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Regenerative Agriculture & Animal Health and Welfare

FUNDERS FOR REGENERATIVE AGRICULTURE

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Biodiverse Pasture, Photo by Kendra Kimbirauskas

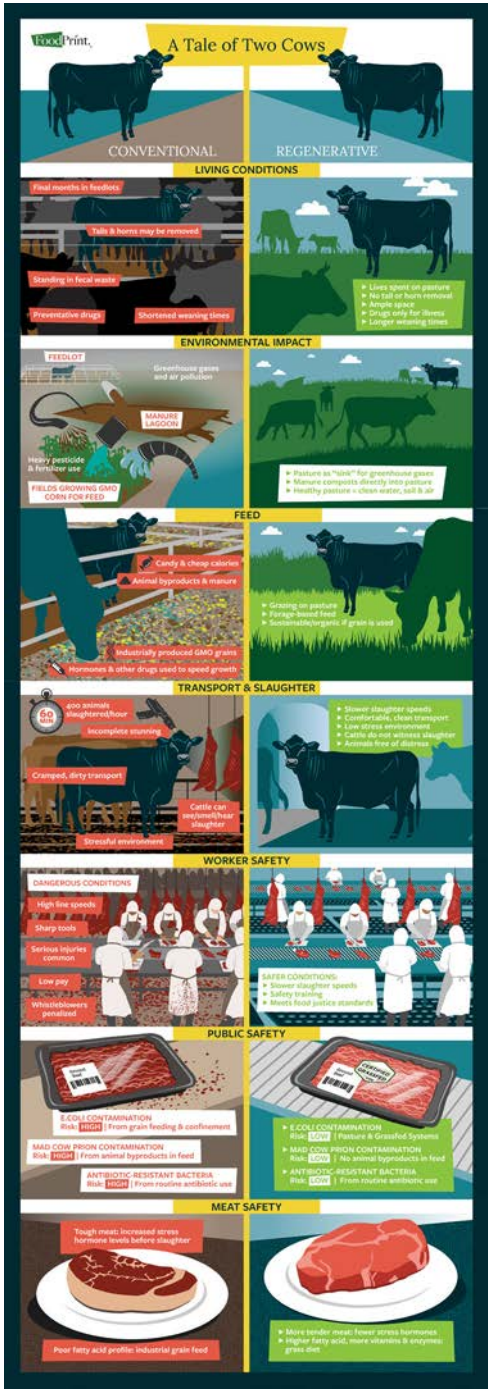
REGENERATIVE AGRICULTURE & ANIMAL HEALTH AND WELFARE

Animals have been an integral part of agriculture nearly as long as there has been agriculture. Goats and sheep were domesticated approximately 10,000 years ago, followed by cattle, pigs, llamas, horses, camels, chickens, and others. Valued for their meat, eggs, milk, wool, hides, as well as their ability to pull a plow and provide transportation, domesticated animals have had a profound effect on the planet's biosphere and the trajectory of human population growth.[1] For centuries, most farms around the world raised livestock and fish integrated with crop production, providing food, income, clothing, and sources of energy for farmers. Animals were also valued for the natural inputs they provide, as, when managed appropriately, manure builds healthy soil, replenishing nutrients used by crops and boosting yields.

However, in many parts of the world over the past century, industrial agriculture has segregated people, crops and animals to promote specialization, boost efficiency and increase commodification.[2] This split led to the development of crop monocultures on the one hand, and industrialized meat and dairy production on the other, including the use of confinement facilities and feedlots,[3] with negative consequences for human, animal and planetary health.[4]

In North America, colonization and industrialization of agriculture displaced thousands of indigenous and later black and other people of color who owned land and were stewarding and farming the land in a way that regenerated across many critical areas including soil, ecology, people, cultures, community, animal health and welfare and local economies. Over the last few centuries, these important land stewards and their regenerative practices were sidelined and replaced with industrialized agriculture practices. Our modern-day system does not center the welfare of farmers, communities, animals, ecology or biology. Rather, it relies on routine use of chemicals, drugs, pesticides, fungicides and disinfectants. When it comes to raising animals for food, industrial agriculture has centered consolidated, confined, drug intensive, welfare-bare and inhumane practices which have created a raft of problems for people, places, communities and animal health.

