commerce any milk or milk product in final package form for direct human consumption unless the product has been pasteurized...."

HR 778 has been assigned to the House Energy and Commerce Committee. Co-sponsors are needed for the bill to have a chance to progress. Those supporting the bill should contact members of the Committee as well as their own Representative to encourage them to sign on as co-sponsors for the bill.

Passage of HR 778 would help resolve the disconnect between the laws on the consumption of raw milk—which is legal in every state—and the laws on the sale of raw milk which is illegal in about half the states. The bill would enable those living in states where the sale of raw milk is illegal and those living in states where the sale is legal but difficult to obtain to be able to exercise their legal right to consume raw milk. As Congressman Paul stated in introducing the bill, "Americans have the right to consume these products without having the Federal Government second-guess their judgment about what products best promote health. If there are legitimate concerns about the safety of unpasteurized milk, those concerns should be addressed at the state and local level." Unfortunately, FDA does not share this view and has convinced other members of Congress to support legislation that would take away most of what is left of the States' power to independently regulate commerce, including the power to regulate the intrastate sale of raw milk.

### HR 875:

On February 4 Representative Rosa DeLauro (D-CT) introduced HR 875, a bill "to establish the Food Safety Administration within the Department of Health and Human Services to protect the public health by preventing food-borne illness, ensuring the safety of food, improving research on contaminants leading to food-borne illness, and improving security of food from intentional contamination, and for other purposes." The bill would divide FDA into the Federal Drug and Device Administration and the Food Safety Administration (FSA). HR 875 gives the FSA extensive power to regulate interstate and intrastate commerce.

The bill gives FSA the power to conduct regular unannounced inspections of farms even if the farm is engaged solely in intrastate commerce. HR 875 requires FSA to conduct weekly unannounced inspections of farms producing raw milk. Under the bill, raw milk producers—like all farmers engaged in commerce—will have to make their customer lists available to FDA; and farmers will also be required to develop "a written food safety plan that describes the likely hazards and preventive controls implemented to address those hazards."

Aside from the burdensome and intrusive regulations HR 875 imposes on farmers, the greater threat the bill poses to raw milk producers is that it gives FSA the statutory authority to ban the intrastate sale of raw milk. HR 875 orders FSA to issue regulations designed to "limit the presence of contaminants in food prepared in a food establishment [farms are "food establishments" under the bill] using the best reasonably available techniques and technologies...." To FDA, the "best available technology" is pasteurization. The agency has long wanted a complete prohibition on the sale of raw milk. With the passage of the bill, the agency would now have its chance to impose a total ban.

HR 875 has been assigned to both the House Committee on Energy and Commerce and the House Committee on Agriculture. It needs to be stopped. We are working on an organized strategy to defeat this bill and will keep our members posted.

her back to her premises where they, along with four other government agencies including the California Department of Food and Agriculture (CDFA), conducted a search of her dairy processing plant located on the farm premises. After searching the plant and questioning the farmer, her children and her farm employees, Palmer was arrested and taken to the Ventura County Jail where she remained for twelve hours before being released on her own recognizance. Her release papers stated the formal charges against her were for “processing milk or milk products without pasteurization” and “processing for resale milk or milk products without a license”—both are felonies under California law.

Palmer’s dairy business consists of selling pasteurized goat cheese at farmers’ markets and distributing through a herd share agreement raw goat’s milk and raw goat cheese to members of the Los Angeles-based Rawsome Food Club (RFC). Palmer and RFC split the cost on the purchase of one hundred goats which she keeps on her farm along with sixty other goats in which she has a full ownership interest. At the time of the arrest, Sharon had a permit to sell at Ventura County farmers’ markets, a pasteurizer license, and a milk products plant license which enabled her to make cheese at a plant near her farm. In September 2008, Sharon moved out of the plant with the intention of transferring her cheese-making operation to the processing plant she had just built on her farm. Since the new plant at the farm was not yet licensed, Sharon froze batches of cheese she manufactured at the old plant to sell at farmers’ markets as a way to carry herself financially until the new plant was approved to be licensed. The only cheese she processed at the unlicensed plant was the cheese distributed to the Rawsome Food Club.

Palmer’s intent was not only to get a milk products plant license but also a license to sell retail raw milk. In November 2008, her inspector conducted an inspection of her milk barn and processing plant for licensing; the inspector told her that everything looked good and that she would call Sharon if she could think of anything that still needed to be done to have the facilities in compliance with licensing requirements. The inspector called a week later requesting a technical drawing for her supervisor but asked for nothing more.


The state investigation into Sharon’s farming operation began during the first week of December 2008 when a detective from the Agricultural Crimes Unit of the Ventura County Sheriff’s Department (VCSD) went to the farm in response to Sharon’s complaint that some grain had been stolen. While the detective was at the farm, he witnessed a member of the Rawsome Food Club picking up raw milk and raw cheese; the Sheriff’s Department then informed CDFA. Instead of contacting Sharon to ask her what she was doing, CDFA along with VCSD and several other county government agencies launched an undercover investigation into her business.

