I can’t take credit for diagnosing the USDA as “schizophrenic.” That honor rightfully belongs to Marian Burros, an astute observer of all things agricultural who was a longtime food writer at the New York Times.

When she attributed the pathology to USDA leadership, early on in the Obama administration, it was because of the bewildering bifurcated policy approach Secretary Tom Vilsack was taking.

Although the newly elected president had promised “change” in Washington, he appointed the former Iowan whom the biotechnology industry had honored as “Governor of the Year,” to head up the USDA. For those of us concerned about the wholesale approval of genetically modified organisms during the Bush era, Obama’s pick didn’t bode well for the kind of change we were hoping for.

Royal Treatment for GMOs

Our concerns proved to be well taken. There has been a “fast tracking” of the approval process — a red carpet rolled out, if you will — for Monsanto and other biotechnology leaders. It pays to have friends in high places!

At the same time, right out of the box, Vilsack tapped Dr. Kathleen Merrigan as his chief deputy, a former Clinton administration official with a reputation for being an organic champion.

Merrigan and First Lady Michelle Obama have been beating the drum for healthier food in schools, promoting farmers markets, and elevating the stature of the organic program. Simultaneously, Vilsack has been partnering with Big Biotech in rolling out more and more risky crops with nary a single long-term health study in lab animals or humans. Now get ready for GE salmon.

So you can see why Ms. Burros would call the whole operation at the USDA “schizophrenic.” Unfortunately, this split-personality culture — in bed with corporate agribusiness while simultaneously proclaiming dedication to integrity, transparency...
Whose ‘Science’ Should We Trust?

EDITORIAL BY CHARLOTTE VALLAEYS

Science at the bidding of the corporations is knowledge reduced to merchandise," wrote the great farmer-poet Wendell Berry. In light of recent “science-based” votes by the National Organic Standards Board (NOSB), this wise elder’s insight deserves reflection.

Granted, the NOSB has a tough job. As gatekeepers of the National List — voting biannually on which materials can and cannot be used in organic food production — Board members are inundated with unimaginable amounts of scientific information.

Meanwhile, the Board is often under extreme pressure from lobbyists to approve materials — their decisions, after all, are inextricably linked to the future profit of at least one company. Sometimes, the bottom line of many corporate interests is at stake.

Even more insidious, corporations often contract with doctors and scientists — in the tradition of the tobacco lobby — or organic farmers to try to influence the Board.

Several mechanisms are in place to assist with the Board’s scientific overload. One is the public comment sessions at NOSB meetings, which allow experts on both sides of the issues to present their analysis and advice, either in person or in writing.

While nobody expects NOSB members to become overnight experts, it is necessary that they think critically about the valuable expert advice they receive. All things equal, if a chemical corporation’s scientist claims that a material is safe, and an independent, publicly funded scientist states the material is harmful, the vote should be a no-brainer.

When the science is mixed, those overseeing the organic industry should err on the side of caution by operating under the “precautionary principle.”

Unfortunately, too many NOSB members have placed higher value on the advice of corporate scientists, rather than on that of scientists who are unfettered by profit motives. That shouldn’t be too surprising, since the Bush and Obama administrations have until recently stacked the Board with agribiz executives and consultants.

Prior to the Fall 2012 vote on the food additive carrageenan, NOSB members heard testimony from two scientists. (See story on page 4.) One, the director of the international

SCIENCE Continued on page 5

All things equal, if a chemical corporation’s scientist claims that a material is safe, and an independent, publicly funded scientist states the material is harmful, the vote should be a no-brainer.
State GMO Actions Multiply After Prop 37
From Hawaii to Vermont Citizens Demand Transparency

The narrow defeat of California’s statewide vote last November on requiring the labeling of foods containing ingredients from genetically modified organisms (GMOs) has not quelled the enthusiasm for such transparency. The California initiative, Proposition 37, garnered more than 48% of the vote. GMO labeling is required throughout Europe, and by over 50 other countries worldwide.

Supporters of the California labeling effort pointed to a flood of money totaling nearly $50 million that was spent opposing the measure by Monsanto, pesticide companies, and multibillion-dollar food manufacturers as a key reason for the defeat. Opponents spent nearly a million dollars a day on ads—which many called misleading—in the last few weeks before the vote.

The California campaign to label genetically engineered foods also shed light on the dedication to organic principles, or lack thereof, by the corporate ownership of many iconic organic brands. Research by The Cornucopia Institute revealed that the corporate ownership of a number of organic and “natural” brands—Horizon Organic (Dean Foods), Silk (Dean Foods), Kashi (Kellogg) and Cascadian Farm (General Mills)—spent hundreds of thousands of dollars against the California GMO labeling requirement, outraging many of their loyal consumers. (An infographic detailing corporate spending on the California initiative can be found at www.cornucopia.org.)

“One might think that if corporations truly believed that genetically engineering our food supply is in society’s best interest, they would happenily tell their customers which foods contain their genetically engineered materials,” says Cornucopia’s Co-Director Mark Kastel. “Instead, they have been fighting your right to know tooth and nail.”

Undaunted, food activists in more than a dozen states are now working to bring labeling legislation to a vote by their elected representatives or seeking to place a similar labeling initiative on their statewide ballot. Next in line for a statewide vote is Label it Washington, which has collected more than 350,000 signatures guaranteeing a GMO labeling vote on the state’s November 2013 ballot.

Legislators in Hawaii, Oregon, New Mexico, Minnesota, Iowa, Missouri, Vermont, Massachusetts, Connecticut, Rhode Island, New Jersey, Virginia, Maryland, and North Carolina have introduced bills that would establish a GMO labeling requirement for foods sold in their respective borders (see shaded states in map). And in Florida, a grassroots effort is underway to bring a GMO food labeling bill to a statewide vote in 2014.

