

Global Organic Alliance, Inc
 P. O. Box 530
 Bellefontaine, Ohio 43311
www.goa-online.org

PH: (937) 593-1232
 FAX: (937) 593-9507
 email: goaorg@centurylink.net

President: Betty Kananen
Vice President: David L Baldock
Staff: Sharon Ringler, Becky Scheifele, Rebecca Young, Jessica Partington, Amber Coyer, Mary Smith, Ryan Ormsbee, Abi Stump-Galyk, K C Stimmel

Certification Director: Jodi Snyder
Japanese Coordinator: Yoshiko Tuttle
Certification Specialist: Jessica Green, Taylor McNamara, Katie Elsasser, and Brandie Rose

Betty's Bits

YUP, I am still here. AND still complaining about the weather – don't know why—we can't do anything about Mom Nature—guess it is what us old people do.

GOA held our Inspector Workshop last week in the new and enlarged conference space. Chilly but no snow.

It was a really great turn out, lots of verbal participation. Which is what we like. Looking forward to the next and last one for the year later this month. Everyone liked not only the “old barn lives”—but having lots of elbow room. It is always nice when our member/clients attend. We hope it gives them some idea why the inspector is there and what they must be prepared to report back to GOA regarding compliance with the Organic Program.

Everyone should have their big white envelope full of updated standards and renewal documents. If you do not have them, call the office and we will re-send. As of this morning we have already received 26 farm renewals. Thank you!!! Keep in mind that you are welcome to bring your completed OSP in and sit down with a Coordinator to go over it with you. We enjoy putting faces to voices AND the coffee is always on and hot or the water and soft drinks are always cold. Give the office a call to make an appointment.

Remember—we are required to complete 5% unannounced and/or testing inspections of our certified member/clients. So please don't blame your inspector for “short notification.” It's an NOP thing!!! BUT—I have had more than one farmer tell me—they like having the “notification” to use as a marketing tool—so there you go.

We hope you have noticed the improvement in service.

Of course it boils down to having really dedicated staff in the certification department. I am doing all I can to keep them happy and on board.

GOA is still growing “nicely”—meaning enough to be steady, covering retirees, etc, but not so much to be overwhelming. We are up to 15 staff plus me. Does not include inspectors.

I am soooo looking forward to mowing my lawn again. And seeing more sunshine more often than clouds.

I have to share a couple of quotes from former presidents:

- “The farmer is the only man in our economy who buys everything at retail, sells everything at wholesale and pays the freight both ways” John F Kennedy.
- “Farming looks mighty easy when your plow is a pencil and you're a thousand miles from the corn field” Dwight D Eisenhower.
- “Farming is the only career we choose that no matter the hours worked, expenses incurred—at harvest a government entity tells how much we are going to be paid for our production”---that is a Betty J Kananen quote.

Praying for a good planting season---great growing season and fantastic harvest yields for all.

Betty K

| Contents | |
|------------------------------|------|
| item | page |
| GOA Recognize for Leadership | 2 |
| Letter; Dear Members | 2 |
| News from GOA and Beyond | 4 |
| From Our Members | 11 |

2020 HOLIDAY CLOSING SCHEDULE FOR GOA

Organic Vision is published quarterly, when possible, for the benefit of our members and associates. The editor is happy to hear comments and suggestions: Phil Fry; 5370 N. Elm Tree Rd.; Conover, OH 45317; (937) 362-4493 pfryohio@gmail.com



GOA Recognized for Leadership

SAN ANTONIO, TEXAS—The USDA National Organic Program (NOP) today recognized the work of accredited organic certifiers with awards for extraordinary support of the National Organic Standards. The awards were presented at the annual NOP Certifier Training for organic inspectors from around the world, held in San Antonio, Texas.

GOA was among ten certifiers recognized for the exceptional quality and timeliness of data provided to the Organic INTEGRITY Database. “Better data deters fraud by making it faster for investigators to identify higher risk activities and focus additional enforcement resources,” said Jennifer Tucker, who heads the NOP. “Catching and punishing fraud quickly supports the high level of trust that farmers and consumers continue to demonstrate in the USDA Organic Seal.”

The federal organic regulations currently require the annual posting of a set of basic facts regarding certified operations into the USDA Organic INTEGRITY Database (OID). All USDA accredited certifiers met the January 2, 2020, annual deadline for uploading required updates about the operations they certify. The OID also includes many optional fields, like acreage, that can aid in oversight and enforcement. “The ten certifiers recognized today significantly exceeded the minimum requirements by supplying additional detail on their certified operations and submitting updates on a rolling basis

| | |
|-----------------------|-------------------|
| Fri. 10 Apr | Good Friday |
| Fri. 3 Jul | Independence Day |
| Mon. 7 Sep | Labor Day |
| Thu, Fri 26-27 Nov | Thanksgiving |
| Thu, Fri 24-25 Dec | Christmas Holiday |
| Thu, Fri 31 Dec-1 Jan | New Years Holiday |

throughout the year,” said Tucker.

“The ready availability of robust data is also good for certified farms and ranches as the database becomes increasingly important as a resource for companies looking to buy certified organic ingredients,” said Tucker. “It is gratifying to see continued growth in the number of certifiers who voluntarily compete for these awards, significantly increasing the amount of quality data available to NOP staff and the growing list of our law enforcement partners.”