On the morning of December 18, undercover agents from CDFA and VCSD bought cheese at the farmers’ market from Healthy Family Foods (HFF). Agents also obtained HFF cheese at the farm after Sharon refused to sell it to them saying she was not licensed to sell on the farm; the agents insisted that they needed the cheese right away for a holiday party so Sharon gave them the cheese at no charge. The sheriff’s depart-

ment used the “buys” as grounds for arresting Palmer that afternoon. In addition, agents from CDFA and the Ventura County Health Department shut down the HFF table at a local farmers’ market that day, confiscating about \$1000 worth of cheese.

Palmer appeared at a scheduled arraignment December 26, 2008; but no charges were brought against her at that time. She made another court appearance on January 15, but again no charges were filed and her arraignment was postponed until March 11.

If the Sheriff’s Department believed they had obtained enough evidence from the December 18 raid to warrant charges being brought against Sharon, its subsequent actions indicate otherwise. After securing a warrant, VCSD executed a second search of Sharon’s farm on January 28. The department also executed a search for HFF records at the home of her daughter, Jennifer Lynn Prince. Prince has worked part-time at the farmers’ markets for her mother; she also has a full-time job working at home for an out-of-state bank. The officers seized her work computer which contained no records of HFF, leaving her unable to work. VCSD also seized Palmer’s computer and business records which, according to Palmer, only dealt with pasteurization charts.

CDFA has told Sharon that it will not act on her license applications until the litigation against her is resolved. Palmer’s inspector, with whom the farmer had a good relationship, has been kept out of the loop during the entire investigation by CDFA. Sharon has not distributed any dairy products to the Rawsome Food Club since the day she was arrested. She has been dumping all milk produced since that day as well. CDFA has admitted in the recent past that herd share agreements are legal. Moreover, Sharon has never sold any cheese produced at an unlicensed facility to the general public. General Counsel Gary Cox of the Farm-to-Consumer Legal Defense Fund is representing Sharon and is attempting to convince the Ventura County Prosecutor’s Office not to pursue charges against the farmer. 

## STATE LEGISLATION

**ARKANSAS:** Arkansas currently allows farmers to sell up to one hundred gallons of goat milk per month at the farm. HB 1114 would allow the sale of up to one hundred gallons of raw cow milk per month as well. The trade off would be that the bill empowers the state board of health to make rules providing for the random inspection of farms producing and selling raw milk and to issue regulations requiring the seller to have a warning sign at the point of sale and warning labels on the bottles. The bill was referred to the Senate Committee on Public Health, Welfare and Labor.

**CONNECTICUT:** In response to a foodborne illness outbreak occurring at Town Farm Dairy in Simsbury last summer (see *Wise Traditions*, Fall 2008 issue), the Connecticut Department of Agriculture (CDA) had legislation introduced that would restrict the availability of raw milk. HB 6313 would limit sales of raw milk to the farm only; it can currently be sold in retail stores. HB 6313 originally included testing provisions that would have imposed a financial hardship for raw milk licensees; but those requirements have been withdrawn in an amended version of the bill. CDA has also had HB 6312 introduced, "which would provide criminal penalties for the sale or offering for sale of adulterated milk and milk products." The bill contains a provision that would ban the operation of cow share programs unless the farmer had a retail raw milk license. Both bills have been assigned to the Joint Committee on the Environment.

**MARYLAND:** Two raw milk bills have been introduced this session. HB 1015 would allow for the sale of raw milk directly from the producer to the consumer if the parties have executed a written contract for its sale. The contract must clearly indicate that the milk being sold is unpasteurized and that "once the raw milk product is in the possession of the consumer, the proper handling, transporting and cooling of the milk are the responsibilities of the consumer." The bill has extensive requirements for testing and sanitary standards and also mandates that warning labels be on the containers. Those producers selling raw milk would be required to register with both the Maryland Department of Health and Hygiene and the Maryland Department of Agriculture. A second bill, HB 1080, would exempt from regulation the distribution of raw milk and raw milk products from milk producers directly to the final consumer "if the consumer has acquired an ownership in the animal or herd from which the raw milk is produced." The bill requires that the ownership interest be acquired pursuant to a written contract. Both bills are before the House Committee on Health and Government Operations.

**MISSOURI:** Representative Belinda Harris (D-Hillsboro) has introduced HB 233, a bill that would exempt the sale of all raw dairy products directly from the producer to the consumer either at the farm or through delivery. Under current law, only sales of raw milk and cream from the producer to the consumer are exempt. HB 233 is before the House Committee on Agriculture Policy.