How do you spell ‘backfire’?
Monsanto and its cronies spent nearly $50 million to defeat California’s Prop 37. Now, over a dozen states have launched legislation to require GMO labeling.

Despite the defeat in California, national surveys indicate strong support for GMO labeling. A Thomson Reuters PULSE Healthcare Survey, conducted in 2010, asked more than 100,000 households across the country about their attitudes toward GMOs. Ninety-three percent of the respondents said genetically engineered foods should be labeled.

Health-conscious consumers already have one alternative for choosing foods that are GMO free. Federal law prohibits the use of genetically modified seeds and/or ingredients in any product labeled “USDA Organic.”

Steve Sprinkel, Cornucopia’s board president and an organic farmer in Ojai, California, mentions the added “icing on the organic cake.” Explains Sprinkel: “Organic foods are also grown without a long list of dangerous and toxic chemicals and pesticides, hormones, antibiotics and other drugs that are routinely used in conventional agriculture.”

WILL FANTLE was an award-winning journalist prior to co-founding The Cornucopia Institute, where he serves as Co-Director and Director of Research.
arrageenan, a food additive extracted from red seaweed, does to your intestines what poison ivy does to your skin. It’s a common ingredient in ice cream and chocolate milk, dairy alternatives, sliced turkey, canned soup, frozen dinners—in other words, a buffet of foods and beverages popular in the American diet.

The material adds no nutritional value or flavor; it is used solely to change the texture of food.

Yet for the past four decades scientists have warned that carrageenan in food is not safe. Animal studies have repeatedly linked the material to gastrointestinal inflammation and higher rates of intestinal lesions, ulcerations, and even malignant tumors.

What’s It Doing in Organics?
The National Organic Standards Board (NOSB), the expert panel that Congress set up to advise the Ag Secretary on the federal organic program, first approved carrageenan in 1995. As required by law, the USDA had hired three “independent” contractors to perform a thorough technical review. Their job was to let the Board know of any concerns about the additive’s effects on human health.

By 1995, a large and convincing body of scientific literature raised serious concerns about carrageenan. The first study showing higher rates of gastrointestinal ulcerations in animals fed food-grade carrageenan was published in 1969.

But the contractors’ official reports to the NOSB were silent on the potential effects on human health. Without the necessary information to make an informed decision, the Board approved carrageenan. After all, it was “natural,” derived from seaweed.

One of the three contractors was Dr. Richard Theuer, a former corporate executive with Mead Johnson, a pharmaceutical company that produces a ready-to-feed infant formula containing carrageenan. Mead Johnson executives have defended the safety of carrageenan since the early 1980s.

When the additive came up for reapproval, in fall 2012, Cornucopia made sure the publicly funded science was presented to the Board. Dr. Theuer again chimed in. This time, he admitted that he himself avoids carrageenan in his diet but believes his “allergy” to be “rare.” “There may be less than a handful of us idiosyncratically afflicted individuals,” he wrote. (Actually, there have been hundreds of people on online forums sharing how carrageenan has seriously disrupted their digestive system.) Yet Dr. Theuer advised the Board to reapprove the additive for organic food nonetheless.

Organic law also stipulates that the NOSB must consider information from the National Institute of Environmental Health Sciences (NIEHS) when determining the safety of materials like carrageenan. The official journal of the NIEHS published a review of carrageenan in 2001. The review concluded its use in foods should be reconsidered due to serious safety concerns. This study was initially ignored during the NOSB’s deliberations and later discounted.

The study’s author, Dr. Joanne Tobacman, traveled from the University of Illinois at Chicago to the NOSB’s Spring 2012 meeting in Albuquerque, to present 19 additional research studies published since her 2001 review. She even explained in her public testimony that she and colleagues have identified the biological pathways by which carrageenan causes GI inflammation—it is similar to the harm done by other “natural” substances, like pathogenic bacteria including Salmonella.

But the Board, under tremendous pressure from corporate interests—including FMC Corp. (a $3 billion pesticide and industrial chemical company that manufacturers carrageenan), Groupe Danone (Stonyfield), Dean Foods (Horizon and Silk), The Hain Celestial Group (Soy Dream, Westsoy, Coconut Dream), JM Smucker (RW Knudsen and Santa Cruz), and Organic Valley—voted to reapprove carrageenan.

Taking Action
Since that NOSB meeting, Cornucopia has shared the scientific data with many organic food and beverage...
EcoFarm Honors Cornucopia Board President

Organic farmer Steve Sprinkel and his wife, Olivia Chase, were named Stewards of Sustainable Agriculture at the 33rd annual EcoFarm conference held in January in California. Sprinkel, a long-time policy advisor and director, has served as the president of The Cornucopia Institute Board of Directors since 2010. The Harvard-educated farmer is also an author, organic certification inspector, and restaurateur.

EcoFarm founder Amigo Cantisano cited Sprinkel’s lifetime of leadership in the organic farming movement, including his participation in regional and statewide organic certification with CCOF, his long tenure as associate editor and “Transitions” columnist at ACRES USA, and his work with Cornucopia.

With her husband, Olivia Chase owns The Farmer and The Cook, an all-organic restaurant, bakery and grocery store located in Ojai, California. Chase was honored as a prominent regional activist and educator in the good food movement. The couple operate a 12-acre organic farm.

In accepting the award, Sprinkel noted that it “seems entirely premature because I feel like I am not done yet!”