Other INTEGRITY Data Quality Award winners include: CCOF Certification Services, LLC (Santa Cruz, CA), Primus Auditing Operations (Santa Maria, CA), Marin Organic Certified Agriculture (Novato, CA), Yolo County Department of Agriculture (Woodland, CA), Colorado Department of Agriculture (Broomfield, CO), One-Cert, Inc (Lincoln, NE), New Jersey Department of Agriculture (Trenton, NJ), Clemson University (Pendleton, SC), and IMOCert Latinoamerica LTDA (Cochabamba, Bolivia)

2019 Count of Certified Organic Operations

The number of certified organic operations worldwide grew to 44,896 in 2019, a 4.4 percent increase over 2018. The net increase in U.S. certified operations was 763 for a total of 28,257. Ref: the USDA National Organic Program website: Organic INTEGRITY Database.

Dear Members,

GOA is fortunate to get feedback from our members on all kinds of issues. It helps us keep oriented so we can serve your needs. We need to hear from you.

Recently, we received several letters about the articles we published that take a political view. It is not our desire to try to sway anyone politically, but there are two things that combine to make it look that way at times. One is that some of the leaders and activists in the organic farming community are expressing ideas and urging regulations that could well affect how we may need to farm in the near future. It is important to know about these pressures and

understand them, even if the political views are also apparent.

The other issue we need to address carefully, but clearly and head-on, is the lack of scientific grounding in some of the notions that may hold sway over many of us. We all want to understand events around us, and try to find the reason why. What we individually do in that regard is fine. We can all have our personal beliefs and facts. But what GOA communicates to our members needs to be as accurate as possible. There is much that we don't understand about

nature, and as organic farmers we need to work hand and hand with nature every day. So we press on with our best attempts to understand. But we draw the line at supporting ideas that contradict good science, especially when that science is readily available and well known.

Political discourse is integral to every part of life. Whether to grow crops with chemicals or organically, whether to build or pave roads, (Iowa and Indiana seem opposed to paving), whether to build public schools or private schools perhaps even whether to eat out or dine in are all decided by discussion, debate, concession and compromise. There are always two sides to every discourse and issue, it is desirable the end result is progress to a better world for every nation, country, county, and individual. I remember the 4-H pledge to offer my head, my heart, my hands, my health to a better living for my club, my community and my world.

The empirical evidence that the world's climate is warming is not challenged. The only argument is whether it is caused by man; burning fossil fuels, deforestation etc. or naturally occurring. The cause really doesn't matter, what destructive effects that global warming has and what actions could or should be taken are what the discussions and debates are about.

It is interesting that you chose the example of the threat of the thinning ozone layer as an example of an idle threat that never transpired. Yes 20-25 years ago, scientists predicted disasters if the ozone layer was depleted at the rate that had happened in the previous 30 years. In 1987, the international community signed the Montreal Protocol on Substances that Deplete the Ozone Layer. This regulated and obsoleted many of the causative chemicals, freon for example, that depleted the Ozone layer. I worked in manufacturing at that time and remember our mandated efforts to replace a printed circuit board cleaning process that used open air tubs of the highly volatile chlorofluorocarbons with less efficient but non-ozone depleting products. The levels of man-made ozone depleting substances increased up to the year 2000 but since then have slowly declined. So no, we humans did not die of radiation exposure, but it took positive political will on an international level to correct our human folly.

I agree that we should endeavor for good stewardship of our planet, but it cannot be solely voluntary as you can see in the recent burning in the Amazon. There is no will there to sacrifice their potential agricultural profits to save the rainforests. If the United States as the largest consumer in the world is not willing to join (e.g. the Paris Climate Accords) or do our part to reduce the portion of global warming that is man-made why would they or would China, India or Russia. It is absurd to suggest that one go back to farming with horses (they fart too) instead of tractors, but can farms work to reduce their "carbon footprint"? Use no-till, plant cover crops, plant trees, buy Tier 4 diesel engines? And how can these activities be encouraged? Connecting beneficial actions with government subsidies would be just one possibility. Re-install the auto mileage per gallon goals that were rescinded in 2018?

We also are proponents of small farms and not in favor of the industrialization of farming. In 2019, 10% of the small dairy farms in Wisconsin were closed, in 2018 7.5% were lost. Even organic milk is jeopardized by huge dairies like Aurora with 21,000 cows! Perhaps not as large as the Fair Oaks Dairy in Indiana with 30,000 cows but a facet of industrialized agriculture. With per capita milk consumption declining and the per capita consumption of all dairy products static for the past 4 years the mega dairies are overtaking the production. The definition of socialism is the ownership and control of the means of production by a government. What is the ownership and control of the means of production by corporations?

The recent tax cuts gave these corporations tax breaks that small family farmers did not get. Buyers have given quantity bonuses to large dairies for years and my favorite perk for factory farms goes back to the tax re-writes of 1986 (Ronald Reagan); single purpose ag structures, like poultry, hog or dairy barns can be depreciated in just 10 years, but a multipurpose barn that a small farmer would use; must be depreciated over 20 years!

The capitalistic system has proven to be the best and most productive endeavor in human history; however, it also has its dark side of greed, exploitation, and the avarice for the accumulation and control of wealth. There are a multitude of examples from railroad tycoons, industrial robber barons, Enron and even recently the deception, kickbacks and teen targeted marketing by Insys Therapeutics that significantly contributed to the opioid crisis. Not to mention the price gouging of current pharmaceutical companies. Franklin Roosevelt asserted that the laws enacted in the 1930's were to save capitalism from itself and not to destroy it. It is no coincidence that of Mahatma Gandhi's "Seven Deadly Sins" the first sin is "Wealth without Work."

The current argument is not so much about a Teddy Roosevelt trust busting binge; but how laws, tax codes, and regulations can protect and preserve the means of production in a fair way. It is not likely that this is a goal of the current administration when Secretary of Ag, Sonny Perdue states "In America, the big get bigger and the small go out."