**TENNESSEE:** The Dairy Farmers Prosperity Act (HB 1360 and SB 1899) would allow the unlicensed direct sale from producer to consumer at the farm as long as the farmer does not advertise and the consumers bring their own containers. HB 1360 is now before the House Committee on Agriculture; SB1899 has been assigned to the Senate Committee on Commerce, Labor and Agriculture.

**WYOMING:** HB 0193, the Wyoming Food Freedom Act, passed out of the House Committee on Agriculture, State and Public Lands & Water Resources and is now up for general floor vote in the House. The bill exempts—from any state licensing, certification or inspection requirements—sales of food from producers or processors directly to the end consumer "at farmers' markets, roadside stands" and at the ranch or farm. Raw milk and raw milk products would be foods covered by the bill. The sale of raw milk is currently prohibited in Wyoming.

*For the latest developments on the cases covered in this update, go to [www.thecompletepatient.com](http://www.thecompletepatient.com). Those who have not joined the Farm-to-Consumer Legal Defense Fund are encouraged to do so. Membership applications are available online at [www.farmtoconsumer.org](http://www.farmtoconsumer.org) or by calling (703) 208-FARM (3276); the mailing address is 8116 Arlington Boulevard, Suite 263, Falls Church, Virginia 22042.*

*For a range of resources on raw milk, visit [www.realmilk.com](http://www.realmilk.com). These include a PowerPoint presentation on the Safety, Healthy Benefits and Economics of Raw Milk (<http://realmilk.com/ppt/index.html>), a Response to the FDA Anti-Raw Milk Powerpoint (<http://realmilk.com/documents/SheehanPowerPointResponse.pdf>), and an analysis of the published reports on illness allegedly caused by raw milk (<http://realmilk.com/documents/ResponsetoMarlerListofStudies.pdf>). The site also contains an overview of raw milk laws in the fifty states (<http://realmilk.com/milk-laws-1.html>).*

## Healthy Baby Gallery

Elias Oliver Nielson arrived two weeks early and weighed over eight pounds. After several years preparing herself for pregnancy with nutrient-dense foods, Elias' mom sailed through her pregnancy and friends commented on how much energy she had. Her pregnancy diet included lots of raw milk, raw butter, grass-fed beef, liver, farm-fresh eggs, bone broth, fermented veggies, cod liver oil and butter oil. Strong and alert from birth, Elias was able to lift his head when only a couple days old. Several people have said, "Look, it's the Gerber Baby!" Elias was exclusively breastfed until seven months old and he now enjoys cod liver oil, coconut milk, raw cheese, puréed grass-fed beef and pastured chicken, egg yolks, and organic fruits and veggies. "We are genuinely grateful for the work the Weston A. Price Foundation is doing," says mom Kael Nielson. "It has made a profound difference in our lives."



Kaya Maria Gutierrez was born on June 19, 2008. She is a beautiful, sweet and fun baby. People always comment on how alert and focused she is. Mom is thankful to WAPF for all of their help and information as well as to the Yoders, whose farm provides the majority of the family's nourishment (not to mention the best milk in the state of Ohio). Kaya is pictured here at just three months old engaged in what is still one of her most favorite activities—flying around the house with her dad!

Rose Marie Kremer, daughter of Nancy and Dan of E.A.T. Food for Life. Many patrons of the farm store have heard Dan Kremer say, "eating food for life may cause more life!" Rose Marie Kremer was born Labor Day, 2008 weighing in at 8 pounds, eleven ounces. She was welcomed home by five siblings, ranging in ages from sixteen to three.



Pictured here are River, age one, Audrey, age four, and Alaina, age three, the great-grandchildren of subscriber Dorothy Rippey and fourth generation raw milk drinkers!

Alert and happy, Evan Jian-en Chang was born April 27, 2008. His mother had an easy and speedy delivery and good recovery due to her nutrient-dense diet throughout her pregnancy. She drinks raw milk and raw cream on a daily basis. Evan enjoys mother's rich breast milk. He eagerly takes high vitamin cod liver oil, egg yolk and organic liver. He already has six beautiful teeth and is starting to walk.



Please submit your baby and raw milk granny photos to Liz Pitfield at [liz@westonaprice.org](mailto:liz@westonaprice.org). Be sure to label photographs with the full name of the baby.



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## LOCAL CHAPTER BASIC REQUIREMENTS

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

## OPTIONAL ACTIVITIES

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



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## MONTHLY MEETING OF THE LIMA/ALLEN COUNTY, OHIO CHAPTER



Jaime Fiene, Kenton County chapter leader (left) and Laurie Smith, Lima/Allen County chapter leader (center) answer questions from a WAPF mom.



Jerry Discus, one of several producers who sell farm products at chapter meetings.



Rawson, Ohio chapter leader Wayne Feister, DO, explains the basics of lacto-fermentation.

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## CHAPTER RESOURCES

Resources for chapter leaders are posted at [www.westonaprice.org/chapterleaders/](http://www.westonaprice.org/chapterleaders/) including our new trifold brochure in Word format and PowerPoint presentations.