Barry Flamm Joins Cornucopia’s Policy Advisory Panel

The Cornucopia Institute is pleased to announce the Board’s unanimous election of Barry Flamm, PhD, to the organization’s distinguished Policy Advisory Panel. Dr. Flamm was the first certified organic sweet cherry grower in Montana. He is a natural resources and environmental consultant specializing in global biodiversity conservation, having done work in Asia, South and Central America, and Africa.

Dr. Flamm served 27 years with the federal government as Director of the Office of Environmental Quality, USDA during Carter’s administration, and served on the President’s Council on Environmental Quality from the Nixon to Carter administrations.

In addition, he taught environmental policy at the University of Montana and served on the Governor’s Council to develop Montana’s Organic Certification Program. He also was a founder and vice chair of the Montana Organic Association.

Dr. Flamm received his BS from Colorado State University, MPA in Public Administration/Public Policy from American University, ABD work in ecology at the University of Maryland, and a PhD from George Mason University.

In January, Barry Flamm concluded a five-year term on the National Organic Standards Board (NOSB), for which he served as Chair in 2012. In recognizing his service, Cornucopia Co-founder Mark Kastel said, “Barry consistently represented the interests of all stakeholders in the organic community in protecting the integrity of the organic label.”
“With the escalating rates of diabetes, allergies, autism, obesity and cancers, our children have earned the title ‘Generation Rx.’ Thankfully, reports from the President’s Cancer Panel, the American Academy of Pediatrics, and now The Cornucopia Institute highlight steps that parents can take to protect the health of our children.”

—Robyn O’Brien, mom of 4, founder of the AllergyKids Foundation

The numbers are staggering. With 1,400 pesticides registered with the EPA—200 of them known neurotoxins and others identified as carcinogens or endocrine disruptors—is it any wonder childhood epidemics are on the rise. Indeed, 54% of American children now have a chronic health condition.

Conventional foods commonly contain residues of pesticides linked to cancer, damage to the nervous system and cognitive development, or disruption of hormone functions in humans. Also, genetically modified crops are allowed in our food supply, sans labeling, introduced without adequate testing as to their potential harm on human beings or the environment. In addition, conventional processed foods often contain ingredients that were processed with synthetic solvents like hexane, which are neurotoxic.

All these human health hazards can be avoided simply by choosing organic food.

This spring Cornucopia will release a new report that explores the scientific data regarding risks associated with conventional foods, and what parents can do to reduce their children’s exposure.

Pesticides are biocides—toxic by design and engineered to kill living organisms. Yet government regulatory agencies, which should protect public health from the effects of toxic pesticides, have been widely criticized as inadequate, outdated, and susceptible to political influence, insufficiently protecting children.

The United States Department of Agriculture (USDA) annually tests common foods—both conventional and organic—for pesticide residues. Results show that conventional foods commonly contain pesticide residues, whereas organic foods are generally a safe haven.

Federal law and regulations prohibit the use of toxic synthetic pesticides in organic agriculture. As a result, studies have shown that children who eat primarily organic food have dramatically lower levels of pesticide metabolites (breakdown products) in their bodies than children eating conventional foods.

One class of insecticides commonly used in conventional agriculture—organophosphates—interferes with the enzyme acetylcholinesterase, which is needed for nerve function. Humans share the same biochemical processes as insects and other animals. This means that poisons that disrupt the neurological systems of insects also disrupt the neurological systems of “non-target species”—including humans.

The Environmental Protection Agency (EPA) states that organophosphate pesticides are “very highly acutely toxic to bees, wildlife and humans.”

While it is a well-accepted fact that organophosphates are neurological toxins, based on studies on laboratory animals, little is known about the long-term effects on public health, especially children.

What we do know is that rates of neurological disorders in children such as autism and Attention Deficit Hyperactivity Disorder (ADHD) have risen alongside the increased use of these pesticides in conventional agriculture.

And in 2010, researchers found a correlation between higher levels of specific organophosphate pesticide residues in
children’s bodies and higher levels of ADHD.

Other common pesticides are classified as probable or known carcinogens. And emerging science on chemicals that disrupt the endocrine system (hormones) suggests that some pesticides, even in minute doses, may impact the reproductive health of future generations.

Agrochemical companies are not just manufacturing pesticides to be sprayed on food crops, they also have genetically engineered common food crops to internally produce the pesticides themselves. Other crops have been genetically engineered to be resistant to specific herbicides, so that weed killers that would normally kill or injure the plant can be sprayed more frequently and at higher doses.

Meanwhile, regulatory agencies, which have a congressional mandate to protect public health, have let agrochemical companies off the hook by requiring only rudimentary and outdated safety testing for pesticides.

GMO safety testing is even less stringent—it is virtually non-existent—since the government considers a genetically engineered crop to be “substantially equivalent” to a naturally bred plant.

Without adequate testing to ensure pesticides and GMOs are safe for babies, toddlers and young children, all children given conventional foods are essentially part of a huge, uncontrolled experiment.

“Children are uniquely sensitive to environmental chemicals, including pesticides. Organic foods are the best way to protect your child from these chemicals.”

—Victoria Maizes, MD, Author of Be Fruitful and Executive Director, Arizona Center for Integrative Medicine

Stay tuned this spring for Cornucopia’s new report and teaching tools on children’s health and organics.

Go Organic: Here’s Why

For babies and children, whose brains are rapidly developing, it is especially important to buy organic versions of foods commonly sprayed with neurotoxic pesticides or fumigants. Even on relatively “clean” conventional foods, if pesticides were used someone was exposed to them – if not you or your child then farmworkers and possibly their children.

