

# Regeneterarians Unite!

## How the Regenerative Agriculture and Animal Welfare Movements Can End Factory Farming, Restore Soil and Mitigate Climate Change

By David Bronner

### **Regenerating Agriculture, Soil and Atmosphere**

Soil is a miraculous living membrane, crucial for human and ecosystem health. Physically, soil sustains and nourishes us, each year bringing forth the bounty of crops and food that feed us and our fellow animals. Soil stores water, cycles nutrients and is the largest land-based sink for carbon. But we are literally plowing through and destroying this life-giving resource. The energy-intensive practices of industrial agriculture, involving the overuse of synthetic fertilizers and pesticides, intensive tillage and plowing, failure to cover resting soil with fertility-building cover crops, as well as overgrazing, has systematically destroyed soil biota necessary for proper cycling and drawing down of atmospheric carbon into soil. Instead we are oxidizing huge amounts of soil organic matter (SOM) and releasing it into the air.

Confined Animal Feeding Operations ([CAFOs are the lynchpin of the industrial ag machine](#)). They produce 95+% of the beef, chicken, pork, eggs and dairy in this country in horrific conditions, and consume most of the carbon and water-intensive conventional corn and soy grown in the US while generating huge manure lagoons. [Over half of US farmland](#) is dedicated to animal feed crops grown with synthetic carbon-intensive fertilizers and pesticides that ravage and destroy soil biota and non-target wildlife. CAFOs and their monoculture deserts of feed are like a million burning oil wells, destroying soil fertility and generating huge amounts of Green House Gasses (GHGs).

Up to a third of the excess carbon dioxide (CO<sub>2</sub>) in the atmosphere is from oxidized organic matter from depleted topsoil on mismanaged farms and overgrazed rangelands, as well as land use changes such as deforestation and the draining of wetlands that are driven by agriculture. Even if we were to decarbonize our economy by 2050, with energy and transportation sectors utilizing 100% renewable energy, we will still have a huge legacy load of Greenhouse Gasses that we need to draw down to 350 parts per million (ppm) of CO<sub>2</sub>, to avoid catastrophic climate change and acidification of our oceans. Industrial agriculture is also killing huge amounts of non-target wildlife, depleting fresh water aquifers globally, and creating massive dead zones in the ocean from synthetic nitrogen runoff.

The good news is that we can restore healthy soil biota and rebuild soil organic matter through [regenerative organic agriculture](#) that sequesters carbon, stores and retains water, provides healthy food for our children and children's children, and provides bio-diverse habitat for wildlife on a planet not facing catastrophic climate change.

### **Turning Regenerative Principles into a Standard**

Recently, Carbon Underground published a [definition for regenerative agriculture](#) that outlines core principles:

One, minimize disturbance of soil from excessive tillage that disrupts soil biota and oxidizes SOM; careful tillage is fine, depending on the overall holistic context of a given regenerative farm, termed “conservation tillage”.

Two, synthetic fertilizers and pesticides disrupt healthy soil function and soil forming processes; synthetic nitrogen in particular takes a huge amount of energy/fossil fuel to manufacture and is the primary direct contributor to GHG emissions of industrial agriculture, in addition to sabotaging soil's natural fertility.

Three, to boost fertility, turbocharge soil biology and conserve topsoil, use nitrogen fixing cover crops to keep bare soil covered and roots in the ground as much as possible; use lots of compost; and implement a diverse rotational crop strategy.

Four, carefully manage ruminants (such as cattle, sheep, goats and buffalo) grazing pastures and cover crops, in ways that promote overall pasture and soil health. Ruminants should absolutely not be in feedlots inefficiently fed corn they did not evolve to eat in the first place.

These principles are clear and essential as far as they go, which my company, Dr. Bronner's has signed on and endorsed. However, I am concerned we are shortchanging the regenerative movement's ability to fix and elevate the organic movement to its true regenerative potential, versus catering to lower bar low-chemical-input no-till agriculture with cover crops. The latter is hugely important and commendable, but insofar as any amount of synthetic fertilizer and pesticide is used, another term such as “sustainable no till” is a better descriptor. As soon as we go away from organic as the floor, we go down the rabbit hole of having to decide which chemical inputs can be used in what amounts and when. We should reserve “regenerative” as the gold standard and incentive for true holistic no-chemical-input “regenerative organic” agriculture. If we don't then there's no incentive to improve toward the holistic regenerative goal. And “regenerative organic” can then take a more holistic approach that addresses the wellbeing of farmworkers as well as farm animal welfare.