## LOCAL CHAPTER LIST SERVE

Thank you to Suze Fisher of our Maine chapter for setting up a local chapter chat group. New chapter leaders can sign up at <http://groups.yahoo.com/group/wapfchapterleaders/>



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Christmas pot luck and meeting of the Annapolis Valley Chapter, Nova Scotia, Canada, Shirley Scharfe chapter leader.

# The Shop Heard 'Round the World

Dedicated to Helping the Consumer Obtain Nutrient-Dense Foods and Accurate Nutrition Information

## FARM PRODUCTS BY STATE

### CA

Grass-fed, ranch-raised natural light beef. Locally ranch-raised, in Orange County, California. No additives or preservatives. Not available in stores delivered to your door. Frozen in 1 1/2 pound packages. (714) 749-5717, 5Bar Beef. 10/2

### DC

CSA: Hi-Brix, nutritionally dense, biodynamically grown kitchen vegetables, grass-finished beef, pastured pork, broilers and eggs. Openings for 2009 season in DC Metro area. Contact Allan Balliett, info@freshandlocalcsa.com (304) 876-3382, www.freshandlocalcsa.com. \*10/4

### IL

Come to our farm! Healthy, FAT, beef & pork, born and raised certified organic - no nitrates. Sides or cuts (as available) plus many other healthy foods. Chapter Leaders Dale Kelsey - sustainable producer receiving no government funds, no grants, no subsidies, & Eileen Kelsey, CHom. incorporating WAPF Nutrition with Classical Homeopathy (815)-239-1466. 10/3

### IN

Raw milk cheeses, grass-fed beef, veal, whey fed pork. Also, a variety of fresh raw dairy products available as "pet food". 100% pasture fed cows. NO hormones, pesticides, antibiotics used. Available from the Yegerlehner's "The Swiss Connection". (812) 939-2813 www.swiss-connectioncheese.com, Clay City, IN. 10/4

### MA

Babcia's Farm. Certified organic pastured chickens, turkeys, eggs and vegetables. Sourdough breads and other whole grain baked goods, lacto-fermented sauerkraut and kombucha. Lard and more. All poultry must be pre-ordered. Visit our farm shop or Hardwick Farmer's Market. Contact Melanie at (978) 355-4053. 10/1

We encourage our readers to obtain as much of their food as possible from small farms and independent businesses.

Misty Brook Farm offers certified organic raw cow's milk, beef, veal, pork, lamb, eggs, and vegetables. Raw milk is available year-round from 100% grass-fed cows. Come visit our traditional mixed farm! Contact Katia Clemmer at (413) 477-8234 or mistybrookorganicfarm@yahoo.com, Hardwick,. 10/2

### MD

Organically raised grass-fed beef, free-range eggs, and pastured chicken. Pick up from Potomac, Buckeystown or Emmitsburg (beef only). No hormones, antibiotics, or animal parts are fed. Beef never fed grain. Nick's Organic Farm, Quality Organic Products since 1979, Nick Maravell, (301) 983-2167, nickmaravell@comcast.net. 10/4

Windmill Meadows Farm, Washington County, Grass-based sustainable family farm. Our Focus: healthy, well-balanced soil produces healthy livestock on healthy grass for healthy, good-tasting food products. Grass-fed dairy, beef, goats, pasture-based poultry:(broilers & layers). Availability to Washington DC markets, (301) 739-5258. 10/4\*

### MI

Creswick Farms. Dedicated to raising healthy, happy animal—lovingly cared for just as Mother Nature intended—which provide high-energy, nutritious and delicious food sources for health-conscious individuals. No antibiotics, steroids or GMOs ever fed to our animals! (616) 837-9226, www. Creswick-Farms.com. 10/4

## FARM PRODUCTS BY STATE

### MN

Farm On Wheels offers animals raised on green grass & certified organic by MOSA. Nutrient-dense cuts of beef, lamb, chicken, turkey, goose, duck, pork, lard, butter & eggs. No corn or soy. Farmers Market year round in St. Paul, Prior Lake, Northfield, Linda (507) 789-6679, www.farmonwheels.net. 10/1

### NH

Certified organic dairy: raw milk, yogurt, cream and quark. Pasture-raised lamb, beef and chicken. Eggs and vegetables available, raw fermented sauerkraut. Call for more info: Luke & Catarina Mahoney, (603) 742-4084 Brookford Farm, Rollinsford, NH, www.brookfordfarm.com. 10/4

### NJ

Fresh Vital Foods from fertile soil. A natural function of soil, sun, rain, and compost and traditional, sustainable farming. Brown eggs with orange yokes from chickens on grass pasture. Seasonal vegetables and Native American fruits & nuts: Persimmon, Pawpaw, Black Walnut, and Hazelnut. River Birch Micro Farm, 19 Forman Ave Monroe Township, New Jersey 08831 (732) 605-0444. 10/3