But avoiding neurotoxic residues is not the only reason to buy organic. Organic also means avoiding genetically engineered organisms, solvent-extracted ingredients, synthetic growth hormones, and other potential hazards to children’s healthy development. Whenever possible choose organic, especially for these 10 foods:

**BERRIES** – The USDA found 52 different pesticide residues on blueberries and 54 different pesticide residues on strawberries. Many of these are neurotoxins and listed as “probable human carcinogens.”

**LEAFY GREENS** – The USDA detected 55 different pesticide residues on kale and 48 on fresh spinach. Many are neurotoxins and suspected endocrine disruptors, and several are “probable human carcinogens.”

**CEREAL** – Buying organic means avoiding GMO corn and soy as well as toxic fumigants used in grain storage.

**MILK** – Only organic milk is third-party certified to be produced without genetically engineered growth hormones. And the USDA found that 6% of conventional milk samples were contaminated with a neurotoxic pesticide.

**ORANGE JUICE** – Nearly one-third of conventional orange juice samples contained residues of a pesticide that is a neurotoxin, “possible human carcinogen,” and suspected endocrine disruptor. No organic OJ samples were contaminated with this pesticide.

**APPLES AND APPLE JUICE** – Nearly 30% of conventional apples were contaminated with a neurotoxic pesticide; nearly half of conventional apple juice samples contained residues of a fungicide classified as a “probable human carcinogen.”

**BREAD AND BAKED GOODS** – USDA testing found residues of a neurotoxic insecticidal fumigant on half of wheat flour samples.

**POTATOES** – The USDA detected 37 pesticide residues on conventional potatoes, with 11% containing residues of a known carcinogen and suspected endocrine disruptor.

**GRAPEs** – Nearly 25% of imported conventional grapes contained residues of a neurotoxic pesticide.

**MEAT AND POULTRY** – Buying organic eliminates the risk of exposure to antibiotics and growth hormones that are routinely used in conventional livestock production.
and the public good—has trickled down to the National Organic Program (NOP).

While the USDA has invested in increased staff, public relations efforts and farmer outreach for the organic program, the corporate stranglehold on the USDA continues to scuttle many efforts for meaningful positive change. Just as with GMOs, the Obama/Vilsack administration didn’t start the trend of favoring corporate agribusiness over the public interest at the NOP, but they have certainly become adept practitioners.

Schizophrenia at the USDA’s NOP

In May 2012, The Cornucopia Institute published its investigative report, the Organic Watergate, which received wide media attention, including in the New York Times, exposing deeply rooted corporate influence at the federal organic program, including corrupting the National Organic Standards Board (NOSB). The NOSB is the independent 15-member expert panel set up by Congress to review and approve materials for use in organic agriculture and food production, as well as to advise the USDA on organic policy. The organic law requires the Secretary of Agriculture to appoint a wide range of voices and interests—including seats that are explicitly reserved for farmers, conservationists, certifiers and consumer/public interest representatives.

Cornucopia’s report identified corporate executives who were appointed to sit in seats that Congress had earmarked for farmers and other independent organic community members. These corporate officials were making pro-agribusiness decisions, approving risky and gimmicky synthetics in organics, based on technical reviews that were often prepared by corporate scientists or industry consultants rather than by truly independent scientists.

What has the overall result been since the spotlight shone by Cornucopia and the Times? Mixed: in too many cases, one step forward and two steps back.

First the Good News — New Talent on the NOSB

In his first NOSB appointment since the Cornucopia exposé, Secretary Vilsack chose Dr. Francis Thicke, a working dairy farmer with a long history of activism in the environmental and organic farm communities. The move has been universally lauded (see story on page 14).

However, the NOSB is still dominated by members who either work for, or have a track record of supporting, the corporate agribusinesses that have invested in organics. Let’s hope Thicke’s is the first of many strong independent voices that will be appointed during Obama’s second term.

Contracting with the Foxes to Guard the Organic Chicken Coop

In terms of restoring the NOSB to a truly diverse and independent body, as Congress intended, we have a long way to go. Congress gave the NOSB the authority to convene technical advisory panels to provide a scientific evaluation of the materials up for a vote. Since these materials are often synthetic or non-organic inputs and ingredients, a truly independent review—free from conflicts of interest—is critical. But the USDA has usurped this power from the NOSB, and has chosen the contractors to perform these critical technical reviews (TRs).

I wish I were making this up, but the USDA has been contracting with The Organic Center, the nonprofit arm of the Organic Trade Association (OTA) — the dominant industry trade-lobby group. Yes, the same Washington-based lobby group that is controlled by the largest agribusi-
nonprofit organization’s primary revenue stream seems to come from manufacturers and marketers of organic inputs, soliciting them with the message “Boost Your Profits.” OMRI reviews and blesses select materials and allows marketers to use their logo on their labels and in their marketing. OMRI has been recognized as an authoritative source by certifiers nationwide in making yes/no decisions on the appropriateness of materials in organic production.

A close look at the OMRI Board of Directors, advisors, and material reviewers reveals executives from the OTA, individuals with corporate affiliations or interests, and even some of the same corporate consultants who have performed biased technical reviews in the past, sometimes while simultaneously lobbying for synthetics in organics. The USDA needs to do a better job in terms of policing conflicts of interest when awarding contracts for performing TRs. And we hope that OMRI itself, an important organization to the organic community, will do their own self-evaluation to prevent even the appearance of a conflict of interest.