In particular, a “regenerative organic” standard could require that pasture-based standards be met for monogastric (e.g. pigs and chickens) as well as ruminant livestock, as laid out in [Global Animal Partnership](#) (GAP) 4+, [Animal Welfare Approved](#), or [Certified Humane “Pasture-Raised”](#) level rules. On the farmworker side, we could incorporate [Agriculture Justice Project’s](#) standards or similar. Additionally, we could require that minimum 50% of livestock feed (both protein and energy) be sourced domestically to boost domestic demand and supply, while allowing for next level regenerative projects abroad and shortages at home. This could be a relatively efficient process insofar as we just incorporate existing animal welfare and farmworker labor standards, and be driven by/live with [Rodale](#) and [IFOAM](#), the originators and lead custodians of the regenerative organic movement. The organizations at the table should self-select based on commitment to the more expansive definition of “regenerative organic,” with minimum membership or revenues from regenerative organic agriculture and advocacy, or otherwise establish their regenerative rock star status.

Otherwise, “regenerative” is going to go the way of “sustainable” and mean whatever anyone wants it to mean. Already there are signatories to the Carbon Underground definition that don’t remotely meet regenerative criteria. In a similar vein, I am concerned that [American Grassfed Association](#) (AGA) standards are often extolled as regenerative in and of themselves. In fact without organic as a floor, [huge amounts of synthetic Nitrogen and other chemical fertilizers](#) and inputs are used on grass and forage pastures, for direct grazing and as well as cut hay, just like feed grain crops. This point was driven home when I recently visited Will Harris and [White Oaks Pastures](#) in Georgia with [Gabe Brown](#). Both are AGA certified but cautioned that while they only use compost on their pastures, many AGA producers rely on synthetic fertility.

### **Gabe Brown and White Oaks Rock**

On my visit, Gabe relayed that he is moving to full regenerative organic no till this year on his ranch in North Dakota, where he grows all the feed grains he needs for his pastured poultry and pigs without any synthetic fertilizers or pesticides, except until recently an herbicide pass for weeds. Now he’s cutting that out too, blazing the path and setting the bar for all to follow. Gabe hasn’t imported any off-farm fertility for over ten years while boosting his soil organic matter five times over through cover cropping and carefully managed grazing.

White Oaks has already dialed in their grass-fed cattle operation, carefully rotating cattle grazing and timing along with many other species of livestock (goats, sheep, chickens and pigs), such that the pasture health and soil organic matter at White Oaks is off the Richter. White Oaks is certified at the highest 5+ GAP level for farm animal welfare, and single handedly restored the rural economy of Bluffton, paying its 130 plus workers living wages and has “put the cult back in agriculture.” Will also built an on farm slaughter facility, designed

by Temple Grandin and certified Animal Welfare Approved, to maximize animal welfare and minimize animal stress during transport. As Will shared and is plainly true, his animals have a great life at White Oaks with one bad day, which Will ensures isn’t nearly as bad as the everyday nightmare of industrial CAFO confinement and slaughter practices. In the caged living hell of a CAFO animal, the best day is often its last, when it’s finally put out of its misery.

My visit was incredibly productive and exciting, and our company has agreed to explore a joint venture with White Oaks to grow animal feed in regenerative organic dryland fashion like Gabe does, with Gabe’s close involvement. Dr. Bronner’s has extensive experience with [regenerative organic farmer projects](#) in the tropics, for our sourcing of coconut and palm oils, as well as mint oil in India, and we’re eager to engage on a similar project on U.S. soil. Our whole team is psyched to show that what Gabe has done up in North Dakota can be done in the South or anywhere else: grain for feed can be farmed in regenerative organic no till fashion, with cost of production equal to or lower than in conventional intensive agriculture once the soil biology and SOM have been built up sufficiently through correct regenerative management. The first couple years, as depleted soil is allowed to heal, will entail spreading lots of compost, seeding multi-species cover crops and rotational grazing, to bring the soil biology back to life. After when growing the first few years of grain crops, we will likely have to engage in conservation tillage until the soil health is improved sufficiently, but we are confident we will eventually have a full on organic no-till operation like Gabe’s in North Dakota.