### NY

Biodynamic raw milk available through herd-lease program. Also pastured chickens and fresh eggs available. Pleroma Farm, Arthur Lups, Hudson, NY (518) 828-1966. 10/3

### OH

Sleepy Hollow Farm - grass-fed poultry (now taking orders), eggs and beef. Raw milk(certified organic) and raw milk yogurt available through our herd share program. Give us a call - we might be delivering in your area this summer, (937) 464-7505. 10/4

### PA

100% grass-fed products: raw milk, cheese, butter, cream and eggs. Lancaster County, Willow Run Farm, Call(717) 656-1359 Eli and Sylvia King, 995-B Musser School Road, Gordonville PA 17529. 10/4

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# The Shop Heard 'Round the World

Dedicated to Helping the Consumer Obtain Nutrient-Dense Foods and Accurate Nutrition Information

## FARM PRODUCTS BY STATE

Bareville Creamery 100% Grass-fed offers farmstead Cultured Butter from our grass-fed cows.\* **We will ship to you.** \*\$6.00/ lb plus shipping, or visit our farm to pickup. Daniel & Katie Zook, Leola PA, (717) 656-4422. 10/4

Certified Organic Dairy. Raw milk cheese pastured chickens, turkeys, pigs, 100% grass-finished beef, beef & chicken broth. Call for more information (717) 786-8093, Green Hills Farm, John & Annie Esh, Quarryville, PA. 11/4

Certified organic grass-fed dairy. Raw milk cheeses, cottage cheese, yogurt, sour cream etc. from Jersey cows. Eggs from pastured chickens. Grass-fed beef, pork, chicken, rabbit and turkey. Call for information. **Will ship.** (717) 768-3437 Pleasant Pasture Organic Acre. 11/1

Grass-fed Organic Raw Milk and dairy food: 100% grass-finished beef and lamb, pastured pork, chicken and turkey, wild Alaskan salmon, fermented vegetables, raw honey, maple syrup and more, Long Island drop, Paradise Pastures, Paradise, PA (717) 687-6346. 10/3

New location for an attractive variety of quality grass-fed and free-range products, located near the Lancaster and Chester County Line. For more information and/or questions, please call (717) 768-3263, Elam & Linda Stoltzfus, Narvon Natural Acres, Narvon, PA. 10/4

Pasture raised raw milk and dairy foods. Also chicken, turkey, veal and beef, Nature's Sunlight Farm, Mark and Maryan Nolt, Newville, PA, (717) 776-3417. 10/4

Raw Dairy Products from our grass-fed Jersey cows. Eggs from our free-range pastured chickens. Beef from our own beef cows. Pork from our own pigs. Running Water Farm, Isaac & Mattie King, 1238 Clay Rd. Lititz, PA-17543, (717) 627-3177. 11/4

There's a NEW source for grass-fed meats in the Susquehanna Valley! Owens Farm moved from New Hampshire last summer. Offering grass-fed lamb, pastured pork, meadow-raised chicken, happy veal raised on a mama cow. Visit Owens Farm [www.owensfarm.com](http://www.owensfarm.com) Sunbury, PA (570) 286-5309. [info@owensfarm.com](mailto:info@owensfarm.com). 10/3

Raw milk from 100% grass-fed cows, yogurt, eggs from free-range chickens, 100% grass-fed beef and raw milk cheese. Ira & Mary Beiler. (570) 278-5881. 10/3

Raw Dairy Products from our 100% grass-fed Jerseys. Free-range, grass-fed, chicken, turkeys. Suckling veal, whey-fed pork, and lard. We do not use hormones or antibiotics. Shady Acres, Glenn Wise, 8514 Elizabethtown Rd. Elizabethtown, PA, 17022, **Shipping Available.** (717) 361-1640. 10/3

Raw milk cheese from our grass-fed Jerseys, made on our family farm with Celtic sea salt. No grain fed. Also grass-fed beef and lamb and pastured chickens, turkeys and eggs. No hormones or synthetics. On-farm sales. Wil-Ar Farm, Newville, PA. (717) 776-6552. 17/4

Welcome to Family Cow Farm. Our grassfed cows, pigs and chickens, give us milk, cream, cheese, butter, ice cream, meat, eggs, and more for our family and friends. We also have some produce seasonally. (717) 786-0131. 10/4

Willow Stream Farm, grass-fed dairy products from 100% Jersey cows. Raw milk, butter, five types of cheese. Call for prices. **Will ship cheese** (minimum 10 pounds). Christian Fisher. 88 Hess Road, Quarryville, PA, 17566. (717) 786-8515 ext 3. \*10/2

