PROMOTING ECONOMIC JUSTICE FOR FAMILY-SCALE FARMING

THE CULTIVATOR

NEWS FROM THE CORNUCOPIA INSTITUTE WINTER 2017

Healthy Snack Bar, or Gimmicky Junk Food?

New Scorecard Rates Broad Bar Category

BY LINLEY DIXON, PHD

Snack bars are a highly profitable, $8 billion industry, posting double-digit annual growth rates. This competitive market is ripe with gimmicky food substitutes, such as protein isolates, sweetener syrups, flours, gums, synthetic preservatives, colors, and flavors.

The Cornucopia Institute's newly released snack bar report explains why consumers get a higher-quality product when purchasing USDA certified organic brands, rather than mass-market options that contain questionable ingredient lists instead of whole foods.

The highest-rated bars on the accompanying scorecard are USDA certified organic and use only organic fruits, nuts, and seeds, without any added sugars, flours, protein boosters, or preservatives.

One concern highlighted in the report is the conventional sourcing of soy protein isolate, a common snack bar ingredient, even used in some "organic" brands.

Since protein has hot marketing cachet, companies often artificially inflate the protein content of snack bars using highly processed and modified protein isolates.

Unfortunately, protein isolates are missing the beneficial oils, fiber, and vitamins found in more expensive ingredient options, such as whole nuts and seeds.

Soy protein isolate might even be the first or second ingredient listed, meaning it makes up a high percentage of the contents of the bar.

Conventional soy protein isolate is almost exclusively extracted from conventionally grown GMO, Roundup-Ready soybeans, using the petroleum-based, neurotoxic solvent hexane as a processing agent.

Low levels of hexane have been found in ingredients extracted using this chemical, including protein isolates.

Hexane extraction is a process that is excluded from ingredients used in certified organic products because of health and environmental hazards.

However, the report details how specific USDA National Organic Program loopholes allow for hexane-extracted ingredients in products labeled "made with" organic ingredients.

The "made with" organic ingredients label indicates that the product must have a minimum of 70% certified organic ingredients by weight. Oftentimes, non-organic, hexane-extracted soy lecithin, soy protein concentrate, or soy protein isolate make up the remaining 30% of non-organic ingredients.

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Illegal Certification of Hydroponics Continues

NOSB Split 8:7 Favoring Industry Lobbyists over Farmers

BY LINLEY DIXON, PHD

Can conventional, GMO, glyphosate-sprayed soybeans be certified USDA Organic? Of course not.

Can a farming system that relies on conventional, GMO, glyphosate-sprayed soybeans for fertility be certified USDA organic? Yes, according to the USDA National Organic Program (NOP) and some organic certifiers, including the nation's largest, California Certified Organic Farmers (CCOF).

If you think that's absurd, hypocritical, or even illegal under the Organic Food Production Act (OFPA), you are not alone.

Thousands of organic farmers, many of whom showed up to protest these hydroponic practices at the National Organic Standards Board (NOSB) meeting earlier this month, agree.

Organic, by law, depicts a way of ecological farming that fosters biodiversity to control pests, cycle nutrients, attract natural insect pollinators and predators, protect animal welfare, and build fertility by capturing carbon and incorporating organic matter into the soil.

The law clearly requires fostering careful soil stewardship as a prerequisite for organic certification. How do you improve soil fertility...without soil?

But massive industrial hydroponic operations like Driscoll's (berries), Wholesum Harvest (tomatoes, eggplant, and peppers), NatureSweet (tomatoes), and other agribusinesses have been gaining organic status without meeting these legal biodiversity and soil fertility requirements.

While not all hydroponic operations rely on conventional, GMO, glyphosate-sprayed soybeans for fertility, the largest operations do.

They also rely on hundreds of acres of plastic—plastic weed barriers, plastic pots, plastic tubing, and plastic ceilings. Plastic everything, and plastic everywhere.

Despite the clear intent of the law, hydroponic "container" growing was given the green light in a corrupt decision by the former director of the USDA National Organic Program without consulting the NOSB as the law requires.

Many organic farmers testified at the NOSB meeting that the organic standards require "in-the-soil, in-the-ground" growing to be compliant, given requirements for cover cropping, soil fertility, and biodiversity. Many were the pioneering, family-scale farmers

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CONTACT US
P.O. Box 126
Cornucopia, WI 54827
608-625-2000
cultivate@cornucopia.org

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who have toiled, in the soil, for as many as 40 years helping build the organic industry.