Operating in Secrecy
As if it’s not bad enough that the USDA taps organizations funded, controlled or influenced by corporate interests to review proposed synthetics, the identity of the scientists actually doing the reviews remains secret. The public has not had access to the identities of the scientists performing the reviews for over a decade, making it impossible to determine whether individual conflicts of interest exist. It’s time to fix this. Cornucopia has asked the NOSB to develop a conflict of interest policy for technical reviewers, but the issue has again been bumped from the NOSB agenda.

We must turn the clock back, restoring the original transparency that the organic program operated under.

The organic label is the best economic-justice vehicle for family farmers and for assuring safe, nutritious food for U.S. citizens. It is worth fighting to maintain its integrity.

Furthermore, Congress explicitly gave the NOSB the legal authority to contract with experts to do technical reviews. They did not give this authority to the NOP. If the NOSB is depending on expert, independent analysis in their decision-making, it should be their judgment as to who is qualified and truly independent, not that of USDA bureaucrats.

Moving Forward
The NOSB must reclaim their authority from the NOP in other areas as well. The management at the NOP has taken to setting the NOSB agenda, bumping high-priority issues, like getting conventional cattle off of organic dairy farms, in deference to the wishes of the Organic Trade Association and other corporate players—like paving the way for factory farm agriculture endangering fragile coastal ecosystems.

The NOSB used to discuss conflicts of interest among its members—in an open and transparent way—before voting on whether members with an economic interest could vote. Today, the NOP has taken over this responsibility and, not surprisingly, has never asked a corporate NOSB member to refrain from voting because of a conflict.

The NOSB could even reclaim a responsibility that it was granted by Congress: a little-known, much-forgotten clause in the law that gives the NOSB the authority for hiring “a staff director” to run the NOP. If the NOP director was accountable to the NOSB—and if the NOSB were a truly independent citizen panel representing the organic community—rather than reporting solely to the USDA Secretary, with all the corporate forces so deeply entangled within the agency, the NOP itself would be empowered to act more effectively in the public’s interest.

Meanwhile, organic farmers, in partnership with their loyal customers, must continue to demand that the USDA act in the interest of legitimate organic farmers. For example, enforcement actions against giant factory farming operations are moving at a glacial pace even by Washington standards. Cornucopia’s formal legal complaints have successfully shut some down while other complaints have languished in USDA files for years. And “organic” imports from China, former Soviet bloc countries, and other nations with a dubious track record of integrity in international commerce, are growing at a rapid pace.

Knowledge is power. We at Cornucopia will continue to expose corporate bias at the USDA and fight to protect the integrity of the organic label. Sunshine is a great disinfectant and we will stand up for more openness in the regulatory structure of this industry—taking this fight to court if we are forced to do so.

Come to think of it, sunshine is essential to human health. Heck, maybe it’s even a natural cure for schizophrenia.

MARK A. KASTEL is Co-director of The Cornucopia Institute. He worked for agribusiness giants International Harvester and J.I. Case prior to making the paradigm shift, over 25 years ago, to organics after exposure to agichemicals caused a personal health crisis. Named by Utne Reader one of “50 Visionaries Who Are Changing Your World,” Mark is a frequent speaker at co-op annual meetings and conferences including EcoFarm, ACRES USA, Biodynamic Farming Association, Northeast Organic Farming Association, and many others.
NOSB Approves Bioplastic Mulches
New Films Enhance Plant Growth But May Leave Chemical Residues in Soil

Farmers recognize the advantages of plastic mulches: thin sheets of black plastic warm the soil, enhance crop growth, and suppress weeds. Although these are commonly used by many farmers, they are non-biodegradable, so they must be removed and discarded at the end of each growing season.

At their Fall 2012 meeting, the National Organic Standards Board (NOSB) voted to approve the addition of a new kind of “biodegradable” plastic mulch, one that would not need to be removed from the fields. The proposal to approve this material elicited many comments, both for and against.

A truly sustainable alternative to petrochemical-based plastic—which generally ends up in a landfill—would be welcomed by The Cornucopia Institute and by many farmers. Why, then, did Cornucopia and other public interest groups ask the NOSB to postpone approval of this material until further research could be done?

The Story
The story began when the Biodegradable Products Institute, a trade/lobby group that represents manufacturers of biodegradable films, submitted a petition to the USDA National Organic Program (NOP) on March 23, 2012. The petition requested that organic farmers be allowed to use biodegradable/bioplastic/biobased mulch films without removing them at the end of the growing season. There are several brands of bioplastic films currently being produced, including NatureWorks PLA INGEOTM, MirelTM, BioTelo, EcoFlexTM, Eastar BioTM, and MaterBi®. More are being developed.

These materials are called bioplastics, because they are biobased rather than petroleum-based, and they meet the chemical definition of a plastic. Biobased plastics are made primarily from plant materials, such as corn starch, although synthetic compounds may be added during manufacture. Biodegradable is defined by international standards, but essentially it means that the film breaks down so that pieces of it are not visible.

The NOP reviewed the petition and forwarded it to the NOSB crops subcommittee, along with a report by a third-party expert, called a Technical Evaluation Report (TER). After reviewing the petition (299 pages with appendices) and the TER (22 pages), the crops subcommittee recommended that synthetic bioplastic films be allowed in crop production. This recommendation was voted on and approved by the full NOSB at the Fall 2012 meeting.

Are These Mulches Really Biodegradable?
Cornucopia is concerned that an overly broad category of synthetic substances is being added to the National List. Although the mulches were petitioned as a group, they are unique, each using a different manufacturing process and different raw materials. Polylactic acid (PLA) mulch consists of plant starches fermented by bacteria. Polyhydroxyalkanoate (PHA) mulch is produced via chemical synthesis, bacterial fermentation, or transgenic cells. The aliphatic-aromatic copolymer (AAC) mulches are manufactured by chemical synthesis.