## TN

We are a family farm offering all-natural, delicious, grass-fed lamb, pork, beef and, chicken. We now offer Jersey heifers for family milk cows (gentle!!) Call (866) 866-3287. Ask for Justin or Liberty or email: [topoftheworldfarm@wildblue.net](mailto:topoftheworldfarm@wildblue.net). 10/4

## VA

Salatin family's Polyface Farm has salad bar beef, pigaerator pork, pastured chickens, turkeys and eggs, and forage-based rabbits. Near Staunton. Some delivery available. Call (540) 885-3590 or (540) 887-8194. 10/3

The Conscious Bean is a holistic cafe for people to explore healthful ways of being. Come listen to our speakers, meet your local farmers, and enjoy our foods that follow nourishing traditions. (703) 757-BEAN, 10123 Colvin Run Road, Great Falls, VA 22066, [www.theconsciousbean.com](http://www.theconsciousbean.com). 10/3

## WI

Certified organic 100% grass-fed dairy products. Also salad bar beef, pastured pork, pastured chickens, and eggs. Natural sweeteners, On-farm sales. Located 20 minutes south of Medford or 42 minutes W of Wausau. Lowland Ranch, Adin Hoover, Dorchester, (715) 654-6488. 10/4

## NOURISHING FOODS

BABY PRODUCTS. Cloth diapering, slings, cart covers, pure herbs, Nature's Sunshine vitamins & much more. Certified nutritional consulting available. [carasmaternalconnections.com](http://carasmaternalconnections.com), [cara@carasmaternalconnections.com](mailto:cara@carasmaternalconnections.com) (248) 628-8646 (paypal accepted). 10/2

BEEF, ALL NATURAL grassfed Texas Longhorn. Heat/serve beef shipped in 28oz cans, case of 12. Buy direct save with 50lb. box grind. Halves cut/wrapped. Jerkey, hot dogs, summer sausage, beef sticks. certified Texas Longhorn Beef, 35000 Muskrat, Barnesville, Ohio 43713, phone (740) 758-5050, [www.head2tail.com](http://www.head2tail.com). 10/4

BUTTER AND CHEESE - Nutrient rich summer gold butter and cheese from PastureLand Cooperative. Our products are made from the milk of 100% grass-fed cows grazing certified organic pastures in southeastern Minnesota. Shipping available. Call (888) 331.9115 for more information. [www.pastureland.coop](http://www.pastureland.coop). 10/4

CERTIFIED, ORGANIC, SOY-FREE dairy, raw milk cheese, cultured butter, cream, yogurt, cottage cheese, colostrum. Also full line of grass-fed beef, pastured chicken, turkey and free-range eggs. Raw honey, maple syrup, and extra virgin organic coconut oil also available. Will Ship. Grazin Acres LLC (608) 727-2632 located 1 hr NW of Madison. 10/3

COCONUT OIL. Nature's Blessing - USDA certified organic. Discovered on my recent trip to the Philippines, this oil is wonderful! Coconuts are grown and processed on site within 8 hours, cold-pressed. The oil is clear with a wonderful mild flavor. Carrie Hahn, WAPF chapter leader (412) 531-4485. 10/3

GARLIC. Organic & Chemical Free as Nature intended. Whole cloves or dehydrated powder/chips. Erker Organic Farms, Burlington, CO. (719) 346-5026. \*10/3

LACTO-FERMENTED VEGETABLES, raw, certified organic, locally grown. Dill pickles, sauerkraut, kimchi, ginger carrots. Sold/Shipped within Northeast only. See website for store list and mail order info. Contact: Real Pickles, PO Box 40, Montague, MA 01351, (413) 863-9063, [www.realpickles.com](http://www.realpickles.com), [info@realpickles.com](mailto:info@realpickles.com). 10/3

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**LIFE ENERGY STORE**: Nourish Your Body, Heart & Spirit! Pure Supplements, Nutritious Foods, Natural Soaps, Sea Salts, Ceremonial Herbs, and More! Enjoy Nourishing, Healing, and Earth-Honoring Products to Vitalize Your Well-Being. [www.LifeEnergyStore.com](http://www.LifeEnergyStore.com) 10/2

**MAGNETICO SLEEP PADS** renew your energy while sleeping. Developed by Dr. Dean Bonlie, MagnetiCo is the only magnetic sleep pad backed by ten years of scientific research and designed to deliver the correct negative magnetic field to the body. Six-month satisfaction guarantee. Call Dr. Dave Morris at cell (559) 760-7618 for info. & clinical results. 10/4

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**NUTRIENT-DENSE FOODS** shipped anywhere in USA. Bone broth (frozen), cultured veggies, soaked nuts, coconut kefir, seasonal soups, kid-friendly snacks, granola all made with organic foods in accordance with WAPF ideals. Featured at the conference. [www.Meanttobe-foods.com](http://www.Meanttobe-foods.com); (Seattle) (206) 604-1460. 10/4\*

**ORGANIC, RAW SAUERKRAUT**. Fresh, Raw, & Alive! Gold Mine's Fresh Organic Sauerkraut is abundant in friendly, living micro-organisms that are powerful aids to digestion and assimilation. Independent lab tests show 7.8 million CFU's of live lactobacillus and bifidobacterium species per gram - that's 468 million per 1/4 cup serving! Aged in special ceramic crocks that allow the growth of friendly flora in a safe environment, Gold Mine's sauerkraut is - according to the most discriminating "kraut connoisseurs" - absolutely delicious! Featured at the annual Conference of the Weston A. Price Foundation 2004-2007. (800) 475-3663 or go to [www.goldminenaturalfoods.com](http://www.goldminenaturalfoods.com).