The grassroots growers were joined by larger organic soil-based farmers, including Gerald Davis, a former NOSB member himself.

Davis, representing Grimmway Farms, the largest grower of organic produce in the United States, whose brands include Bunny-Luv and Cal-Organic, testified that plants in containers require constant liquid feed, causing plants to be vulnerable to insects and disease.

Tom Beddard of Lady Moon Farms testified that hydroponic systems will be ripe for cheating; systemic pesticides and fungicides could be easily delivered through the feeding tubes.

Despite voluminous compelling testimony, the system was rigged against the organic farmers from the beginning. The NOP, having already illegally allowed certification of these hydroponic "container" operations without NOSB approval, forced the NOSB to vote on a "ban" of organic hydroponics, rather than voting on a proposal to "allow" certification.

Since a supermajority (at least ten out of 15 board members) is required for a decisive vote, a proposal to "allow" hydroponics would have failed, and the organic farmers would have gone home victorious. Instead, as it was worded, the proposal to "ban" hydroponics failed, eight-to-seven, and the hydroponic industry won.

Between the illegal allowance of hydroponic certification, without NOSB approval or standards, and the stacking of the board with agribusiness representatives, USDA leadership was able to successfully ensure the hydroponic industry would prevail in organics.

Veteran industry observers noted that convincing the NOSB to take a stand against illegal hydroponic production was an exercise in futility and would ultimately have to be arbitrated in federal court.

PHOTO: LANCE CHEUNG; COURTESY USDA, FLICKR

Agriculture Secretary Perdue tours the Lef Hydroponic Farm in Loudon, NH.

In an additional note of irony, the NOSB voted unanimously to prohibit aeroponic production (i.e., the feeding with liquid fertilizer through a fine mist).

The difference between aeroponic and hydroponic systems essentially comes down to the droplet size used to deliver liquid fertility.

This contradiction, allowing hydroponics but not aeroponics, is likely due to the fact that there is no aeroponic industry lobby in the organic sector—yet.

Cornucopia members will be interested to hear how the eight NOSB members that voted in favor of hydroponic production can simultaneously justify the exclusion of aeroponic production.

So where do authentic organic farmers go from here? Some are calling for the abandonment of the USDA's National Organic Program altogether. Others are calling for certification using only high-integrity certifiers, while dropping the green USDA organic logo in protest of NOP's failure to enforce the law.

In the midst of fraudulent imports and the illegal organic certification of giant factory-farm poultry and dairy operations (CAFOs), the failure of the container proposal was the tipping point for many farmers.

In strongly worded closing remarks to his fellow NOSB members, completing his five-year term on the board, Dr. Francis Thicke (a certified organic dairy farmer with a background in soil science) called for the creation of an add-on label, stating that USDA Organic is no longer *the gold standard*.

Thicke began, "I learned, over time, that industry has an outsized and growing influence on USDA—and on the NOSB (including through NOSB appointments)—compared to the influence of organic farmers, who started this organic farming movement."

For now, ethical farm operations, which are truly innovative in developing systems that comply with OFPA, will continue to be competitively injured as more industrial-scale hydroponic operations shift to organic certification.

Consumers can get involved in Cornucopia's campaign to put pressure on major retailers to identify, with signage, "organic" hydroponic produce. We have the right to make informed decisions.

Stay tuned. Cornucopia will come up with additional web-based tools so you can make careful decisions in the supermarket, providing your family with the most flavorful and nutritious organic food while simultaneously protecting farmers who follow the spirit and letter of the law.

Slower-Growing Chickens

Will the USDA Heed the Call for More Stringent Regulations?

BY MARIE BURCHAM, JD

The trend in the meat chicken industry is to produce more chicken meat from less feed in less time. The most common chicken breed used in commercial enterprises today, the Cornish Cross, can put on weight twice as fast as domestic chickens could a century ago.

Consumers will recognize this bird by its huge breast and white feathering. Most Cornish Cross industry chickens reach market weight sometime between four and eight weeks, depending on the desired weight for slaughter.

Unfortunately, fast-growing breeds of chicken are associated with a host of issues; both producers and consumers are becoming more concerned.

First, the quickly accumulated weight can overwhelm the young chicken's bone structure, causing deformity, pain, and difficulty walking. The Cornish Cross' large breasts also makes them heavy in the front, complicating their mobility even more.

Other than the physical issues faced by fast-growing breeds, there is also a welfare component to their short lives. To accommodate their rapid growth rate, these birds are driven by an insatiable hunger that keeps them parked in front of their feeders.