The industrialized model of agriculture predominates how most animals are raised for food. It stands in stark contrast to regenerative agriculture and production. The costs of industrial animal farming far exceed the benefits provided and in fact cause extensive harm to the environment, animals, communities, workers and the climate.



FoodPrint Meat Article Graphic

Thankfully, there has been a resurgence of interest in pasture-raised animals being managed through holistic and regenerative practices—practices that are beneficial for their welfare. This, along with efforts to restore rightful lands to original land stewards and to restore their expertise to how we raise plants and animals for food—can accelerate the transformation of industrial agriculture to a truly thriving agriculture system.

The healthiest of animals are pasture-raised and spend their time eating vegetation and insects in an unconfined way so they are able to express their natural behaviors and eat diets that are natural and therefore optimize gut health and overall health.[5] In this way, good animal welfare and animal health go hand in hand. And farmers and ranchers who have that deep understanding and practice—that also align with indigenous ways of farming—are able to center animal health and welfare to increase the health of the land, people, ecology, plants, pollinators, and even to build topsoil, restore grazelands and sequester carbon as a result (see FORA's Regenerative Agriculture and Soil Brief.) As if that weren't enough benefit, their meat, eggs and dairy products have been shown to be healthier and more nutritious than of those raised in industrialized confinement operations.[6] Pasture-based systems do not require or rely on chemical and fertilizer-intensive crops to be grown and transported.

Whether or not you consume meat and dairy products, it is vitally important that modern agriculture move away from models that damage human, animal and environmental health toward regenerative, integrated systems for our sake and for the sake of biodiverse ecosystems.

Cows Grazing, Photo by Kendra Kimbirauskas

THE INDUSTRIAL MODEL – CONFINING ANIMALS

Over the past 50 years, meat and dairy production has changed dramatically in the U.S. Today, most meat is produced by animal factories, which confine thousands (often hundreds of thousands) of food animals into extremely small spaces without access to pasture or fresh air. Livestock are also crowded together in feedlots. Medical inputs are necessary to maintain the health of confined animals, while their excrement is collected in lagoons or pits which is then sprayed onto nearby fields. Industrial meat production is linked to air and water pollution,[7][8] groundwater depletion,[9] deforestation and land degradation,[10] large amounts of greenhouse gas emissions[11] and the wasteful use of cropland to grow animal feed.

Confined Egg Layers, Photo by Nickolas Warner, Shutterstock

Confined Pigs, Photo by Mark Agnor, Shutterstock

(Hundreds of) Thousands of Animals on One Farm

In 2020, there were 25,000 factory farms in the U.S. confining 1.6 billion animals.[12] The EPA considers a factory farm to be a facility where animals are confined and fed for a total of 45 days or more in any 12-month period, and where crops or forage are not sustained in the normal growing season over any portion of the facility. A factory farm can be classified as a concentrated animal feeding operation (CAFO) depending on the number of animals it confines. A large CAFO houses more than 1000 animal units, which equates to 1000 beef cattle, 700 dairy cows, 1000 veal calves, 2500 swine, 125,000 broiler chickens, 82,000 laying hens, 55,000 turkeys, or 30,000 ducks.[13] Some are much larger. The Grand View CAFO in Idaho can confine 150,000 cattle. A 12-story CAFO in China can hold 800,000 pigs. A dairy complex in southern Arizona can hold 9,000 cows and is contributing to the rapid depletion of the area's aquifer.

DETRIMENTAL EFFECTS OF ANIMAL HEALTH, DRUG USE AND WELFARE IN INDUSTRIALIZED SYSTEMS

Animal Welfare and Health of the System Are Intertwined

Animals in confined systems are bred and raised for maximum production and rapid growth. Unfortunately, this translates into densely packed facilities, cage confinement, unnatural diets, sickness, stress, standing in feces, routine amputations, overuse of antibiotics, and inhumane slaughter methods. Animals may be chained or tethered, unable to turn around or lie down. Animals can injure or kill each other, causing bruises, lesions and broken limbs. Documented treatment by some handlers has included beating, kicking or dragging. Poor ventilation causes buildup of toxic gases. Factories rely on grain and feed additives to produce rapid weight gain, which stresses an animal's body and immune system. Ruminants, such as cattle, are not designed by nature to eat grain. Additional drugs are required to suppress other negative health effects of confinement. Feedlots expose cattle to adverse weather and deprive them of pasture and forage.