In conclusion, when we are threatened by dire circumstances that come from all avenues of economic, political, corporate power, or individuals; I hope that open discussion, contemplative thinking, willingness to attempt solutions and respect for each other and each other's opinion left, right or in the middle will allow us to prevail and promote the well-being of all. As we said in our Boy Scout oath I will do my best to do my duty to God and my country... and to help other people at all times.

To good farming.
David Baldock

[Ed Note: I get much of the material for this section from the Organic Consumers Association (OCA) at <http://www.organicconsumers.org/> and The Cornucopia Institute at <http://www.cornucopia.org/> I always include the url so readers can read the full article but some url's are hard to read. Readers can also search on the article title and will almost always get the original. Adding the author will narrow the results.

Is Your Decaf Coffee Organic? If Not, It May Contain a Chemical So Toxic the EPA Banned It from Paint

Katherine Paul, OCA
6 Feb 2020

About a year ago, the U.S. Environmental Protection Agency (EPA) made it official: Consumers can no longer buy paint removers containing methylene chloride, a chemical linked to cancer, cognitive impairment and other health issues. (In a controversial move, the agency stopped short of banning the chemical for commercial/industrial use).

EPA Administrator Andrew Wheeler, in a statement issued November 22, 2019, said the “EPA’s action keeps paint and coating removers that contain the chemical methylene chloride out of consumers’ hands” in a “step that will provide important public health protections for consumers.”

Methylene chloride must be pretty bad for the EPA to ban it. After all, the agency refuses to ban chlorpyrifos, a known neurotoxin especially harmful to children, and glyphosate, the chemical in Monsanto’s Roundup weedkiller deemed a “probable human carcinogen” by the World Health Organization.

So how is it that Walmart and Amazon won't sell you any paint remover containing methylene chloride. But both retailers will sell you decaffeinated coffee that tests positive for methylene chloride?

Walmart and Amazon aren’t alone. According to a recent investigation by the Clean Label Project™, a national nonprofit focused on health and transparency in labeling, a surprising number of popular decaffeinated coffee brands contain methylene chloride.

That’s troubling news, given that many of the people who choose decaf over caffeinated coffee do so for health reasons. For instance, doctors often suggest that pregnant women and people suffering from heart disease stick with decaf.

The study contained some good news, though, for consumers who buy organic—none of the certified organic brands tested by Clean Label Project contained detectable levels of methylene chloride.

What is methylene chloride and how does it end up in decaf coffee?

Methylene chloride is commonly used as a solvent in paint removers, a solvent in the manufacture of pharmaceuticals,

and as a degreasing and blowing agent for industrial use.

You’ll also find it in some decaf coffee brands, the ones that still use the chemical in their decaffeination process.

As the Clean Label Project report explains, all coffee beans contain caffeine. To create decaf coffee, the green or roasted beans are moistened, to make the caffeine soluble so that it can be drawn out. The coffee is decaffeinated at moderate temperatures, typically ranging from 70 to 100 degrees Celsius (160 to 210 degrees Fahrenheit).

There are two primary types of decaffeination processes: non-solvent and solvent-based. The non-solvent type uses water, and relies on time and temperature to draw out the caffeine. The solvent-based process uses either methylene chloride or ethyl acetate.

According to Consumer Reports, German coffee merchant Ludwig Roselius discovered decaf by accident in the 1900s, after a shipment of coffee beans was soaked in seawater during transit, naturally extracting some of the caffeine. A few years later, Roselius patented the first commercially successful means of decaffeinating coffee. But instead of just salt water, his method also used a more potent chemical solvent called benzene, which has been linked to cancer, blood disorders, and fetal development issues in pregnant women.

Who drinks decaf and why should they avoid brands with methylene chloride?

After benzene was determined to be too toxic, decaf coffeemakers turned to methylene chloride. But is it any safer? Especially considering who typically drinks decaf coffee?

Americans love their coffee—about 83 percent of us drink it, including the 64 percent who drink it everyday.

The majority of us drink coffee because it contains caffeine. But a percentage of people—including heart patients and pregnant women—drink decaf because they believe it’s healthier for them.

But is it wise, especially for heart patients and pregnant women, to replace caffeinated coffee with decaf—if the decaf brand you’re drinking contains a chemical linked to cancer, cognitive impairment and asphyxiation, and is also associated with liver, kidney and reproductive toxicity?

The U.S. Food & Drug Administration (FDA) agency banned

the chemical from cosmetics, but allowed it in decaf coffee because the amounts were “extremely low.”

The FDA hasn’t re-evaluated the levels of methylene chloride in decaffeinated coffee in 35 years. Some of the products tested by the Clean Label Project exceeded the FDA’s 35-year-old data.

It’s noteworthy that Japan and Korea have banned methylene chloride in decaf coffee. Canada requires mandatory labeling.

Read More: <https://tinyurl.com/tp7lvn6>



Brave New World: What You Need to Know About Gene-Edited Farm Animals

Pat Thomas, OCA
8 Jan 2020

For decades, the biotech industry has spun a narrative around genetically engineered crops that could be summed up very simply as “jam tomorrow, instead of bread and butter today.”

Sustained—and financed—largely on the promise of spectacular success at some unidentified point in the future, the research and development of new types of GMO foods, made with a whole host of new genetic engineering technologies, has gathered pace in recent years.

These days, without most people being aware of it, genetic engineering is spreading from the crops in the field to the animals in the barn.

Using new genome editing (sometimes referred to as “gene editing”) techniques like CRISPR, biotech breeders are proposing to breed a brave new world of farm animals that don’t get sick, don’t feel pain and produce more meat, milk and eggs at a lower cost than ever before.