Selective breeding has also led to more docile chickens that cannot fend for themselves. With their poor mobility and need to consume high-calorie foods, fast-growing breeds often do not thrive on pasture.

Fast-growing breeds of chicken are associated with a host of issues; both producers and consumers are becoming more concerned.

Unfortunately, when these birds are given access to the outdoors and pasture, they tend to be poor foragers, having lost most of their natural instincts to scratch, forage, and socialize with their flockmates. In crowded and stressful environments, feather pecking and cannibalism are common.

Even if a particular flock of fast-growing birds does not seem to suffer from these health problems, the breeder flocks that supply these farms with chicks virtually always compromise animal welfare.

As of yet, there is no requirement, even in the organic marketplace, to have chicks managed organically at birth. Chicks can be left without food for days after hatching, and mortality can be high.

Slower-growing breeds like the Red Ranger and Freedom Ranger are gaining in popularity. These birds take about 12 weeks to reach market weight. They are popular in pastured operations because they tend to have good foraging instincts and are more physically active.

Other heritage meat breeds can take anywhere from 18 to 22 weeks to reach market weight. Due to their greater vitality, slower-growing and heritage breeds often enjoy a better quality of life than the industry standard.

The cost of production is higher in slower-growing varieties. They consume more feed per pound of meat produced and do so more slowly.

Big-industry proponents argue that the poorer feed efficiency has implications for sustainability and environmental impact.

Many producers also have concerns that the American public will not accept the product of a slower-growing breed. While slower-growing chickens usually have richer flavor (due to a higher percentage of dark meat), they tend to have larger thighs and smaller breasts.

Despite these production costs, it may be worthwhile to choose a slower-growing chicken for health reasons. One study testing the difference in meat quality and nutritive aspects among slow- and fast-growing breeds found that the quality of the meat was higher in the slow-growing breeds (e.g., lower in fat, higher in protein and alpha-tocopherols).

Slower-growing breeds grown using organic practices are nutritionally superior and have lower levels of agrichemical and drug residues. And the welfare benefits for the birds themselves cannot be denied.

Keep an eye out for our upcoming poultry report and scorecard in 2018.

Cornucopia Members Speak Up!

Members Across the Country on Why They Support This Work

Cornucopia members are in good company. Family-scale farmers, co-op grocery owner-members, natural business leaders, and good food advocates from across the country make Cornucopia's work possible.

Here are just a few of the many comments submitted with recent donations. Members have many reasons for contributing, but the thread that brings us all together is Good Food!

"I've been a simple grocer for the last 33 years. Trying to keep a food business alive that's being threatened by "BIG AG and BIG FOOD" in the day of dying brick and mortar stores is the biggest challenge yet. Sharing your information to my staff and my patrons is going to help. Keep up the fight; I'm on board."

-Joseph, California

"I have eaten organic food for 40 years, taught organic agriculture for 38 years, and my son is an organic farmer. Keep up the good work and thank you."

-Ralph, Vermont

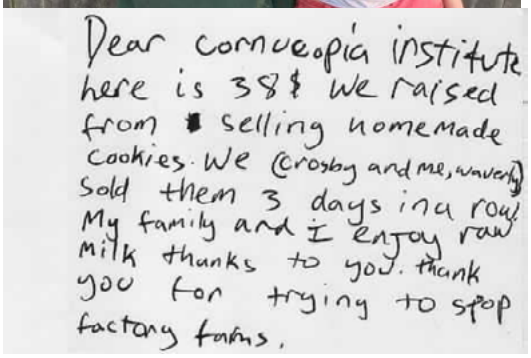
"My wife and I grow a wide range of tree fruit on two acres. We have been around since the inception of the organic movement and certifying. We don't make a ton of money, but we thank Cornucopia for being a watchdog and advocate to maintain organic integrity."

-Jim, Washington

"Thanks so much for your work! Small-scale organic farmers like myself need your investigations and advocacy."

-Diane, New Jersey

PHOTO COURTESY OF BIBB BAILEY



"Like so many others, it took being diagnosed with an autoimmune disease to have my eyes opened to the atrocities being perpetrated against mankind vis-à-vis our food system. Thank you for all you do in our fight to require true labeling definitions, thereby giving consumers the ability to make informed decisions with regard to the food they eat and feed their family."