Specific sources of animal suffering and compromised health include:

- Physical alterations, including amputations, beak-clipping chickens and tail-docking pigs, often performed without anesthetic.
- Exposure to unnatural light patterns.
- Inability to engage in important natural behaviors, such as laying eggs in nests or roosting at night.
- Forced molting by withdrawing food or water from laying hens in order to cease their egg production (banned in the EU but allowed in the U.S.).
- Acidosis, which occurs in ruminants when they are introduced to grain too quickly and the rumen does not have time to adapt, producing excessive lactic acid. Acidosis can result in lameness and death.
- Use of gestation crates for pregnant pigs, where a sow will spend the entirety of her pregnancies and nursing periods confined in a metal cage, barely able to move. These stalls are small and offer no bedding, just slats for waste to fall through.
- Illnesses and injuries left unnoticed or untreated, often due to an unmanageable ratio of animals to workers.
- Rough or abusive handling by workers, often due to lack of training, poor working conditions or poor design of facilities.
- Infestations of rats and other vermin.
- Use of pesticides, disinfectants and other chemicals commonplace.
- Genetic sources of suffering — bred for fast growth, most commercial poultry suffer painful chronic physical issues, including leg deformities and ascites.
- Lameness and footrot due to muddy conditions in the facility or feedlot.
- Internal and external parasites, such as lice and worms, which can cause suffering and disease.
- Flies problematic in many feedlots, due to the abundance of food and manure.
- Viral infections such as pestivirus and bovine respiratory disease.

Chicken Slaughterhouse, Photo by Roibu, Shutterstock

After spending their lives in deplorable conditions, industrially raised animals meet their end in industrial slaughterhouses. Unlike smaller independently owned facilities, where careful attention can help ensure swifter and more humane slaughter, industrial slaughterhouses kill and process thousands of animals at an extremely rapid rate to save money. Rapid processing ensures that tragic mistakes regularly happen, including animals not being rendered unconscious before being killed and animals who are merely stunned getting skinned alive. Meat is also commonly contaminated by feces and other bodily fluids during the slaughter process, a dangerous problem that is increasing as industrial slaughterhouses continue to speed up their kill lines.

Basic humane methods of slaughter became law with the passage of the 1958 Humane Slaughter Act, but adherence has been inconsistent and are barely adequate—the law doesn't even apply to poultry. In recent decades, scientist and animal welfare advocate Temple Grandin has worked with the meat industry to develop less stressful slaughter protocols.

Today, her Animal Welfare Audit is the industry standard, with half of the cattle in North America being handled for slaughter by equipment she designed. Much of this comes from consumer pressure for better animal treatment throughout the system. However, there is a wide cavern between the industry standards and regenerative farming and ranching principles when it comes to animal health and welfare. Transforming the current industrialized system to a regenerative one is critical.

Climate and Health Risks from Industrialized Waste Management

Industrial animal agriculture systems can devastate the environment, animal and human health, and rural communities. Much of the environmental harm results from the volume of waste that must be stored and disposed of when continuously confining so many animals. According to the U.S. Department of Agriculture and the EPA, animal feeding operations produce approximately 500 million tons of manure every year with CAFOs generating 60 percent of this excrement. The EPA estimates that all confined animals generate three times more raw waste than that generated by humans in the U.S. Water quality issues arising from factory farm-generated waste include contamination of surface water and groundwater. Such contamination can be caused by manure storage tanks and lagoons overflowing or leaking, directing pollutants into waterways.

Over 168 gases are emitted from CAFO waste, including hazardous chemicals such as ammonia, hydrogen sulfide, and methane. Livestock farms generate about 70 percent of the nation's ammonia emissions, plus gases that cause global warming, particularly methane, but aren't required to get permits under the Clean Air Act.