**SPELT**. Organically grown. Traditional Oberkulmer Variety. Our spelt is grown by a certified organic farmer. We ship anywhere in the US. We sell by the pound. Contact the Plain Grain Co. LLC for details: [www.carasmaternalconnections.com](http://www.carasmaternalconnections.com), [cara@carasmaternalconnections.com](mailto:cara@carasmaternalconnections.com) (248) 628-8646 (paypal accepted). 10/2

## SERVICES

**REMODELING**. Michael's Remodeling, kitchen and bath design, basements, kitchens, decks. Serving Northern Virginia for 17 years. Michael Meredith (703) 764-956, [Michaelsremodeling.com](http://Michaelsremodeling.com) [meredith848@yahoo.com](mailto:meredith848@yahoo.com). 10/3

## INVESTORS NEEDED

**FUNDING NEEDED** for educational documentary film that reviews US Agriculture Policy from Washington to current issues. Independent analysis combines notable experts with historical footage to create a dramatic experience. National Security vs. prejudice to National Security conflicts are featured. Visit [youtube.com](http://youtube.com), search "In the Interests of National Security" to see trailer. (417) 883-9033. \*10/4

**INVESTORS NEEDED**. Next Level Productions is seeking investors to complete its documentary film "Body Armor." The film follows the journey of individuals with chronic illnesses as they explore natural medicine and alternative therapies. Contact Gabe Golden. (310) 779-2816, [Gabegolden310@yahoo.com](mailto:Gabegolden310@yahoo.com). \*10/4

## EDUCATIONAL MATERIALS

**ARTICLES NEEDED**. NATIONAL DIRECTORY of organic food sources and other natural Health Products needs articles, new releases, recipes, and information about your products and services for further issues. Advertising available. Sample \$3. Buffalo Creek Publications, PO Box 397, Buffalo Lake, MN 55314. \*10/3

**CURE FOR TOOTH DECAY**. At last, the real truth about your teeth. How to prevent and halt cavities for life. Utilize the wisdom of Weston Price and Melvin Page. Buy the book, Cure Tooth Decay! \$29.95 [www.curetoothdecay.com](http://www.curetoothdecay.com). \*10/3

DVD of JOEL SALATIN. "Heal the Planet by Healing Your Plate," presented at the Florida launch of the Farm-to-Consumer Legal Defense Fund August 2007. About 2.5 hours. \$20 donation to local WAPF chapter, includes shipping to US. Email [WAPFSarasota@gmail.com](mailto:WAPFSarasota@gmail.com). \*10/3

## FARMING/WAPF LIFESTYLE

**COLORADO FARM** seeks 2009 interns for minimum three months. Live at Sunrise Ranch and learn about raising nutrient-dense foods, leadership and community building. Raise produce and grass-fed beef in the foothills of the Rockies. Visit [www.sunriseranch.org/farm](http://www.sunriseranch.org/farm) or call (970) 679-4330. 10/3

**DAIRY BUSINESS** for sale in Southeast. Loyal customer base. 8 milking Jerseys, heifers, bull, milking equipment to supply 135 families weekly. \$40,000. Also 8 milking goats, 5 doe lings, buck, milking equipment to supply 40 families weekly, \$7,800. We will help you through transition. 23 acres sustainable farm, barn, outbuildings, creek, 5-bedroom off-grid home, \$260,000. [eatreal@gmail.com](mailto:eatreal@gmail.com). 10/3

**DAIRYMAID/MAN WANTED** in the tropics! Live-in work trade on small farm in rural Hawaii. Milk cow and goats, make cheese and garden in exchange for your own rustic solar living space and a share in all the great food. Est. 15-20 hours per week, couples ok. Beautiful area near ocean, fun, eclectic, 'alternative' neighborhood. Horse lover a plus, great artist retreat. Long term is ideal, will help you learn. Open and accepting attitude. 808-640-6080 or [colicstop@gmail.com](mailto:colicstop@gmail.com). 10/4\*

**FARMSTEAD FRESH INC.** is soliciting investors to help with business expansion. The business is known for training sustainable dairy farmers in making gourmet quality 'One Step Above Organic' grass fed raw milk cheese, and marketing it. Web site; [www.farmsteadfresh.com](http://www.farmsteadfresh.com). 10/3