### **The Challenge of Feeding Pigs and Chickens Regeneratively on Pasture**

It’s important for people to understand the difference between ruminants like cows, sheep and goats versus monogastrics like chickens and pigs on pasture. Ruminants are herbivores that have a rumen capable of digesting and extracting energy and nutrients from fibrous grasses, and do not need grain or any other food source. Managed carefully, ruminants grazing grasslands that co-evolved with large herbivores can be as healthy for grasslands as when wild buffalo herds swept the continent. For example, [Patagonia has partnered with Wild Idea](#) to produce the buffalo meat for their jerky product, and provided mobile processing units so that the animals can be harvested humanely in the field with a rifle shot. The trick is to [rotationally graze pastures at high density](#) and move frequently, so as not to over or undergraze any given area, according to Allan Savory’s insight to replicate how wild herds of herbivores bunch and move through grasslands by predator pressure. Animal impact is like fire: carefully managed and controlled, it can be a great tool, but improperly managed or on land ill-suited for grazing, it’s a disaster.

Savory’s insights into land management are catching on globally, helping many ranchers restore degraded depleted land through a holistic approach to land management that recognizes and employs animal impact as an important tool.

Savory's new [Land to Market](#) program for meat, milk, wool and leather from ruminants raised and finished sustainably on grass looks solid. It guarantees that the meat or milk your consuming came from an animal humanely raised and finished on grass. It also ensures the regeneration of the soils under holistic management.

However, so far the Savory Institute has ignored the issue of monogastric chickens (broilers and layers) and pigs that are kept on the same ranches that they are certifying grass-fed ruminants on. The understandable but not holistic reason being that monogastrics, unlike ruminants, are omnivores like people and cannot eat grass: while they can forage and supplement their diet on pasture with bugs, grubs and seeds, their diet remains largely grain based. Various myths notwithstanding, no commercial flock of chickens will obtain more than 15% of their dietary need from pasture, and pigs will not obtain more than 25%. And with the freedom to move and engage in their instinctive behaviors on pasture, their metabolic energy requirements are significantly higher than their caged CAFO counterparts, such that just as much grain is needed to get a pastured chicken and pig to slaughter weight. Unfortunately, for economic reasons, operators of otherwise holistically managed – and certified – operations will often meet that additional nutritional demand of monogastrics using conventional soy and corn as feed, or other degeneratively grown feed sources.

If this practice continues unchecked, and we wave a magic wand and free all the CAFO chickens and pigs from their cages and move them onto pasture, we would still rely on the monoculture deserts of conventionally grown soy and corn grown for their feed. Pastured poultry and pigs contribute to carbon sequestration and soil regeneration primarily to the extent their feed was grown under regenerative conditions. While it's important how happy the animals and staff are, and how great the pasture soil condition is, for monogastrics, the feed and soil condition on the farms growing the feed is where the real impact is. If the feed grain is grown in regenerative fashion like at Gabe's ranch, or at least meets organic standards, great. But if it's not, we should not call the operation "regenerative."

Note that from a regenerative standpoint the use of non-GMO certified feed is a joke: while it's definitely good to avoid GMO corn and soy engineered to be soaked in extra herbicide, conventional non-GMO corn and soy are still grown using just as much chemical nitrogen fertilizer and toxic pesticides used on GMO crops.

We have discussed our concerns regarding the "monogastric loophole" in their certification program with Savory and hope the Institute will soon bring all aspects of a given ranch under its standards purview, including monogastric as well as ruminant livestock, and address how the feed for monogastrics was grown in a truly holistic whole systems approach.

The high grain demand for pastured poultry and pigs and their impact on net soil regeneration by a farm is well illustrated by Simon Fairlie. In his book "Meat" he uses Polyface and its founder Joel Salatin as an example (and Joel is a big fan of this book):

"I wrote to Joel Salatin asking him what his feed inputs were and he was kind enough to reply that the beef were completely fed on grass, the broilers get about 15% of their feed from pasture, the egg-layers a little more and the pigs about 25%, though in a good mast season they can get nearly 100% of their feed from acorns. As one would expect, a sizable proportion of the feed comes from other farms... However productive Polyface may be, it is in a sense only half a farm, and it doesn't help to analyze the carbon sequestration on one half, without knowing what is happening on the other. In the case of Polyface, if the feed is bought in from a responsible organic grower, it may well be that the carbon sequestration on the two farms added together is positive. But in another situation it could well be different.

To be clear, Joel and Polyface have done an excellent job demonstrating how a pastured livestock operation can sustain outside the CAFO system, and while they haven't yet, they are well-positioned to close their feed loop regeneratively and locally. Yet, too many people believe that pastured poultry and pigs largely subsist on grubs and seeds on pasture, and do not realize that one cannot call a mixed livestock operation of ruminants and monogastrics regenerative without taking responsibility for the origin of off-farm feed, the lion's share of the diet of monogastrics.