Not many NGOs [Non Government Organizations] are currently working on this issue and it can be hard to find good information to help make sense of it all. But two recent reports provide in-depth information on the mechanics as well as the ethical issues around gene-edited farm animals.

One, from Friends of the Earth, entitled “Genetically Engineered Animals: From Lab to Factory Farm,” is an extensively referenced report that provides key background information and highlights the urgent need for safety assessments of genome-edited animals.

The other, “Gene-edited Animals in Agriculture,” is a report from a day-long roundtable in June 2019, co-hosted by my organization, Beyond GM, and Compassion in World Farming in the UK. The roundtable involved individuals representing a wide range of perspectives. What emerged was a fascinating glimpse into not only the technology, but also the ethics and

values systems that underpin that technology.

If you are new to the subject of genetically engineering farm animals for food, if it concerns you or if you just want to know more in order to be an informed consumer, these two reports provide an important starting point.

What are gene-edited animals?

Gene editing is a type of genetic engineering. It is used as an umbrella term for a suite of new technologies, of which CRISPR is the most well-known.

With gene editing, as with older genetic engineering techniques, the organism’s genetic material is changed directly and artificially, by humans using laboratory techniques. This means that gene editing, like other forms of genetic engineering, produces GMOs (genetically modified organisms).

Currently, research priorities for gene-edited animals focus largely on a few high-value animals. Pigs are the priority farm animal, followed by cattle and poultry. Genome-edited fish—particularly salmon and tilapia—are also being developed.

How is gene editing being used on farm animals?

Much of the current research and development is focused on health problems in farm animals raised in intensive, industrial systems. Genome editing has been proposed as a way to protect animals from disease by altering their immune response to diseases like PRRS (Porcine Reproductive and Respiratory Syndrome) and ASFv (African Swine Fever) in pigs and ISA (Infectious Salmon Anemia, or “salmon flu”) in farmed salmon.

Researchers are also looking at creating animals with desirable commercial attributes, such as the ability to produce more muscle mass (meat) while consuming less feed.

They are also looking for ways to adapt animals to their environments, such as cattle with “slick” coats that protect them from extreme heat.

These problems targeted by the biotech industry are real. But most of them are also manmade—a consequence of the crowded factory farm conditions in which the animals are raised, and the spread of industrial livestock operations into geographical areas (e.g. tropical climates) not well suited to this kind of farming.

Poor health in animals often arises as a result of the systems in which they are kept. Gene editing should not be used to address diseases that primarily arise from keeping animals in stressful, crowded conditions. Such diseases can, and should be tackled by improving things like housing and hygiene, and lowering stocking densities, before turning to selective breeding – of any kind.

What advantages are claimed for gene-edited farm animals?

Genome editing has been proposed as a solution for sustainably feeding a growing world population. Producing animals that grow faster and eat less, argues the biotech industry, reduces input costs for the farmer and, on a global scale, helps reduce the amount of crops diverted to livestock as feed, and may also help to reduce the impact of industrial meat production on global warming.

Gene-editing could be used to control reproduction, for instance, to produce more female dairy cows (thus more milk) or more female chickens (more eggs). “Gender skewing” in this way, say biotechnologists, has the added bonus of lowering the number of male cows and chickens culled shortly after birth.

There are also claims that genome editing could be used to “edit out” animals’ ability to feel pain and stress. This, it is argued, would reduce the animals’ suffering in factory farm conditions. Opponents argue, however, that this is unethical, reduces the animals to little more than a machine and furthers the interests of those who support factory farming.

Another major argument for gene editing is that it can speed up the breeding process—producing in 2 years an animal that might take 10-15 years via traditional breeding.

This notion of speed, however, may be misleading. Although genome editing is promoted as a fast technology with limitless possibilities, no gene-edited animals have yet made it into farms or the food chain.

Most of the “innovations” you read about in the media are based on studies performed to show what might be, theoretically, technically possible. These PR stories are often released by research institutions as a way of attracting the interest of funders that might be interested in financing further work.

But if gene editing can help relieve animals’ suffering, isn’t that a good thing?

Most researchers involved in this work (as opposed to the large biotech companies that eventually market the finished product) are concerned for animal welfare and believe that what they are doing will help animals.

It is worth remembering that those involved in conventional selective breeding believe that they, too, are doing “good.”

However, decades of evidence show that selective breeding for specific traits can have a negative impact on animal health, including skeletal and metabolic diseases, lameness, reproductive issues and mastitis.

The fact is, the more we breed animals to be little more than “production units” in industrial farms, the less likely it is to benefit the animal—whatever the method.

How successful have attempts at gene editing been so far?

Results in animals thus far are not as predictable or reliable as researchers had hoped.

For example, a recent Wall Street Journal investigation reported unintended effects including enlarged tongues and extra vertebrae.

Brazil’s plans to breed hornless dairy cattle were recently abandoned when a study by the U.S. Food and Drug Administration (FDA) revealed that one of the experimental animals contained a sequence of bacterial DNA that included a gene-conferring antibiotic resistance. In theory, this antibiotic-resistance gene could be taken up by any of the billions of bacteria present in a cow’s gut or body—and from there be spread beyond the farm.

Other recent research has shown that edited mouse genomes can acquire bovine or goat DNA. This was traced to the standard culture medium for mouse cells, which contains DNA from whichever animal species it may have been extracted from. This mix-and-match DNA is potentially a problem for other genome-edited animals, too. And it raises some urgent questions about authenticity and traceability.