**ORGANIC, LOCAL FOOD BASED CAFÉ** for lease in Carlisle PA. Great opportunity for a skilled Weston Price oriented team. Complete green facility, turn key operation. Large network of local producers provide beef, chicken, dairy and eggs. take a look [www.thegoodlifecafe.com](http://www.thegoodlifecafe.com) Call David at (717) 243 4968 \*10/4

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**VERMONT FARM** seeks 2009 apprentices. We integrate American Milking Devon cattle, pigs and chickens with growing and fermenting six tons of vegetables. Our grain-free cows support raw milk sales plus butter and cheese making. We focus on selling nutrient-dense foods while eating well ourselves! Learning opportunities include milking, bio-dynamics, natural livestock care. Positions available April to November, short and long term. Cabins, food, laundry, Internet access and lots of education. Call Doug Flack, (802) 933-7752, Flack Family Farm, [www.flackfamilyfarm.com](http://www.flackfamilyfarm.com). Snailmail please. 10/4

## PERSONAL

**SPRINGTIME** and man's fancy turns towards? Outdoor activities, organic fruit, free range chicken and of course Love! Single male 46 seeking single female 25-45, who holds the values of Weston Price in high regards. Chicagoland area but willing to travel. [timmyd4@yahoo.com](mailto:timmyd4@yahoo.com) (630)350-1937. 10/4\*

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**HOLISTIC Coaching and Meditation Tools** - Reclaim personal power, accelerate growth & take action toward goals. Convenient telephone appointments, FREE Trial Session. Meditation Training and soundtracks also available. Visit [www.HolisticDynamic.com](http://www.HolisticDynamic.com) or contact Ginger at [holisticdynamicinfo@mac.com](mailto:holisticdynamicinfo@mac.com). 10/4

## HEALING ARTS

**HOMEOPATHIC Care for Babies and Children.** Join the Kairos Network Homeopathic Study Group. Member of WAPF, NCH, HEAR, and the Catskill Medicine Wheel. Low cost, effective, very useful for self-care and home prescribing. Tutoring by mail for Study Group members only. Beginners welcome. Make this part of your prepared parenting program. Send SASE to: Liz Potter, 321 Wahl Road, Livingston Manor, NY 12758. 10/1

**LIVE BLOOD CELL ANALYSIS** is a handy and valuable window on the state of health or disease. This procedure has a powerful motivating effect to help others improve their diets emphasizing the principles of Weston Price. Have microscope, will travel. Contact Karen Myer, ND, at (262) 522-9993 10/4

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Narrated by Chef Mitterhauser, Culinary Olympics Gold Medalist this documentary is a kaleidoscope of information also introducing the Weston A. Price Foundation who informs the public about myths and truths regarding nutrition today. You watch colorful and dazzling appetizers, entree and dessert presentations wrapped around the 10 BASIC COOKING TECHNIQUES prepared with organic whole food ingredients from the chef's 600 battle-hardened recipes. This chef aka Professor Culinarious links scientific sources from the WAFF to point out the vital importance how to cook with whole food ingredients instead of consuming processed products. With humorous gaps and music the viewer is entertained with fascinating videography from a wealth of gastronomy designed for anyone or a family interested in a life style that includes cooking as a regular cultural activity, hobby or profession. It beats any soap opera because you can learn to eat healthy and have fun in the process. As a story teller Professor Culinarious leads the viewer into a culinary odyssey around the world with his recipes and buffet art.

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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 Niginaqtuat, 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, *Iqaluit Niginaqtuat, 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 *Iqaluit Niginaqtuat, 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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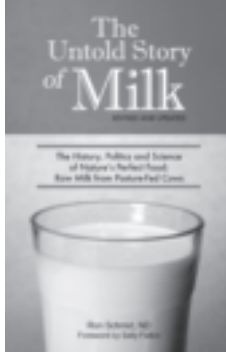
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2009

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- Apr 17-19 Toronto, Canada:** Total Health of Canada, featuring Seminar on Traditional Diets by Sally Fallon Morell. **Contact:** (877) 389-0996, [www.totalhealthshow.com](http://www.totalhealthshow.com).
- May 29 Lansing, MI:** Healthy Traditions Network presentation featuring Sally Fallon Morell on Raw Milk, Safety, Health and Economic Issues. **Contact:** [info@htnetwork.org](mailto:info@htnetwork.org).
- May 2 Brooklyn, NY:** Brooklyn Food Conference featuring Anna Lappé, Raj Patel, Dan Barber and Sally Fallon Morell. **Contact:** [info@brooklynfoodconference.org](mailto:info@brooklynfoodconference.org).
- May 30 Metro Detroit, MI:** Growing Connections Conference on Women's Health featuring Sally Fallon Morell. **Contact:** [info@htnetwork.org](mailto:info@htnetwork.org).

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