-Jean, North Carolin

"As a breast cancer survivor, healthy foods are a critical component of staying strong. Giving support to the smaller farmer is so important. They often get smothered by big corporate farms who don't use natural methods to raise their crops. I just want the family farms to know how much we appreciate them and depend on them for fresh products."

-Sandra, Michigan

"I absolutely believe my purchases are my vote and work hard to make sure I am supporting good practices with every purchase. I share your information whenever possible. Thank you for all your hard work!!!"

- Jeanne, California

"I believe you're able to seek victory for both consumers and smaller organic farmers. All the issues that you are fighting are important to me as a consumer. Thank you for all your efforts!"

-Lynne, Massachusetts

"I'm a small urban farmer who cares about organic food and the family farmers who grow it. Your mission is a noble one. Thank you for all your work."

-Blythe, Washington

"I am not a farmer. I appreciate and support small family farm organic practices because they are protective of the natural environment and foster humane treatment of farm animals. Thank you for your hard work and dedication."

-Elena, Massachusetts

"Organic food is the only health choice for humans, including the bacteria and countless other microflora in our gut, as well as all organisms inhabiting planet Earth. GMOs, glyphosate, and other 'cides' are crippling life, and they have no increased yields, nor will they achieve any other altruistic goal. We need The Cornucopia Institute to keep the organic industry accountable, as we can't count on the organic industry board to do it."

-Felicia, Wisconsin

Authentic Organic: Always the Best Choice

Backed by Sound Science

BY ANNE ROSS, JD

An ancient Roman philosopher once said, "The greatest wealth is health."

Choosing organically produced foods has always been, and continues to be, the best choice in nurturing the health of individuals, our communities, and the planet.

At a time when consumers are especially concerned about the integrity and origin of organically labeled food, a familiar question resurfaces: "Is authentic, organically produced food really better for me?"

Choosing organically produced foods has always been the best choice in nurturing the health of individuals, our communities, and the planet.

For starters, numerous studies continue to establish that organically produced food has an enhanced nutritional profile.

Late last year, one of the most comprehensive reviews of existing research on organic food and production practices was published.

The review, commissioned by the European Parliament, confirmed that animals raised under organic production methods have a higher content of omega-3 fatty acids. This is true for dairy products and meat.

Organic milk has a whopping 50% higher content of omega-3 fatty acids than its conventional counterpart. Omega-3 fatty acids reduce the risk of cancer, heart disease, and arthritis.

An unhealthy balance of omega-3 and omega-6 fatty acids, characteristic of American diets, results in fatigue, depression, and poor memory.

Infants who get insufficient amounts of omega-3 fatty acids from their mothers during pregnancy are at risk for developing vision and nerve problems.

The enhanced omega-3 content of organically raised livestock is directly related to the animal's diet, which emphasizes grazing.

An animal's diet clearly affects the nutritional profile of the food we ultimately consume. On an even broader scale, an animal's diet also affects its propensity to develop disease.

Studies show that organic animal feed produces healthy animals. One of the most well-designed studies specifically compared the health condition of two groups of chickens raised on feed consisting of the same ingredients, except one group was fed conventional feed and the other certified organic.

By the second generation, the chickens fed organic feed showed a more robust immune reaction to a foreign invader than those fed conventional feed. Organic feed produced birds with stronger immune systems.

Healthier, organic chickens aren't fed preventative antibiotics used to curb disease, as are chickens on large, conventional factory farms.

Today, more than 70% of the antibiotics sold in the U.S. are used in animal agriculture.

It's widely accepted that the practice of using antibiotics to promote accelerated growth in conventional livestock has created antibiotic-resistant superbugs.

Raising animals organically can reduce the incidence of disease and the use of antibiotics. The CDC reports that, in the U.S. alone, antibiotic-resistant bacteria sickens more than two million people and kills 23,000 each year.

Research also shows the health benefits of consuming organically grown plant foods. A study published in *The British Journal of Nutrition* analyzed the findings of 343 peer-reviewed studies comparing the composition of organic and conventional foods.

The study confirmed that a diet rich in organic fruits and vegetables has a statistically significant, greater concentration of multiple antioxidants.

Organic produce averages 18 to 60% higher in concentrations of antioxidant compounds than conventional produce. By eating a diet of organic fruit, vegetables, and cereals, the consumer can increase antioxidant intake by an astonishing 20 to 40%.

This boost in antioxidant intake equates to eating between one and two extra portions of fruits and vegetables a day.