Studies like these, suggest that the science of genome editing in animals is a long way from providing watertight solutions to the problems associated with factory-farmed animals.

Are there any gene-edited animals on the market now?

Although it is promoted as a fast technology with limitless possibilities, genome-edited animals have yet to appear on farms or in the food chain.

The only genetically engineered animal currently on the market is the GMO salmon on sale in Canada and the U.S. This was produced using older style genetic engineering.

Can we achieve the same improvements in farm animals with traditional breeding?

Conventional breeding can also produce robust animals that are suited to their geographical locations. Both farmers and consumers are showing increasing interest in these kinds of “heritage breeds.” And supporting them also helps to protect the diversity of the animal gene pool.

Conventional breeding also has the advantage of not requiring complex regulation. The U.S. Department of Agriculture is currently trying to “simplify” things by proposing that it, rather than the FDA, should have oversight on genome-edited animals and that these animals should be exempt from regulation.

Given the scientific uncertainty around genetically engineered animals, this kind of blinkered rubber-stamping should alarm consumers.

Surely, gene editing is just another tool in the toolbox. Is it right to discount it entirely if one day it might be a useful tool?

Most people agree that our food system is no longer functioning optimally, that it needs to change and is, in fact, changing. Genetic engineers believe that they have something that can help agriculture change. They often refer to gene editing as a “tool in the toolbox.”

This suggests that rather than being a universal panacea, genome editing may be a technology with useful but limited applications and several caveats—i.e. you don’t use a wrench when you need a hammer.

Arguably, more important than the “tool” is the “toolbox” itself, which is what we use to frame our questions, the points of reference we use and how we organize our thoughts.

All over the world, the “toolbox” is the intensive, industrial farming model—these days referred to as “sustainable intensification.” This model drives much of the thinking and decision-making around agriculture and agricultural policy.

In a world where agroecology and regenerative farming are the dominant systems, decisions around genome editing, about when—or indeed if—it is needed might look very different.

There is now a large body of opinion suggesting that, whichever yardstick is used—welfare, sustainability, environment, nutrition—the industrial farming system is damaging and outdated.

If we envisage the future of farming where the industrial model will continue to dominate, then genome editing may take on a more prominent role.

However, if we envisage a future for farming as largely agroecological, and invest in and work conscientiously towards that kind of system change, then it is possible that gene editing won’t have a role to play.

In that future, instead of creating genetically engineered animals to fit into factory farms, we will develop sustainable and ecological animal agriculture systems that support animal welfare, preserve and restore biodiversity and protect public health.

Read More: <https://tinyurl.com/ugwljz6>



These Drugs are in US Meat But Not on the Label

Martha Rosenberg
7 Feb 2020

Thanks to animal welfare groups, most people are now aware of “factory farms.” Concentrated animal feeding operations or

CAFOs abuse workers, animals, the environment, human consumers and even our tax dollars. (How? Price supports and government bailouts when diseases occur.) Thanks to greedy CAFOs crowding, diseases killed one-tenth of all US pigs and millions of chickens and turkeys a few years ago.

The public is less aware of “animal Pharma”—and the breadth of livestock diseases that are treated with drugs. For example Merck markets 49 vaccines for poultry alone to prevent diseases like fowl pox, turkey coryza, bursal disease, coccidiosis, laryngotracheitis, hemorrhagic enteritis, avian encephalomyelitis, and, of course, salmonella and *E. coli*. Yum.

It also markets at least 25 vaccines to prevent cattle diseases and an entire schedule of vaccines for pigs including Argus® SC/ST Avirulent Live Culture, “an aid in the prevention of pneumonia, diarrhea, septicemia and mortality caused by *Salmonella choleraesuis* and as an aid in control of disease and shedding of *Salmonella typhimurium*.” It even markets vaccines for use in aquaculture.

More than 90 percent of broiler chickens in the US are vaccinated “in ovo” against diseases like Marek’s, Gumboro and Newcastle, meaning they are vaccinated as embryos, though the public is largely unaware of this. “In ovo” grafting is also performed—for example injecting quail tissue cells into non-quail chicks—to create brave new animals. Chimeras, clones and transgenic animals are seldom covered in the mainstream news but they are no longer rare.

Vaccines are also made from “GMO” spores, which an article in *Veterinary Research* admits could “raise environmental concerns” because the spores have “the potential to survive indefinitely in the environment.”

Antibiotics Have Stopped Working Due to Superbugs They Created

The use of tons of antibiotics on CAFOs has kind of “killed the goose that laid the golden egg.” As the drugs cease to work in people and animals from their farm overuse, Pharma is pushing vaccines to replace them. Meat producers like the fact that if they use vaccines they can actually say they use “no antibiotics” and play to health conscious food buyers. In fact, a 2015 marketing study estimated the global animal-vaccine market will be worth \$7.2 billion by 2020, up from \$5.5 billion in 2010.

US meat is also full of hormones like oestradiol-17, zeranol, trenbolone acetate and melengestrol acetate. These synthetic growth hormones are central to US beef production and the reason Europe has banned a lot of US meat since 1989. Yes, Europeans won’t eat what Americans eat every day.

Melengestrol acetate is 30 times as active as natural progesterone, says the European Commission (EC) and trenbolone acetate, a synthetic androgen, is several times more

active than testosterone. Trenbolone acetate, administered as ear implants, has been found in male fathead minnows who lived near a Nebraska feedlot that discharged its polluted water into the environment.

While the drugs used in US meat production do not appear on the label, they should. Antibiotics, which have been found lurking in the meat, have been linked to drug resistance and superbugs, obesity, asthma and compromised gut bacteria. Vaccines have been linked to oxidative stress and harm from exposure to heavy metals.