A major part of the problem is the lack of local reasonably priced high quality organic feed grain in many areas of the US, such as the South where a large share of livestock in this country is raised. To begin removing this bottleneck, Dr. Bronner's, in partnership with our allies at New Growth Management, is making impact investments to build feed mills in the South and soon other regions of the country, through which we can work with local grain farmers and livestock producers to convert to best regenerative organic practices. We've been able to leverage our oil processing mills in the tropics to positively impact thousands of farmers, and look forward to having a similar impact with organic feed mills in the U.S. We will also use our organizational resources to educate consumers what truly regenerative chicken and pork products are about.

We hugely respect the progress high-animal welfare pasture livestock farmers have made, generating an alternative to the industrial CAFO machine. All of us are on a path towards the holistic regenerative goal. In the case of our own company, we were proud of the environmental and social gains we had achieved in our US manufacturing operation, but realized our real regenerative impact derives from the sourcing of our key raw materials (coconut, palm, olive, mint

and hemp oils). These ingredients now come from [organic smallholder farming projects](#) that practice regenerative organic agriculture to various degrees, all targeting improved soil fertility and productivity. Our decision, in 2005, to shift our raw material supplies to organic and fair trade sources is much more important from a regenerative point of view than what we do in our manufacturing process of turning these materials into soap.

### Reducing Livestock Numbers to Sustainable Levels

To grow food in a regenerative way that can feed the world, the population we need to get under control is not so much humans but the animals raised for food we eat, which inefficiently convert crop plant energy and protein into meat that we can much more efficiently consume directly. Instead, the population of livestock globally is rising dramatically as the developing world adopts the [unsustainably high meat consumption](#) habits of American, European and other developed nations. Just like natural wild ecosystems, there can be a sustainable regenerative balance of animals and crops in our agricultural ecosystems. But we need to dramatically reduce livestock numbers by reducing the amount of meat we eat, get them out of CAFOs and integrate them into our farming systems in a balanced holistic way, so that the feed and fertility flows are balanced with nitrogen fixing cover crops, and we aren't inputting synthetic nitrogen into the system.

A poorly understood aspect in the debate about the production of meat and the ethics of eating it is the inefficient conversion of the calories and protein embodied in grain into animal protein and calories. While grain conversion ratios are controversial, and often misleadingly framed in terms of dry weight of grain versus whole live wet weight of the animal, including bones, hooves, etc, it's more accurate to consider in terms of the edible weight of the animal, or more accurately still the actual protein and carbohydrate conversion. A 2002 analysis of USDA statistics by Vaclav Smil in "[Worldwide transformation of diets, burdens of meat production and opportunities for novel food proteins](#)," is credible showing the various conversions:

	Chicken	Pork	Beef
Dry Weight Feed to Live Weight Animal	2 to 1	5 to 1	10 to 1

% Edible Meat of Live Weight	60%	53%	40%
Dry Weight Feed to Edible (Wet) Meat	3.3 to 1	9.4 to 1	25 to 1
Protein Conversion Plant to Edible Meat	30%	10%	4%
Energy Conversion Efficiency	15%	9.2%	3.6%

Consequently, using grain that feeds the high per capita demand of North Americans, Europeans and rising global demand for meat, wastes valuable agricultural lands that could more efficiently feed people directly by an order of magnitude. Alternatively, a much smaller number of monogastric livestock could eat mostly inedible byproducts of grain milling and oil processing or other food waste; or in the case of ruminants, graze grass and forage on land not suitable for arable cultivation, or nitrogen-fixing cover crops grown in rotation with grain and other crops. Smil and Fairlie point out that ruminants, even the 97% that are fattened and finished in feedlots on corn, in the first half of life consume most of their diet from inedible pasture and forage crops that humans can't eat, and can easily do so for the second half as well (instead of 3000 lbs of corn in a feedlot). They also note that chicken and pigs were traditionally raised, and still are in many developing countries, on food scraps and inedible foodstuffs and advocate this model for modern chicken and pig operations in the developed world.