While some of these may be appropriate for organic crop production, others may not be. We urged the NOSB to request separate petitions for each type of plastic film, and to delay the vote until each type can be individually reviewed and voted upon.

Furthermore, we were particularly concerned about biodegradability. The term biodegradable is defined by international standards, as described above. Bioplastic films can be considered biodegradable yet leave residues of synthetic chemicals in the soil. This is not what we want on an organic farm!

Because all the bioplastic films contain a number of synthetic chemicals (in addition to plant-based materials), we wanted to know what happens to those chemicals after the visible breakdown of the mulch film. The TER indicated that these films have the potential to leave residues of synthetic chemicals in the soil. Plants have the ability to take up synthetic chemicals from the soil, and concentrate them in their tissues. For this reason, researchers have argued that more studies need to be done.

Cornucopia concurred, recom-
Biodegradable mulches were brought from petition to approval in an unprecedentedly fast seven months. This seemed unnecessarily rapid, particularly since this is an entirely new group of materials to be added to the National List.

Board member Zea Sonnebend stated upon reviewing a separate material, “When something is petitioned there’s usually at least a year in which you’re aware that the petition is in progress.” This gives the organic community a chance to do its own research and not exclusively depend on those with a commercial interest in a petition.

This longer time period allows public interest groups to read the scientific literature and evaluate the material with the interests of organic farmers and consumers in mind. In this case, a total of nine organizations either opposed bioplastic mulch or requested that the motion be tabled to allow time for further investigation. Groups expressing concerns, along with Cornucopia, included the Center for Food Safety, Beyond Pesticides, and Food and Water Watch.

Despite concerns raised by the public interest groups, the NOSB voted to allow biodegradable biobased mulch films as synthetic materials for use in organic crop production. The NOP advised that it would be easier to add bioplastic films to the National List if they were not called plastics. On the recommendation of the NOP, the NOSB’s wording of the proposal was modified to remove the term bioplastic, although these materials are indeed plastics. The trade group recognized the value of semantics—a “biodegradable biobased” film would be more acceptable to the organic stakeholders than a “bioplastic” film.

On the positive side, the definition of biobased was clarified, to include only “organic material in which carbon is derived from a renewable resource via biological processes. Biobased materials include all plant and animal mass derived from carbon dioxide recently fixed via photosynthesis.” This clarification eliminated the AACS (aliphatic-aromatic copolymers), which are made from petroleum.

Despite the potential advantages of bioplastic mulches, Cornucopia urges farmers to be cautious in using them. We don’t want to find out after the fact that organic produce contains residues of harmful synthetic chemicals.

PAMELA COLEMAN, PhD, is a Farm Policy Analyst for The Cornucopia Institute. She holds a doctorate degree in Plant Pathology from the University of California–Davis.

Agribusiness Sneaks “Minor” Synthetics into Organics

You will never see unapproved synthetics, like polyacrylamide, on an organic food’s ingredients list. However, nearly all of the non-organic ingredients that you do see listed—like pectin, carrageenan, or rennet—are often formulated with numerous unapproved “minor” synthetic ingredients.

The organic law prohibits synthetics that have not been reviewed and deemed safe to human health and the environment. But these protections have been illegally ignored by the National Organic Standards Board (NOSB) when approving ingredients, as well as by suppliers—often large conventional agribusinesses like Cargill, ADM and FMC Corporation—that sell ingredients to organic processors.

Cornucopia first became aware of these systemic violations when we investigated the illegal addition of Martek Biosciences Corporation’s algal omega-3 pharmaceutical oils. We filed several legal complaints alleging that the inclusion of ingredients like mannitol (a non-nutritive sweetener), modified starch, sodium polyphosphate, and glucose syrup solids in an organic baby cereal product was illegal. These synthetics, which have never been approved for use in organic food, were sub-ingredients in the Martek algal oil added to baby food.

When the NOSB voted on whether to allow these highly processed, multi-ingredient oils, we argued that they were not eligible for use in organics because they required numerous synthetic preservatives and other ingredients that are not approved in organics. Yet organic industry insiders and many of the NOSB members brushed our concerns aside. Apparently, this was business as usual.

Cornucopia’s dogged pursuit of this issue led the USDA to issue a memo to the NOSB, in 2011, informing the Board that “business as usual” wasn’t going to cut it anymore. At its next meeting, April 9–11 in Portland, Oregon, the NOSB will debate whether to allow unapproved synthetics in the future or put an end to the violations.

Agribusiness lobbyists are trying to write the policy to institutionalize the violations. Cornucopia will fight tirelessly to prevent this from happening. Sodium benzoate, polysorbate 80, and synthetics like them have no place in organic food.

—CHARLOTTE VALLEYS
While rates of cancer and neurological problems are rising, agrochemical companies claim that no experiment has proven that pesticide residues on foods cause human health problems. That statement is true. Although extensive testing has occurred on laboratory animals, clearly illustrating risk, testing on humans, especially testing long-term effects of pesticides on children, is non-existent as it would be highly unethical. Yet although such testing does not occur in clinical settings, it happens daily on a massive scale: our children are the agrochemical companies’ human lab rats.

Parents and caregivers are fortunate that an alternative exists. We can opt out of this experiment on our children by choosing organic foods produced without toxic pesticides. The “organic” label on foods is government-regulated and third-party certified. Organic farmers are strictly prohibited from using most synthetic inputs, including toxic pesticides or genetically engineered seed.