Good soil health is key to infusing organic crops with these powerful, cancer-fighting antioxidants. In a recent ground–breaking study, Irish researchers determined that organic

onions contained up to 20% more of the powerful antioxidant flavonol than conventionally grown onions.

The study, which lasted six years and is the longest running study of its kind, is pivotal in demonstrating that an organic soil microbiome enhances the nutritional composition of the food we eat.

Organic production practices produce nutritionally superior foods, while protecting us from exposure to dangerous chemicals, by restricting the use of many pesticides.

Studies continue to confirm the dangerous effects of exposure to pesticides, particularly for children exposed in utero.

Well-documented consequences of prenatal exposure to pesticides in both agricultural and urban communities include compromised IQ, impaired cognitive development, and attention and behavioral problems.

Researchers have concluded that organic diets significantly reduce an individual's exposure to pesticide residue. An organic diet substantially lowers pesticide exposure in children in both urban and rural areas.

Another study measuring urine output in adults concluded that those who ate organic diets for seven days showed a 90% drop in pesticides levels.

Whether it's enhanced nutritional content of organic foods or the reduced exposure to pesticides, antibiotics, and other drug residues, it's clear that organics benefit human health.

Most people in the organic community have long understood the health benefits of organic food and production practices.

Sound, developing science continues to reinforce the healthful qualities of the organic system, reminding us, as consumers, why we expect a regulatory system that safeguards the authenticity of our food choices. Investment in organics is an investment in our health.

The science shows that enforcement of organic regulations is not simply imposing blind allegiance to a set of rules. Adherence to those rules has real consequences.

When large factory farms violate grazing management practices, consumers don't get the more nutritious product they pay for and expect.

When vegetables are grown in hydroponic/container environments, using liquid fertilizers instead of rich, organically managed soil, the nutritional content could be compromised.

And, when toxic chemicals are applied to our food, adults and children suffer appalling adverse health effects.

Organic agriculture, the best, yet innately imperfect system, requires both criticism where warranted and validation where justified. Organic production practices and the regulations and enforcement practices that govern this system are no different.

As we work to improve our country's oversight of organic production, we continue to find support in advancing science that confirms the principle we trust: authentic organic food remains the most nutritious and environmentally responsible choice.

Footnotes provided at: https://tinyurl.com/cultivator-winter-2017/

Cornucopia Scorecards: New Look, Same Data You Rely On

Many consumers and wholesale buyers have come to rely on Cornucopia's research outlining which organic brands are truly upholding the spirit and the law of organic food and farming.

Cornucopia shares this research in an easy-to-use format, our online scorecards ranking brands and farms to help you easily find the best food from authentic organic farms and producers.

And now, our scorecards are available in a new, user-friendly and mobile-ready format, allowing you to easily access them right from your phone while you're shopping.

You can use Cornucopia scorecards when shopping for:

- Eggs
- Snack Bars
- Soy Foods
- Toothpaste
- Yogurt
- Breakfast Cereals

The scorecards may look different, but contain the same thoroughly researched data that you have come to rely on.

We've done the legwork so you don't have to. Find out which brands are going beyond organic, and which make a mockery of the organic label, at cornucopia.org under the Scorecards tab.

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Many brands that use the "made with" organic ingredients label overstate their commitment to responsible sourcing in their marketing material, while intentionally choosing not to source ingredients that would qualify their products for the USDA organic seal.

In addition to hexane-extracted ingredients, companies labeling "made with" organic are also substituting other cheaper conventional ingredients, such as almonds, cinnamon, vanilla, natural flavors, and tocopherols, while using relatively inexpensive organic substances, like oats or brown rice syrup, to qualify for the "made with" organic ingredients label.

In contrast, the presence of the USDA organic seal indicates that a minimum of 95% of the ingredients by weight are certified organic (all other ingredients are reviewed for safety and are not available organically).

The scorecard shows that nutritional quality can vary widely among products within a particular brand. Some brands offer both highly rated and low-rated products, such as Clif Bar and Lara Bar, making it difficult for consumers to choose bars based on brand alone.

Luckily, there are a few stand-out companies with their full product lines certified organic, such as Simple Squares and Bearded Brothers. These companies also choose to add whole foods with natural protein and other nutrients, such as nuts, fruits, and seeds.

There is so much competition for market share in the snack bar industry that many brands, even those marketing themselves as natural or organic, cut corners when it comes to ingredient sourcing to achieve a lower price point.

That's why it's important to make sure the product has the USDA organic seal and not just the "made with" organic ingredients label, which pales in comparison.