What Smil and Fairlie fail to account for in this otherwise laudable goal, is that the grain conversion ratios they note are based on optimal balanced feed rations as far as amino acids and nutrients, and modern day pigs and chickens are optimized to thrive on a diet of corn and soy in particular. A deficiency of just one amino acid or other essential nutrient messes up weight gain and performance dramatically. No modern pig or chicken farmer can get away with using too much food waste, processing byproducts or other feeds of subpar nutritional quality without seeing a major decline in weight gain per unit of feed. Pigs and chickens, while not as fussy as humans, are omnivores like us that still need a nutritionally balanced diet and suffer the results if they don't get it. In a farm where the main crops are not livestock and have a few pigs and chickens around to convert food waste to edible animal protein for home use, it doesn't much matter how inefficient the conversion ratio of feed is. But in a livestock operation where pigs and chickens are the primary economic product, farmers can't afford inferior quality feeds that overly affect livestock gain and

performance. George Monbiot, a prominent environmentalist initially swayed by Fairlie's idea that feeding pigs and chickens primarily inedible food waste was commercially viable in developed countries, [realized livestock farmers weren't going to go for it](#), and so reaffirmed the merits of a vegan diet in the developed world.

Thus, when we consume animal products, not only should we consider the welfare of the animal, but we should also consider the huge amounts of feed crops we are consuming with them, their origin and impact on agricultural land and the opportunity cost, i.e. the food that could be grown for humans on this land. It's simply that much more important to eat "much less, much better" meat, and choose regenerative organic options, since choosing otherwise magnifies all the degenerative practices of industrial agriculture, in addition to the living hell for the animal.

The regenerative logic of ruminants is they can graze grassland otherwise unsuitable for cropping, and if managed holistically also improve soil and ecosystem function and sequester carbon in depleted soils. More importantly, they can graze otherwise non-productive nitrogen fixing cover crops in rotation with grain crops to boost fertility in mixed livestock pasture cropping systems, such as exists at Gabe's Ranch and in what we're planning at White Oaks. Yet, this positive contribution of livestock to the regeneration of soil and atmosphere does not release us from the requirement to drastically reduce our consumption of meat. Meat from ruminants grazing even the most productive pastures doesn't produce nearly as much protein as cereal, legume and bean crops do per acre.

#### **Next Generation Plant-Based Meat Alternatives and the Impossible Burger**

Most major plant-based meat alternatives are not GMO based, and we support both the [Plant Based Foods Association](#) and the [Good Food Institute](#), which are advocating for plant-based meat alternatives. Smil in the article linked above discusses the crucial importance of plant-based meat substitutes in helping drive down meat consumption. He notes that feedlot beef is the most environmentally costly of meats, and over 50% of beef is in the form of hamburgers; thus, targeting hamburger with plant-based versions of similar taste, texture and price should be a major focus. Indeed, in recent years we have seen the introduction of ever better plant based options, including Beyond Meat's Beast burger, and most recently, the Impossible Burger.

The [Impossible Burger](#) is profiled here in Pacific Standard along with other well told stories on the evils of feedlots and CAFOs, from an ethical omnivore perspective. The Impossible Burger is largely [non-GMO wheat based but is using 2% genetically engineered heme from yeast](#), which according to the PR ramp up, is the secret missing ingredient for veggie burgers to start approximating the real deal. The feedstock is non-GMO evidently but not disclosed. I've tried the Impossible Burger in NYC at one of the few hipster

locations that so far has them on their roll out: it's mind-blowing and has incredible potential to displace a lot of conventional CAFO burger crap meat in the market.

Dr. Bronner's has contributed huge firepower to the GMO labeling fight, and this heme should absolutely be labeled as such. The GMO reality is that over 90% of soy and corn acreage in this country is engineered to resist huge amounts of toxic herbicides like Glyphosate, 2,4 D and Dicamba, and [I've written extensively](#) about how the pesticide industry touts commercially non-existent GMOs such as vitamin enriched rice in the developing world, in order to obfuscate the reality in U.S. soil and on our dinner plates, that they've engineered our major food crops to be saturated in the weed killers they sell. Many people who should know better have succumbed to their propaganda, and I highly recommend reading this [excellent article on "Golden Rice"](#) to see how easily suckered a large swath of the population has been, including prominent scientists and scientific journalists. I'm also skeptical of a lot of the next generation synbio products, that insofar as they are not disclosed as GMO and are foisted off as natural, will undercut markets for example real vanilla from small-holder farmers in the developing world.