CHARLOTTE VALLEYS is Cornucopia’s Director of Food and Farm Policy and the mother of two young sons. She holds graduate degrees from Harvard and Tufts.

Although safety testing on the effects of pesticide residues and GMOs on human health does not occur in clinical settings, it happens daily on a massive scale: our children are the agrochemical companies’ human lab rats.

Carrageenan, a food thickener, is common in ice cream, lunch meat, and other foods. Companies. After learning about the material’s effects on human health, some companies are actively reformulating their products to remove the dangerous additive. The organic yogurt maker Stonyfield Farm recently joined companies like Eden Foods in committing to drop carrageenan from all its products. Organic Valley ousted the additive from its eggnog last fall.

Just a month after the NOSB’s decision, the FDA rejected a citizen petition, which the agency had ignored since 2008, to remove carrageenan from the general food supply. The FDA rejected well-conducted studies by medical researchers by citing a paper by a social scientist with no scientific expertise. The agency unearthed industry-funded studies defending carrageenan while failing to cite dozens of animal studies that have linked the material to GI disease and tumors.

In March, Cornucopia submitted a formal request to the FDA asking the agency to reevaluate the science and revoke the GRAS status (“generally regarded as safe”) that currently allows carrageenan in food, both conventional and organic.

But until they do, it is up to individuals to take their safety and health into their own hands. Cornucopia’s new report and shopping guide, available at www.cornucopia.org, can help you avoid the foods and beverages that contain this harmful ingredient.
Farmers vs. Monsanto; Almond Case Setback
Update on Key Food Movement Lawsuits

The Cornucopia Institute doesn’t have any legal staff, but we do work with supportive attorneys and organizations on matters of importance to organics and the good food community. Here’s a brief update concerning two such legal cases.

Three hundred farmers and their supporters gathered in Washington, D.C. in January before the U.S. Court of Appeals to hear oral arguments contesting the dismissal of the challenge to Monsanto’s patenting of life with its genetically engineered products. The case, brought by the Organic Seeds Growers and Trade Association (OSGATA) and dozens of other plaintiffs—including Cornucopia—was dismissed in 2012 by District Court Judge Naomi Buchwald.

“The District Court erred when it denied the organic seed plaintiffs the right to seek protection from Monsanto’s patents,” explains Dan Ravicher, the lead attorney representing plaintiffs on behalf of the Public Patent Foundation. Monsanto has been investigating as many as 500 farmers a year for unauthorized use of their patented seed products. To date, the company’s seed police have brought lawsuits against 144 farmers while another 700 farmers have settled out of court for undisclosed sums.

Seed, and especially pollen, are known to travel considerable distances. This fact of nature contributes to the contamination of surrounding areas with the DNA from Monsanto’s genetically engineered organisms. “Monsanto is known for bullying farmers by making baseless accusations of patent infringement,” Ravicher says.

“We have a right to grow good food and good seed for our families and our communities without the threat of trespass and intimidation.”

—Jim Gerritsen, OSGATA President and organic farmer, Wood Prairie Farm, Maine

As you may know, California’s raw almonds are no longer truly raw. The USDA, at the request of the Almond Board of California, began requiring in 2007 that raw almonds be treated with a process generously described as “pasteurization.” The rule mandates either the gassing of the raw nuts with a toxic fumigant (propylene oxide) or treatment with high-temperature steam-heat.

A just-released Appeals Court decision has rejected a challenge to the controversial raw almond treatment regulation. The appeal was primarily rejected on procedural grounds, stating that questions of legality of the treatment mandate and the authority of the USDA to impose it should have been raised during the review period for the draft regulation in early 2007.

The scheme, as noted in prior issues of The Cultivator, imposes significant financial burdens on California’s small-scale organic and conventional growers, and has damaged domestic almond markets (imports are exempt from the rule). The regulation also lacks scientific justification and fails to address agricultural practices used on the industrial-scale almond orchards where the only documented Salmonella outbreaks occurred (the rule is justified as a food safety measure). Amazingly, the treated almonds can still be deceptively labeled as “raw”!

Cornucopia has been helping a group of California almond farmers fight the objectionable rule. These farmers turned to the federal court to overturn the almond treatment rule and return truly raw California almonds to the American marketplace. The aggrieved farmers are currently weighing a further appeal, which could lead to the U.S. Supreme Court.

—WILL FANTLE

For more information about the almond case, and to help the farmers in their legal fight, visit Action for Almonds at www.actionforalmonds.org.
Two new associates have joined the Cornucopia staff. **Melody Morrell**, Cornucopia’s Associate Membership Coordinator, has been with the organization since mid-2012. She has over a decade of experience in nonprofit administration and programs, working on issues ranging from gender and developmental disability to sustainable living. Melody earned a BA in Anthropology from the University of Minnesota—Duluth. Harborizing a deep love of the land and living things, Melody and her family formerly lived on a diversified sustainable farm in Wisconsin. Recently Melody moved to a farm in Milaca, Minnesota, where she and her carpenter husband are in the process of building a tiny house for themselves and their two daughters. Caring for the land, practicing community-sustained farming, and studying traditional healing have led Melody to the understanding that peace is possible.

Cornucopia Research Associate **Jason Cole** formerly served as a Peace Corps volunteer in Ecuador, where he helped small-scale farmers use sustainable agricultural practices in order to minimize their impact on highly valuable cloud forest habitat. In partnership with a local NGO, Jason developed agro-forestry projects that improved pasture productivity and reduced the need to clear virgin forest for new pasture. Prior to his Peace Corps service he worked for the U.S. Forest Service and Bureau of Land Management in the fields of forestry, botany, and hydrology. Jason holds a Master of Public Policy degree from the University of Arizona, and a bachelor’s degree in Environmental Sciences from The Evergreen State College in Olympia, Washington. He lives in western Wisconsin with his wife and three children.