The good news is that discriminating shoppers now have Cornucopia's new mobile-friendly, web-based tool to help them compare product labels and separate the best bars from green-washing and marketing hype. You can find these ratings under the Scorecard tab on our website.

With so many snack bar options on the shelves, we make it easier to identify high-quality products and ethical brands while in the grocery aisle.

Building Marketplace Pressure for Real, Soil-based Organics

Cornucopia has launched a retailer-pressure campaign to confront corporations selling out the meaning of organics and aided by a USDA in the grip of agribusiness lobbyists.

We are mobilizing consumers and their farmer-partners across the country to demand clear marketplace choices in grocery stores for authentic, nutrient-dense organic food (grown in rich organic soil).

This campaign targets CEO's able to implement meaningful changes at the nation's major grocery chains, including Whole Foods Markets, Costco, Target, Safeway, Wal-Mart, and Kroger.

We have three requests for the CEO's:

- Implement clear signage identifying fruits and vegetables produced with hydroponic, aeroponic, or aquaponic practices so that consumers can differentiate them from organic produce grown with careful soil stewardship and healthy ecosystems.

- Adopt sourcing policies for brands that procure organic milk and dairy products from family farmers that treat their cows respectfully and at a scale that can reasonably be expected to meet the letter and spirit of organic law.

- Create plans to change sourcing for the stores' private label eggs to suppliers that allow hens real outdoor access, as federal organic law requires.

Organic factory-farm scofflaws could not operate without retail representation. They are squeezing out ethical, family-scale farmers, and their marketing partners.

Economic justice is one of the reasons we feel comfortable paying a premium for organic food—but we are being cheated.

To mobilize good food advocates and pressure retailers to join us in upholding the integrity of the organic label, Cornucopia members have received a proxy letter.

We will deliver the signed letters to the CEO's as a key part of this campaign. Additional copies of the proxy can be found on Cornucopia's website under the Action Alert tab. Join this campaign, and mail in your proxy today!

Measuring Biodiversity on Organic Farms

Legally Mandated, But Ignored

BY LINLEY DIXON, PHD

Regardless of whether a farm is certified organic or not, when you step on a real organic farm, you know it. How? Biodiversity.

While surprising to many of us, biodiversity is not an esoteric, incalculable quality. In fact, it is relatively easy to quantify.

And by law, certifiers should be doing just that. Biodiversity can be measured in the soil, on the ground, or even in the air!

Lack of enforcement of the requirement to conserve biodiversity on organic farms is among the biggest failures of USDA's National Organic Program.

The USDA regulations state that organic production "*responds to site-specific conditions by integrating cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity.*"

If there is regulatory language that mandates biodiversity on organic farms, why are there so many certified organic industrial monoculture operations that so clearly violate this requirement?

The reason is that certifiers currently attempt to qualitatively describe biodiversity on the farm, rather than actually quantitatively measuring it!

Organic certifiers should be trained to quantify indicators of farm biodiversity. Lab analyses of soil samples and plant surveys are just two methods that can be used to measure the variety and relative abundance of different kinds of organisms in a farm ecosystem.

As a graduate student, I measured the levels of plant biodiversity on organic farms to better understand how tomato diseases spread.

The organic certification requirement for on-farm biodiversity is not well-enforced.

Species richness (a simple total count of species) and species evenness (relative abundance of each species) were recorded across transects. For diversity measurements to be high, a plot must have had both richness and evenness.

For example, if there were many different plant species on the farm (high species richness), but those species were all found in a narrow hedgerow next to a hundred acres of tomato monoculture (low species evenness), the biodiversity measurement on the farm would be low.

Among the 200 certified organic farms inspected, most farms had very high plant biodiversity levels.

On biodiverse farms, one transect might pass through several distinct ecosystems: a tomato plot, various crop plants, cover crops, weeds, pastures, or even woods.

However, not all biodiverse farms are small. Even on some of the bigger farms, acres of a single crop may have had cover crops between rows or surrounding pasture, meadows, or forests with many different species.

At the time of my study in 2000, fewer corporate growers had obtained organic certification, but the push to co-opt the label had begun.

It was painfully obvious that industrial operations weren't real organic farms (regardless of all the paperwork that was checked by the certifier during their inspection).

Certified organic monoculture operations clearly did not fulfill the biodiversity requirements of the Organic Foods Production Act.

Transects across industrial-scale farms in different directions would turn up mostly one plant—roma tomatoes.