That said, synbio ingredients like insulin for diabetics from E coli versus ground up CAFO cow pancreases, or 2% heme that helps make a plant-based burger so good that it can significantly reduce people eating CAFO beef when out and about, is not a bad use of the technology. In fact, choosing to eat the Impossible burger involves a huge amount [less](#) GMO grain, hormones, antibiotics and animals suffering than a CAFO burger. And the huge amounts of GMO grain people are indirectly consuming when eating CAFO meat, dairy and eggs, is the worst of the worst: the vast synthetically-fertilized pesticide-drenched GMO corn and soy destroying our ecosystems and soils, fed to animals rotting in cages. We need to differentiate between GMO applications that drive versus fight the CAFO machine.

Obviously vegans and everyone else should instead eat veggie burgers made from regenerative organic legumes and grains, but if this is the only thing on the menu alongside a bunch of CAFO meat/cheese/egg whatever omnivores and vegetarians are otherwise inclined to eat (even illustrious regenerators) when out and about, than that's a good thing. The lynchpin of the machine and common enemy is CAFOs and getting people to just say no to bad meat, dairy and eggs is the prime directive.

#### **Fertility in Regenerative Agriculture**

A key principle of regenerative agriculture is to use nitrogen fixing cover crops instead of synthetic nitrogen fertilizer. Synthetic nitrogen fertilizer made in the Haber Bosch process from atmospheric nitrogen consumes huge amounts of

fossil fuel, some 1% of global energy demand, and is responsible for the [lion's share of greenhouse gas emissions](#) released from conventional agriculture. Synthetic nitrogen and other artificial fertilizers disrupt and destroy healthy soil biology that forms and sequesters Soil Organic Matter. It pollutes rivers by overfertilizing aquatic plants and by creating large dead zones in our oceans, e.g. near the mouth of the Mississippi.

In contrast, [nitrogen fixing – or leguminous - crops](#) “inhale” nitrogen from of the atmosphere and “fix” into soil, providing fertility for food crops grown in rotation. Depending on soil and climate conditions, cover crops may be grown every year and can be grazed (or not) by ruminants that produce meat, milk, wool and leather in a regenerative system. This provides income and doesn't compete with the primary food crops grown in rotation. Depending on the cropping strategy, every third or fourth year only nitrogen fixing cover crops should be grown year round. Note that the cover crops can be simply mechanically disked into soil versus cycled through ruminant digestion and excretion. The former is sometimes termed “veganic” agriculture. [The Rodale Institute, at their farm systems trial](#), evaluates long term yields of organic rotations with cover crops: one supplemented with animal manures and one that is not, and compares to conventional synthetically fertilized and managed crops side by side. The trial at Rodale compares the organic and conventional yields over the long-term and finds the former is much more resilient during drought or sporadic rainfall, an increasing problem with global warming.

Unfortunately, many organic farms are not using cover crops to enrich their soils with nitrogen and biomass, and are instead relying almost exclusively on animal manures coming from conventional CAFOs for fertility, leaving soil bare much of the year. This is not regenerative. Cover crops that provide soil fertility, prevent topsoil loss, and sequester atmospheric carbon, should be utilized as much as possible. At the same time, off-farm sources of fertility should be screened carefully against regenerative criteria. Manures from CAFO beef feedlots or caged chicken CAFOs aren't cool, and should be limited.

[Biodynamic agriculture](#) offers good examples of regenerative approaches to generating on farm fertility integrating livestock Veganic cover cropping and compost methods where no CAFO manures are used can do so as well. John Jeavons' [Ecology Action Biointensive](#) approach to small-scale veganic agriculture grows more food and sequesters more carbon per unit area than any other approach out there. One Degree Organics is an up and coming brand that prides itself on sourcing from veganic farmers. They have great videos profiling farmers [worth watching](#), who are mostly meat and potato non-vegan farmers, who either don't have ready access to animal manures, or philosophically do not want to use any manures from CAFOs for fertility. Note some of these farms do integrate livestock who graze their cover crops in rotation, and One Degree utilizes “veganic” honey in some of its products. These veganic farmers like

other organic farmers employ natural pest control methods against insects and rodents that eat their crops, using predator insects and cats, as well as natural pesticides approved under the National Organic Program like neem oil and pyrethrum sprays. Even veganic farming entails some animal sacrifice. But these methods are careful and targeted, and regenerative organic farms provide rich diverse habitat for wildlife to live and thrive in.