And hormones? “The highest rates of breast cancer are observed in North America, where hormone-treated meat consumption is highest in the world,” says the EU’s Scientific Committee on Veterinary Measures Relating to Public Health. The committee adds that the same metrics apply to prostate cancer.

How many people would eat US meat if these drugs were clearly marked on the label?

Read More: <https://tinyurl.com/sjqhms2>



Chemical Toxicity and the Baby Bust

Jeremy Grantham
6 Feb 2020

A profound and largely unexpected phenomenon is occurring: we are choosing to have fewer children. Fertility rates are below replacement level almost everywhere in the developed world and China. This development, despite its economic and social importance, is not yet receiving as much attention as it deserves, but now there is a new third factor that gets almost none: toxicity.

The Three Reasons for Reduced Fertility: Choice, Deferment, and now Toxicity

Given our current preferred lifestyles – at least given current economic conditions and social norms – families almost everywhere in the developed world (and in most developing countries also) are choosing to have smaller families. This effect – choice – caused by a variety of reasons that differ across countries, is clearly the biggest driver of lower birth rates.

In second place as a cause of reduced fertility is the now equally widespread tendency for women to be older when they have their first child. Since the natural fertility of women drops steadily with age and at a steadily accelerating rate after their mid-twenties (and this applies also to men, although at a slower rate) – it is not surprising that this too would reduce the birthrate. In addition, the quality of both eggs and sperm falls with age so that the percentage of perfectly healthy babies also declines.

There are several recent books highlighting these two effects. One such book selling well is *Empty Planet: The Shock of Global Population Decline*. Published in 2019, it outlines in great detail the very many reasons for the decline in birth rates yet does not even mention toxicity, so off the radar is this topic. The only buzz today, in fact, is in the world of well-educated 25- to 40-year-old women, between whom a growing number of apps on fertility-related topics, including exposure in everyday products to toxic chemicals, are now frequently exchanged.

But now toxicity intrudes as a third factor, and one that interacts particularly with the deferred age of pregnancy. A 16-year-old Nigerian girl (in Nigeria women typically start families when older than 16 but far younger than us) today has modestly more trouble becoming pregnant than 40 years ago, but she has the time to adjust and she can still produce the 5 children that is the current Nigerian average, despite toxicity and a falling sperm count. (Nigeria is one of the few developing countries for which we have good data; China is another. Both show rapid declines in sperm concentration and quality!)

In comparison to the Nigerian example a 36-year-old in France or the U.S. has a much greater problem becoming pregnant than 40 years ago and on average this group will have far fewer children than they would like. It is highly likely (although not yet completely nailed down) that the intersection of these two problems, toxicity and postponement, compounds the negative consequences; that is to say, that the total effect is likely substantially larger than the sum of the two separate effects.

Recent Surprises in Fertility

The net effect of choice and postponement combined with the recent decade of “help” from toxicity has been an unexpected and accelerating decline in delivered fertility in developed countries, as well as the critically important China and India, with new annual cohorts of babies already declining in absolute numbers, not just growth rates.

The particular surprises for 2019 have been: 1) in Japan, whose 864,000 births were fewer than every year when its records began in 1899, when the population was about 40% of today’s; 2) in the U.S., where the baby cohort was the absolute least for 32 years and the fertility rate an all-time low of 1.73 children per woman; 3) in China, whose baby cohort dropped to 14.6 million, the lowest in 70 years (ex the 1961 famine) and whose fertility rate – if they don’t change the data – will be well below 1.6 children per woman; and 4) South Korea, where, shockingly, the fertility rate fell below 1.0! Probably for the first time anywhere in peacetime since the Bubonic Plague. Not a single developed country other than Israel (3.1 children per woman) is above the 2.1 replacement level, with some such as Italy at 1.3 and South Korea already reaching levels that could threaten economic and social stability due to unexpectedly low economic growth rates and much-increased retirement fund deficits.

The Basic Data: the Decline in Sperm Concentration from 1973-2011

The definitive meta-study on the topic of decline in sperm count, by Levine, Swan et al., concluded that sperm concentration in the developed world had fallen from 99 units in 1973 to 47 in 2011. This is a compound rate of decline of 1.9% a year, a rate sure to threaten the viability of our species unless action is taken.

Prior to this paper there had been concerns about falling sperm counts for more than 40 years, but the various studies had individually been considered too local or too small and even the earlier meta-studies had been found unconvincing by a critical mass of influential academics. This study, though, removed almost all doubts, to a degree unusual in scientific circles.

Immediately after publication, the paper received considerable publicity in the press and had notable write-ups in the Atlantic Monthly, Newsweek, GQ, and many other sources. Strangely, though, this publicity seemed to make little or no lasting impression for such an important and, we might say, personal topic. It seems as if we as a society are reluctant to process this very disturbing data. My financial audiences for example – The Financial Analysts Societies of New York and Boston (separately) – showed absolutely no awareness of toxicity problems. It feels as though I have woken up in 2050 with global average temperatures up almost 2° Celsius and no one has noticed that the climate has changed for the worse.

Read More: <https://tinyurl.com/srb4chb>



Why Regenerative Agriculture is the Future of Sustainable Food

Colleen De Bellefonds, Good Food
21 Oct 2019

While organic farming has had an undeniably positive impact on the planet, we can do even more to reduce our carbon footprint by embracing organic's offspring: regenerative agriculture. The transition has been a long time coming and is the result of a lot of hard work started many years ago, says Danielle Treadwell, PhD, an associate professor of agricultural sciences at the University of Florida who trains local farmers.