Melody and Jason will share some of the responsibilities managed by longtime staffer **Lynn Buske**, who left to take a position with the state of Wisconsin’s Cooperative Extension service. Lynn wore many hats during her five-year tenure with Cornucopia, including intrepid Administrator and resourceful Research Associate. She also managed our successful internship program.

“We want to thank Lynn, who is still a loyal and active member of The Cornucopia Institute, for her years of service,” said Codirector Will Fantle. “She was universally liked and respected by the whole staff and board of directors. I can’t think of a more dedicated member of our organization.”

—**ELIZABETH WOLF**
Organics in the Ozarks

It's a fairytale story if ever there was one: budding, idealistic farmers meet in the high peaks of Arkansas' Ozark Mountains and find more in common than just the 40-acre border of organic land they share.

Meet Carole Anne Rose and Curly Miller of Sweden Creek Farm. While they started out as neighboring farmers, who had "come together from very different paths," it was their commitment to eating and growing organically and to the organic "lifestyle," along with their mutual love of music, that brought them together, says Carole Anne.

After many years of gardening and selling herbs in New Jersey, Carole Anne decided to grow herbs and edible flowers herself. "I retired from my computer job at AT&T and bought a farm in Arkansas," she explains. It turns out the property was right next to Curly Miller's. Curly had been a fan of mushrooms his whole life. After attending a seminar in 1986, he quit cutting firewood commercially and got started growing shiitake mushrooms. The two merged their business models (and lives) delivering shiitakes, herbs and flowers locally.

Eventually, Curly developed rotational techniques for growing the mushrooms "that are outside the box as far as anything that you would ever read about," he says. The need to have mushrooms available daily pressed Curly to learn how to grow in the winter. This, he says, "is what has kept us in business with steady supply, and now has become the preferred growing season." That's because greenhouse growing provides "more control and a rhythm and consistency." And it has paid off: "We are one of the largest farms that grow year round (on logs) and have consistent supply at both a wholesale and local level."

Carole Anne says Curly has "come to deeply understand the art and science of growing shiitakes." She credits his interest in the biology of the fungi and his "continual experimentation, observation, efficiencies, and improvements over the years make it possible to grow up to a ton of mushrooms a week, every week, 52 crops a year, year after year." In addition to shiitakes, they grow most of their own food—throughout the winter they pick fresh salad, greens, root crops, and cabbages in unheated hoops (high tunnels; see photo below).

Despite the sacrifices the couple has had to make to keep the farm running, it's the "joys of living every day on this extraordinary beautiful farm, growing delicious and abundant food for our family, making a real contribution to the organic movement, and being part of the local family farm community," that has made it all worth it, says Carole Anne. Curly echoes the sentiment: "The rhythm of farming is my reward."

And then of course, there's the music.

The couple developed an Old Time but modern fiddle and banjo sound that recalls ragtime and jug band eras—"Extreme Hillbilly," if you will. Their band, The Old 78's, tours and performs at festivals and has recorded CDs, which receive regular radio airtime. Music is a lot like farming, says Curly, who began playing classical violin at age eight and rock guitar as a teen. It requires "discipline, focus, practice, determination, and some of that natural talent that each of us has."

Carole Anne loves the connection to the farmers that came before her. "There is a well-documented tradition that early homesteaders and farm families would work their butts off all day but then gather at a neighbor's home to play music and dance all night," she explains. "So I'm thinking that there is also some sort of connection between the hard work of farming and the joy of using that same type of coarse energy for music and fun!"

—JILL ETTINGER
Think you’re avoiding synthetic ingredients like sodium benzoate and polysorbate 80 by eating organic? Unfortunately, that’s not always the case.

Even though organic regulations prohibit the use of any unapproved synthetics in organic foods, the USDA and some of the largest organic certifying agents have disregarded this important prohibition. Cornucopia is working to change that. See story on page 11.

—CHARLOTTE VALLAEYS

Taryn, pictured at left, is highly sensitive to pesticide residues in her food. The seven-year-old and her mother, photographer Lyndsay Stradtner, took part in a Right2Know GMO rally in Texas, where this widely shared photo was taken. “This was a huge learning experience for Taryn,” Lyndsay says. “She learned that she has a voice. She learned that actions matter. She learned one person can make a difference.”

There are so many ways to make a difference. Here are three to do now:

• **Help save Cedar Summit Farm**: Operating on 185 acres of land purchased in 1926 by Val Minar, the future of this family-owned grass-fed organic dairy near New Prague, Minnesota is now threatened by new high-voltage power lines proposed throughout the state. Power lines can be moved; farms cannot! Sign the petition at www.cornucopia.org/News.

• **Weigh in on what’s allowed in organic food**: Until March 19 the National Organic Standards Board (NOSB) will accept public comments on its spring meeting agenda items (www.ams.usda.gov/NOSBMeetings). If you miss the date, you are welcome to send your comment(s) to cultivate@cornucopia.org. Cornucopia staff will offer testimony on behalf of the organic community throughout the meeting, April 9–11 in Portland, Oregon.

• **Say NO to GE salmon**: The FDA is poised to give transgenic salmon its stamp of approval. Scientists predict that escaped GE fish could wipe out wild salmon populations. Many other ecological, economic, and health effects on humans and animals are unknown and/or untested. The FDA will accept public comments (www.regulations.gov) until April 26 (extended from Feb. 25). Speak out!

—ELIZABETH WOLF