In large monocultures, diseases spread more rapidly and severely. Not surprisingly, monoculture tomato production necessitates weekly prophylactic sprays of copper for disease control throughout the season.

Though the organic certification requirement for on-farm biodiversity is not well-enforced, it easily could be with some basic certifier training on how to measure plant biodiversity.

Regardless of the numerous possible methods to obtain real on-farm biodiversity measurements, the current qualitative descriptions can be applied too loosely and are clearly inadequate. Conversely, it is hard to argue with numbers.

A better understanding of how scientists routinely measure biodiversity is needed by all organic stakeholders to ensure the environmental health of organic farm ecosystems.

The National Organic Standards Board should address the need for certifiers to quantitatively measure biodiversity on the farm to uphold the biodiversity requirements in the law.

As the Crow Flies

A Straight Line to Sustainable Agriculture

BY RACHEL ZEGERIUS

"Turns out," says Teresa Kurtak, "there's really nothing else that comes close to being as satisfying as being a farmer."

Although much of her childhood was spent on her family's cattle ranch in eastern Washington, Kurtak did not expect that she would find her own life's work in farming.

Having dedicated years to academic pursuits, envisioning a career in food policy, Kurtak feared that by deciding to farm she would be letting go of something she held close to her heart—her passion for changing the world.

What she didn't expect was her ability to effect positive change through organic farming and the sense of reward that would follow.

Now, nearly 10 years after the inception of Fifth Crow Farm, Kurtak embraces farming and recognizes the significance of managing a business that not only supports her and her family, but is also responsible for sustaining the livelihood of 20 full-time employees.

Built from scratch on a shoestring budget, big dreams, and a lot of sore muscles, Fifth Crow Farm is the dream child of three college-educated idealists.

All graduates of the University of California, Santa Cruz Farm & Garden Program, Teresa Kurtak, Mike Irving, and John Vars share an ideology—a belief that sustainable agriculture can offer solutions to the environmental and social issues of our time.

By luck, or by fate, a series of events led these young entrepreneurs to one another in 2006 and, two years later, to a decisive dinner party with the landowners of a fallow farm along the central coast of California.

PHOTO COURTESY OF TEDDYMILLERPHOTOGRAPHY.COM

The Fifth Crow Farm family, from left: owners Mike Irving, Teresa Kurtak, and John Vars join John's wife, Maggie Aaronson, in showing off the fertile fields. Teresa and Maggie gave birth to Charles Oakley and Naomi Hope on the very same day in March of 2015!

Serendipitously, the lease on this 80-acre parcel was ripe for new management, and when they went for a visit it was love at first sight.

Kurtak credits their success, in part, to happenstance. "We were lucky enough to land on a good piece of land with property owners that were willing to provide leases to allow our business to grow," she says.

Lack of capital and access to land are among the biggest challenges faced by beginning farmers today; creative land acquisition has become commonplace. And in some cases, restrictions meant to protect open space and even sustainable farmland can give rise to unforeseen obstacles to farming development.

Midway between San Francisco and San Jose, Cloverdale Valley is no exception. While it is ideal to be farming one of the most fertile

and beautiful landscapes in the country, attempts to purchase the acreage they're farming have proven futile.

Kurtak explains, "If you want farmers to invest in the things that make farming sustainable in the long run—soils, infrastructure, hedgerows—there has to be security for the farmers."

To ensure their foothold, Fifth Crow has recently become the tenant of a land trust adjacent to their farm. Here, they will expand their apple production, adding another 800 trees to their existing 250-tree orchard.

They currently grow over 25 varieties of apples on just over two acres—dwarf trees, tightly spaced. The diversity allows them to harvest fresh apples from early August through December. The season can start as early as the end of July, when the first of the Pristine variety comes ripe.

Nearby, two flocks of laying hens pasture, each with some 250 birds, all heritage breeds: Rhode Island Reds, Americaunas, Black Australorps, Welsummers, and California White Leghorns.

The hens graze on a nutritious pasture of clover, alfalfa, chicory, plantain, and grass. Each week they are moved to new forage. Raising hens humanely in this labor-intensive way demands more resources and a deep commitment to growing the most nutritious food possible.

While eggs aren't the most lucrative part of their business, laying hens close the loop.

Kurtak compares their farm to the awe-inspiring monocultures, just 70 miles south in Watsonville and Salinas, where blankets of strawberries and romaine choke out wildlife habitat.