“The visibility, attention, and interest in the term regenerative agriculture is widespread and gaining a lot of momentum,” says Jeffrey Mitchell, PhD, a cooperative extension specialist with the University of California at Davis Department of Plant Sciences. Here's what's behind the buzzword—and what it can potentially do for the planet.

The history of the regenerative agriculture movement

Organic farming laid the groundwork for the American

regenerative agriculture movement, say experts. Organic farming is commonly attributed to J.I. Rodale, who came up with the term in the 1940s and founded the Rodale Institute. Most organic farming practices are also commonly used in regenerative agriculture, including reduced use of pesticides, herbicides, and fertilizers.

As the organic movement grew in the 1970s, larger farmers began dedicating acreage to organic crops. When they saw economic benefits—reduced costs from using fewer chemicals while maintaining similar yields—they began implementing some additional practices, like using compost, into traditional farming, says Dr. Treadwell.

Then, in the 1980s, Midwestern corn and soybean producers faced a farming crisis due to a dramatic decline in soil performance. “Farmers in certain regions were up against the wall in terms of economics. They could only grow crops every other year,” says Dr. Mitchell. To address this crisis, they began by reducing tillage (how much land is plowed) and using cover crops (plants grown between harvests to slow soil erosion and increase biodiversity) to try and rehabilitate the land. They started to see big changes as the soil came back to life, and many farmers have been applying and refining these techniques since.

Around the same time, big agriculture got into organics and volume of produce increased. Along with this, “there was a loosening of standards,” says Erik Oberholtzer, who co-founded Tender Greens in 2006 and is a consultant to food brands looking to support regenerative organic agriculture. Some industrial suppliers technically adhered to the USDA definition of “organic” but used aggressive farming practices like tilling that harmed the land, he says. Wen-Jay Ying, the co-founder of Local Roots, a New York City-based farmer's market subscription service, believes that the term “organic” has been green-washed; some of its original intentions have been lost in practice. “Organic is better than conventional, but we can still make better choices,” she says.

The son of J.I. Rodale, Robert, decided to take organic farming a step further by coining the term “regenerative organic.” This holistic farming approach is built on the tenets of organic farming paired with soil-health and land management practices that emulate nature, says Dr. Mitchell.

A breakdown of what's typically involved with regenerative agriculture:

- Crop rotation, or successively farming more than one plant on the same land
- Cover cropping, or planting year-round so the land isn't fallow during off-seasons, which helps prevent soil erosion
- Conservative tillage, or less plowing of fields
- Cattle grazing, which naturally stimulates plant growth
- Curtailing the use of fertilizers and pesticides
- No (or limited) GMOs to promote biodiversity
- Animal welfare and fair working practices for farmers

What can regenerative agriculture do for the environment?

Experts argue that regenerative agriculture can potentially reduce carbon emissions produced by farming. Through photosynthesis, plants capture sunlight. They turn it into carbon-based energy, which they store in their roots, and oxygen, which they release into the air. When plants die, their roots form a stable carbon skeletal structure underground that has many bonding sites for water and nutrients, says Dr. Treadwell. These roots attract bacteria and fungi to the soil that breathe in oxygen and out carbon dioxide, just like you and me, and store carbon as they eat up plant matter. The carbon they've ingested eventually becomes part of the soil when they die.

Industrial farming practices like tilling, or chopping up the top layer of soil, disturbs the soil, including the root structures and microorganisms storing carbon. This disruption knocks carbon out of the ground and into the atmosphere, where it combines with oxygen to form carbon dioxide (CO₂), one of the most prevalent types of greenhouse gases. "Researchers have run CO₂ meters behind tractors, and they measure huge CO₂ spikes as that chemical reaction takes place," says Dr. Treadwell.

Destroying the carbon in the soil is also damaging the health of our soil, making it harder to grow crops. If we keep our current farming practices, according to one United Nations estimate, we have fewer than 60 harvests left before we destroy the world's top soil. "We might see the last supper in our lifetimes," says Ying.

Regenerative agricultural practices, such as cover cropping and livestock grazing, aim to keep a living root in the soil at all times. These practices cycle nutrients without aggressively disturbing the soil to keep carbon stored underground where it belongs. Meanwhile, composting boosts populations of beneficial soil microbes that feed plants and help them manage pests. This reduces the need for fertilizers, which, when used excessively, can release nitrogen (another greenhouse gas) into the air. It also decreases dependence on herbicides and pesticides, which kill healthy bacteria and fungi in the soil.

Ultimately, these farming practices can help restore the natural balance of healthy soils thriving with life, which theoretically act as a vacuum for carbon. The science showing that healthier soils increase carbon sequestration "isn't always consistent," says Dr. Mitchell, but in practice, it's promising.

Importantly for farmers, yields from industrial farms and regenerative farms are identical, say experts—except in cases of extreme weather, where regenerative outperforms conventional. That's because increased carbon retention in the soil helps it to retain more water, says Dr. Mitchell. In periods of drought, plants can tap into those stores to survive, resulting in up to 40 percent higher yields in organic versus industrially-farmed soil, according to a long-term study by the Rodale Institute.

"Conventional agriculture works really well when everything goes according to plan. But the new norm is extreme weather, which is what we're trying to prepare farmers for," says Martin.

How farmers are putting regenerative agriculture into practice

Both Drs. Mitchell and Treadwell note that some traditional farmers have been incorporating regenerative agricultural practices like reduced tillage, crop rotations, and cover cropping for years. Many began when their yield per acre was declining due to poor soil health and faced a steep learning curve. "In our own research, farmers stuck their necks out trying to grow crop after crop with these principles. Early on we failed," says Dr. Mitchell.