Factory farms are unhealthy and stressful work environments. Workers are subjected to air pollutants, including particulate matter carrying mold, animal dander, and pathogens. Exposure to these pollutants can lead to respiratory illness. An estimated one quarter of hog confinement workers suffer from chronic bronchitis. They are also astonishingly unsafe workplaces. Six out of every 100 workers in the animal production industry reported a work-related injury or illness. Tyson meatpacking plants reported on average one human amputation per month in the first nine months of 2015. Across the county, regulations to prevent workplace injuries have not kept pace with the rapid growth of factory farms. Idaho had two deaths in 2016 caused by workers falling into dairy manure ponds. In both cases, federal regulators fined the dairies just $5,000.

Ownership in the Hands of a Few Large Companies

Compounding the situation, more than 80 percent of U.S. meat production is controlled by a few huge, multinational corporations. As of 2015, the four largest companies in each sector controlled 85 percent of the beef packing industry, 66 percent of pork packing and 51 percent of broiler chicken processing. This consolidation began in earnest in the 1940s when companies such as Tyson Foods began buying up formerly independent parts of their supply chain, such as breeding facilities, feed mills, slaughterhouses, and consolidating them under their control, called vertical integration.

Cheap Meat with Externalized Costs

Owning all links in the supply chain gives the integrator control over price and quality throughout. The economies of scale have helped to lower the prices of meat, but with so few companies controlling the market, it is extraordinarily hard for smaller operations to compete, especially since the costs of producing meat sustainably on pasture can be four times as high as industrial methods. Consolidation allows companies to set the prices they want, enabling them to maximize profits at the expense of farmers and consumers.[14]

MISCONCEPTIONS

- **'All Meat is Bad.'** While industrial meat production is undoubtedly bad, grassfed animals use fewer inputs than industrial meat, including water, antibiotics, grain etc.[15] With appropriate regenerative crop and grazing management, grassfed ruminants can help sequester enough carbon in soil to create a greenhouse gas footprint that can be significantly lower than conventional beef production,[16] as well as provide essential ecosystem services.[17] There is a growing body of evidence that demonstrates the need for grazing animals in diverse ecosystems, highlighting their ability to restore degraded landscapes and key ecosystem functions,[18] increase soil nutrient availability,[19] improve water infiltration and livelihoods,[20] particularly when compared to conventional practices. While a strong case is made against the industrial food model for the environmental and animal welfare abuse it entails, technological innovation and agroecological approaches can offset animal, environmental, and socio-ethical harms and offer a justification for retaining meat production and consumption.[21]

- **'Eating Meat is Bad for Your Health.'** Epidemiological, ecological and climate studies critical of red meat or all meat consumption do not discriminate between meats from livestock that are fed high-grain rations and meats from animals that forage entirely on grass.[22] Industrially-produced meat came from animals raised daily on drugs proliferating maladapted microbiota (pathogens) that can damage human health.[23] In contrast, grassfed meat does not rely on routine drug use and has numerous health benefits, including phytochemical richness which is essential to human health. Grassfed beef has lower total fat content, more heart-healthy omega-3 fatty acids, more omega-6 fatty acids (and their precursor, linolenic acid), and more antioxidant vitamins than industrial meat.

- **‘Ultra-Processed Meat Substitutes Are a Benign Alternative.’** Ultra-processed, plant-derived substitutes are pitched to consumers who want the experience of eating meat without the environmental costs. However, there are growing and valid concerns about the health effects and nutrient quality of some of these ultra-processed plant-based alternatives. Many of these products are not whole foods, and often use ingredients and additives from unsustainable sources,[24] including soybeans, which are grown as a commodity and linked to environmental troubles. Perhaps, most significantly, there is insufficient evidence for plant based meat alternatives, even if they were to become less expensive or more available, having any significant impact on the conventional meat industry. Overall, if we are to champion plant-based proteins as an additional part of the solution sets available to us, we must also ensure that these products and their ingredients are centered on regenerative principles and ingredients throughout their supply chain, from farm to fork, as well as employing regenerative and equitable ownership and business models.