### **Industrial Agriculture and Wildlife Death: Why Eating Organic Is a Vegan Prerogative**

In degree and scope, regenerative organic farming is night and day better than [conventional chemical farming in terms of its impact on non-target wildlife](#). As mentioned, synthetic fertilizer runoff in conventional farming creates huge deadzones in the sea, while [synthetic pesticides](#), especially systemic neonicotinoid pesticides, have incredible killing power and persist in the environment, killing beneficial nontarget insects, birds, mammals and amphibians. When natural insect and bird predators are killed, more pesticides are applied, which is great for pesticide companies' bottom line but not for soil, ecosystem, farmworker or end consumer health. Neonicotinoid insecticides are the number one suspected reason for Colony Collapse Disorder and huge dieoffs in bees, and a few are banned in the EU but not the U.S. In the U.S., they coat most corn, soy, wheat and other conventional planting seed, GMO as well non-GMO; organic certified agriculture is the only assurance that they are not being used. This illustrates that a vegan diet based on conventionally grown crops may be much more harmful to bees and other non-target wildlife than carefully harvesting organic honey. Eating regenerative organic/veganic versus conventional plant-based foods should be embraced as a vegan prerogative, in consideration of the magnitude of ecosystem level death industrial agriculture deals in.

Ultimately, eating or refraining from animal products is a personal choice. I've been a vegan for over 20 years, and remain committed to this diet and lifestyle. One may ask why, if I'm vegan, am I focusing so much on livestock and animal products? My answer is that if we substantially reduce and transition how we produce and consume meat, dairy and eggs, we can positively impact animals and their welfare, while, at the same time, engage animals to heal and regenerate the land that both grows their feed and where they are pastured. I believe it is also imperative to support high animal welfare family farmers in their fight against the CAFO machine, that will in turn help to restore American rural economies while mitigating climate change.

### **Regenatarian Events at Expo West**

On that note, we are advancing what we are terming the “Regenatarian Alliance” between the regenerative agriculture and animal welfare movements at Expo West. On Wednesday evening at Expo West, I'm on a [panel](#) after a viewing of a 30 minute edit of the documentary movie “[Kiss the Ground](#)” which will be out

this spring. Dr. Bronner's is a major financial backer and Kiss the Ground features rock star regenerators like Gabe Brown, Jeff Moyer and others, and breaks down how regenerative agriculture can regenerate depleted dead farm and range soils, drawing down huge amounts of atmospheric carbon and sequestering into soil when adopted at global scale. [David Vetter](#) will be on the panel with me, who's been showing how it's done for over thirty years at his farm in Nebraska, which integrates grassfed cattle grazing cover crops in rotation with grain crops. He hasn't imported any off-farm fertility since the mid-90's kabam.

And then Saturday, in the late morning, I'm on a [panel](#) featuring a clip of the forthcoming documentary "[Eating Animals](#)," based on the amazing book by Jonathan Safran Foer, detailing the horrors of factory farming from the animal welfare perspective, while at the same time celebrating high animal welfare farmers like pasture turkey farmer Frank Reese. Aaron Gross from [Farm Forward](#) will be on the panel along with Michele Simon from Plant Based Foods Association, and Leah Garces of [Compassion in World Farming](#) will be moderating. I recently met up with Leah outside Atlanta on the way to meet up with Will Harris and team at White Oaks. Leah is vegan and chair of the Global Animal Partnership, and appreciates the high animal welfare at White Oaks.

Animal welfare leaders like Leah and Aaron are particularly focused on [chicken broiler genetics](#), as they are by far the most commonly consumed animal by number, and the Cornish Cross hybrid is the most commonly farmed chicken even in pasture poultry operations. Its insatiable appetite drives abnormal breast growth and all kinds of horrible health problems, and can barely walk as it nears the end of its life. Thankfully huge progress is being made, with not only Whole Foods but major food service purchasers and Chipotle already committing to source slower growing higher animal welfare broilers. GAP will soon not allow the Cornish Cross at any level, and has commissioned an extensive study of broiler breeds and will generate an acceptable list on the other side.

What's interesting is the emerging consensus among animal welfare leaders that grass-fed and finished high animal welfare beef is probably the best source of meat from an animal welfare perspective, which synergizes with the regenerative agriculture movement's emphasis on removing cattle from feedlots and rotationally grazing correctly instead on pasture exclusively, or on cover crops in mixed pasture cropping farm systems.

### **Regenerarians United Can Change the World**

*"The whole world is a garden, and what a wonderful place it would be, if we each took care of our part of the Earth, our garden." ~Voltaire*

As eaters we are all farmers deciding what kind of farming system exists in the world that feeds us: our plate is our farm, our fork our pitchfork, our knife our slaughtering knife. One-third of the Earth's surface is covered in arable farm and range-lands. Regenerative practices can restore soil health and organic matter relatively quickly, within five to ten years. If we each take responsibility for our section of the garden as consumers, at global scale we can make a significant impact on mitigating climate change, drawing back down atmospheric carbon previously lost from soil, and sequestering it as stable organic matter.