Once farmers get over the initial hurdle, says Dr. Treadwell, they don't stop using practices like cover cropping, which reduces their reliance on fertilizers, pesticides, and water. Their soils also often measure an increase in carbon compared to nearby farms, adds Dr. Mitchell.

"It's more work and expense in the short term, but they like the effects it has on the farm. What we're seeing now with all of our farmers is an interest in doing a better job of conserving natural resources. Some of it is economic. Some of it is [that soil is] an asset on the farm, and farmers are recognizing the value of that asset," Dr. Treadwell says.

But will we buy it?

Like organic, regenerative agricultural products will ultimately cost more due to increased labor costs. "We need consumers to be willing to pay for it," Martin says.

In the next decade, Martin hopes that regenerative organic agriculture practices will become more mainstream. "We're hopeful that there's a group of consumers who are not just demanding the cheapest food possible, but who want transparency and want the story behind the products they're buying," says Martin. "Farmers are businesspeople. When consumers buy, farmers will grow."

Companies that are already committed to organics can evolve to regenerative agriculture relatively easily, says Oberholtzer. The next step would be for regenerative agriculture to follow in the footsteps of the organic movement and get adopted by big retailers like Costco, Whole Foods, or Walmart. (A promising start in this direction: Whole Foods called out regenerative agriculture as one of their biggest trends for 2020.)

We still have a long way to go, considering only about 1.4 percent of the world's farmland is organic today—but experts are optimistic. "I haven't seen energy and broad-based interest and excitement [in regenerative agriculture practices] as intensely as it exists right now. It's an exciting time. It's not going to be instantaneous. It's still difficult to implement, but

there's a growing body of people engaged in trying to get there," says Dr. Mitchell. And that's half the battle.

Read More: <https://tinyurl.com/u2nr73z>



Bayer and BASF Ordered to Pay \$265 Million to U.S. Peach Farmer in Weedkiller Suit

Jordan Davidson
17 Feb 2020

A jury in Missouri awarded a farmer \$265 million in a lawsuit that claimed Bayer and BASF's weedkiller destroyed his peach orchard, as Reuters reported.

The lawsuit is ominous for Bayer, which bought Monsanto in 2018 and now faces nearly 140 similar lawsuits in U.S. courts, plus thousands of other suits that claim health damage from Monsanto's glyphosate-based Roundup.

The jury in U.S. District Court in Cape Girardeau, Missouri awarded peach farmer, Bill Bader, \$15 million in actual damages and \$250 million in punitive damages, after agreeing with his claim that a herbicide the two German companies produced drifted onto his orchard from nearby farms and irreparably damaged his 1,000 acre peach-tree orchard, according to Reuters.

As the AP reported, Bader's attorneys argued that dicamba, which is present in herbicides made by Bayer and BASF, is so potent that there was no way for Bader's trees to recover from the exposure. The generous award paves the way for a large spate of lawsuits from farmers who have seen their crops destroyed by inadvertent exposure to dicamba-based products.

Like Roundup, dicamba was developed and distributed by Monsanto. Farmers across the country have claimed that dicamba turns into vapor and drifts for miles when used in certain weather conditions, as Reuters reported. They have alleged that it has destroyed millions of acres of U.S. cropland, according to The Associated Press.

Attorneys for Bayer said they plan to appeal the decision. "We want our customers to know that, as this legal matter continues, we remain steadfast in our commitment to delivering them the effective and sustainable tools they need in the field," Bayer said in a statement, as The Associated Press reported. In court, they argued that Bader Farms trees were damaged by root fungus and bad weather.

The lawyers also claimed that the decision was not based on facts, saying "there was no competent evidence presented which showed that Monsanto's products were present" on the Missouri farm and were responsible for the farmer's losses, according to Bloomberg.

The loss in this trial, which surely opens the door for many more lawsuits, heaps an enormous amount of pressure on Bayer Chief Executive Officer Werner Baumann, who staked his career on the \$63 billion takeover of Monsanto. He became the first CEO of a major German company in decades to lose a shareholder confidence vote last spring, as Bloomberg reported.

Dicamba is not a new product. Farmers have been using it for nearly half a century. However, Monsanto developed a dicamba-resistant strain of cotton and soybeans. That opened the door for widespread use of dicamba, which led to complaints from neighboring farms who claimed that their crops were getting killed by the dicamba drift, as The Associated Press reported.

In response to those concerns, the U.S. Environmental Protection Agency created tighter restrictions on dicamba usage. Some states have taken additional steps, requiring training and putting in place firm dates dictating when dicamba can and cannot be sprayed, according to The Associated Press.

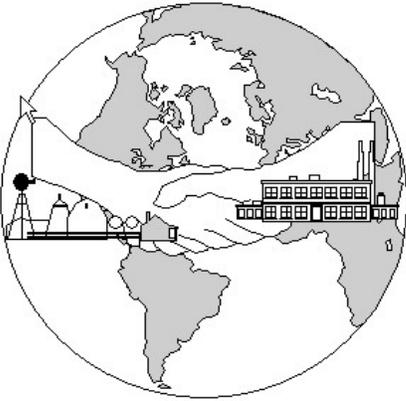
The legal cases from Monsanto continue to pile up for Bayer. Not only are Roundup and dicamba suits in the pipeline, the company also faces litigation from several cities that claim Monsanto dumped toxic PCBs into waterways, as Bloomberg reported.

Read More: <https://tinyurl.com/vswlboxj>



From our Members

We would like to hear from our members. Are there changes you would like to see in your newsletter? Please send us your stories about organic farming on your farm so we can share them with all the GOA members.



Winter Rest