She explains, "It's part of a sustainable farm to have animals; animals should be part of farms, and farms should be diversified. It's critical to view farmland as an ecosystem, where wildlife can still happen."

Fifth Crow's certified organic eggs are renowned for their flavor and freshness at local farmers markets.

Currently, 70% of Fifth Crow's business is direct-to-consumer at markets, while the remaining 30% is split evenly between their 200-member CSA and wholesale accounts.

On their farm stand, next to the eggs and apples, shoppers find flowers, dried beans, vegetables, and fruits...all certified organic by CCOF.

Fifth Crow decided to become certified out of the gate. Certification allows them to compete among the high density of farms in California, while supporting the legitimacy of the USDA label.

Plus, "Certification keeps us on our toes," notes Kurtak. While they are busy farming, their certifier informs them of current issues in organics while keeping them true to their goals and ideals.

However, there are gaps in organic certification that Fifth Crow seeks to fill: primarily, social justice issues that govern how workers are treated. Offering their workers paid sick time, health care, and a commitment to working parents, Fifth Crow stands out as a praiseworthy employer.

Kurtak elaborates, "We want to build agriculture that is economically viable, socially just, and ecologically sound. To us, this means stewarding our land in a way that not only respects, but improves habitat for wildlife and builds better soil for future farmers. It also means creating a healthy, fulfilling, and fair work environment, and providing our customers with the best tasting, most nutritious, highest quality food possible."

fifth crow farm pescadero, CA

We Want to Hear from You!

Cornucopia welcomes your insights and inquiries. We will post your questions and comments, and our responses, as we are able.

One of Cornucopia's respected farmer members, and past NOSB member, Colehour Bondera, recently wrote to us in response to our recent Cultivator article, "*Considering Coffee.*"

Here is an exerpt from his letter, which can be found in full, with other reader correspondence, on our website under the News tab on the new Letters to the Editor page.

Aloha! Coffee has moved from tropical to temperate regions for well over 500 years. Coffee is grown in Puerto Rico and Hawaii, both directly parts of the United States.

As an organic coffee farmer, it is not necessary to use any of the synthetic chemicals that are used so widely in the coffee industry.

Small-scale farmers must support one another, and Cornucopia has worked diligently to protect the integrity of organics and the meaning/utility of certification for said producers. That said, this is truly to remind you all that you can and should enjoy US coffee when you have that opportunity.

Peace,
Colehour Bondera
KANALANI OHANA FARM

CORNUCOPIA
INSTITUTE

P.O. Box 126
Cornucopia, WI 54827

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We Rely on You!

For a decade-and-a-half, Cornucopia has been at the forefront of the fight to uphold the integrity of local and organic food and agriculture. As a tax-exempt public charity, we rely on the passionate moral and financial support of organic advocates across the country. Please consider donating today. Cornucopia is excited to report that a generous family foundation has offered to match, dollar-for-dollar, every donation made, up to $50,000, until the end of 2017. Making a gift at this time really leverages your dollars and your voice. If you would like more information about our commitment to nonprofit transparency and accountability, look for Cornucopia's gold rating on guidestar.org.

Get Out of Jail Free Card

USDA Exonerates Largest "Organic" Factory Dairy

The USDA has dismissed Cornucopia's formal legal complaint over alleged illegalities at Aurora Dairy, the nation's largest organic dairy producer.

Cornucopia filed its complaint last May after a scathing investigative report in *The Washington Post* revealed gross improprieties at the High Meadows facility in Colorado.

The newspaper, utilizing drone imagery gathered over a week's time, found few of the factory farm's 15,000 milk cows actually grazing, as organic regulations require.

USDA investigators never contacted *The Washington Post* to investigate the drone imagery. The agency's inaction resembled their response to Cornucopia's 2014 complaint against Aurora, which found a similar lack of grazing based on aerial photography. The USDA downplayed that evidence as representative of only "a moment in time."

A "moment in time" should not invalidate evidence. Annual inspections by organic certifiers also reflect just "a moment in time," and are conducted by prearranged appointment.

Cornucopia has since filed a Freedom of Information Act (FOIA) request to determine whether the USDA's recent Aurora investigation included a surprise visit, or a prearranged appointment (their pattern in the past).

We also want to know what personnel were involved, including their professional backgrounds qualifying them to make their final conclusions.

In the meantime, Cornucopia's organic dairy scorecard offers consumers and wholesale buyers the opportunity to "take the law into their own hands" and find brands that support farmers who practice sound environmental stewardship and humane animal husbandry.

- WILL FANTLE