Do we choose to buy from organic farms that grow our food regeneratively? Do we eat less and much better meat, dairy and eggs from pastured animals? Or do we default to the unconscious and unsustainable machine? We can't control everybody else, but we can control what kind of food we put in our mouths from our extended farm, our extended garden. We either choose sustainable humane farming that respects animal life and integrates with natural ecosystems, or the insanely cruel industrial ag machine that feeds carbon intensive grain to animals in cages while shredding ecosystems and driving us over the climate change cliff. Dietary choice can be healthy and regenerative, or unhealthy and degenerative, whether omnivore or vegan; the key is if we eat less/better animal products, and whether our choice regenerates topsoil or not. I believe it is imperative that all regenerarians consider the following three principles:

- 1) Regenerarian omnivores and vegetarians are willing to spend more for, and eat less of, meat, dairy and eggs, sourced only from correctly pastured and fed animals.
- 2) A boycott of "bad meat" is a hallmark of the regenerarian ethos. Animals raised in confined animal feeding operations (CAFOs) fed conventional carbon/water-intensive grain are an environmental and ethical disaster, inefficiently converting plant into animal protein and calories, especially in the case of feedlot (vs grassfed) beef.
- 3) Regenerarian vegans are committed to eat regenerative organic grains, legumes, and vegetables, and model the discipline for their regen omnivore comrades to just say no to bad meat. The scale of death that attends overuse of synthetic pesticides and fertilizers on non-target wildlife in conventional cropping systems makes eating regeneratively a vegan imperative.

Ultimately it's we who eat, who feed the machine. We should take responsibility to rebalance the cycle of life and death in the natural world, reenter the natural rhythms and connection with the Earth, and make sure our dietary choices are sustainable and building healthy soil.

For everyone who believes in the power of regenerative agriculture to restore soil and rebalance the earth, I recommend you become a regenerarian. To start, I suggest you go vegan for 21 days to learn how to live life easily on a

regenerative organic plant-based diet, and visit [Café Gratitude](#) or similar organic, healthy and delicious plant-based restaurant in your area, and then:

- 1) Reintroduce a lower level of meat, dairy and/or eggs. Eating only meat, dairy and eggs certified by the Global Animal Partnership 4 or 5 (pasture based); Animal Welfare Approved; Certified Humane (Pasture-Raised level); and make sure is cross certified to USDA organic standards as far as feed; OR
- 2) You know your local farmer inside out and they are both raising animals humanely on pasture and using organic feed/grass only and you eat only meat, dairy and/or eggs sourced from them OR
- 3) Stay vegan entirely.

I also highly recommend people read Wendell Berry's incredible short essay "[The Pleasures of Eating](#)," which concludes Michael Pollan's nicely introduced collection of Berry's essays "[Bringing it to the Table: On Farming on Food](#)." In my opinion, his essay does a way better job of saying what I'm trying to say here, and is the source of Michael's oft used phrase "eating is an agricultural act." Also check out this intense graphic Dr. Bronner's put together from National Geographic photos: "[We Are Eating the Planet Alive](#)." Another crucial resource is Paul Hawken's "[Project Drawdown](#)" which ranks all climate mitigating strategies, and places regenerative agriculture along with forest and wetland restoration at the top of the list.

In conclusion, Hercules's fifth Labor was to clean in one day the impossible level of manure and filth covering the stable floors of King Augeas, that hadn't been cleaned for decades. The king was of course confident that Hercules couldn't do it, but Hercules dug two channels and diverted the course of a river that blasted the stables clean instantly. By analogy, the industrial ag CAFO machine looks way too big to overcome: billions of animals suffering in cages with their carbon-intensive feed and manure lagoons spewing greenhouse gas into the air is like a million burning oil wells. But the regenerative agriculture and animal welfare movements, working together in solidarity, digging and coordinating their respective channels, will inspire enough people to choose food from regenerative farms and ranches, and just say no to bad CAFO animal products. We will reach a global tipping point and rechannel planetary energy flows that course through the world's farms into our mouths. Cleaning the BS inertia in our hearts and minds will clean the Augean factory farm BS, literally and figuratively, off our plates and off the face of the Earth.