- **‘Energy-producing Methane Digesters Can Solve CAFO Waste Problems.’** Fossil fuel companies and agribusiness are joining forces to promote a greenwashed nightmare: manure as “renewable” energy. Manure digesters capture methane from decomposing manure to create “biogas,” which can be used to produce electricity or converted into natural gas. But biogas is a false solution. Methane (CH4) is a potent greenhouse gas. Even a three percent leakage will negate the climate benefit of biogas in replacing fossil fuels.[25]
  The leftover biosolids are often spread on fields, contributing to water and soil pollution. Biodigesters are creating incentives to increase herd sizes, which likely offset any potential savings from the capture and burning of methane. The expanded use of manure digesters will entrench factory farms and worsen impacts on nearby communities.

- **‘Factory Farms are Required to Provide Cheap Meat to Consumers.’** While it is true that the industrial meat system creates cheap meat for consumers, this hides the true cost to our health, our communities, our ecosystems. Meat is cheap because the grain fed to animals in CAFOs is heavily subsidized by the government and because the economies of scale created by factory farms carry hidden costs to workers, consumers, the climate and the environment.[26] While factory farms are highly efficient in an industrial sense, lowering costs, they come with high costs for animal welfare. CAFOs can be the source of zoonotic infections and pandemics.[27] The near-monopolization of the meat industry by four companies also frequently undercuts American ranchers in favor of cheap livestock from overseas that are often raised without adequate regulation.[28]

- **‘Greenhouse Gas Emissions from Industrial Animal Systems Are Fully Accounted.’** While food systems account for more than one third of all greenhouse gas emissions globally,[29] agribusiness would like you to believe that confined animal operations play an insignificant role. According to the EPA, less than five percent of total GHG emissions in the U.S. are generated by confined animal agriculture, principally by enteric fermentation (burps) and manure.[30] However, many aspects are not included in this total, such as the fossil-fuel inputs used to grow animal feed (corn and soybeans), land use changes driven by expanding crop production for animal feed and grazing land, the negative effects of tillage, pesticides and fertilizer on soil carbon, and the downstream effects of nutrient pollution.[31] These are practices not used in regenerative, pasture based, grass-fed systems.

REGENERATIVE AGRICULTURE

Regen Ranching, Photo by William Edge, Shutterstock

Pastured animals, raised and managed with holistic and regenerative practices, are a direct alternative to confined animal agriculture. Farmed animals can enjoy a high quality of life and bring multiple benefits to the environment, rural communities and human health. In a regenerative farming system, the needs of one element are met by the wastes of another.[32] For example, animal manure builds the soil and replenishes nutrients used by crops.

Benefits of Animals Living and Eating Naturally

By putting livestock on grass or in another natural environment—hogs are often raised in the woods while beef cattle can graze on rangeland—they can live expressing their natural behaviors, eating the plants or insects they naturally digest and improving the fertility of the soil with their manure. The meat, eggs, and dairy products from pasture-raised animals have been shown to be healthier and more nutritious than from those raised in confinement operations.[33] Regenerative, pasture-based systems o not require chemical and fertilizer-intensive corn crops to be grown and transported, which is a big benefit to native biodiversity aboveground and below.

Managing Waste into Many Benefits - Nutrition, Soil, Climate, Biodiversity

Regenerative farmers utilize grazing to directly compost animal waste (urine and excrement) into the pasture. This avoids most of the risks of industrial waste management systems including excessive emissions from manure. At the same time, well-pastured livestock can sequester a significant proportion of carbon produced on the farm by storing it directly in the soil, thereby creating a neutral carbon benefit. Atmospheric carbon dioxide is transformed by photosynthesis into sugars that plants use to grow.[34] Some of the carbon makes its way into the soil via plant roots to be consumed by microbes in exchange for nutrients the plants need. The more biodiversity that is present on the farm, the greater benefits to all of these processes. The goal is to increase soil organic matter in tandem with enhanced cycling of carbon, nitrogen, phosphorus, and water for optimal fertility.[35] [36] Livestock play a key role in nearly all regenerative agricultural enterprises.

Calera Sheep Move, Photo by Alicia Arcidiacono, Paicines Ranch

Regenerative Animal Agriculture Can Reduce Carbon Emissions While Increasing Carbon Sequestration

With enhanced management of grazing resources, domesticated ruminants can be used to produce more and better soil cover, a key tenet of soil health practices that effectively reduce soil erosion and increase net biophysical carbon accumulation.[37] Incorporating forages and ruminants into regeneratively managed cropping systems can also elevate soil organic carbon, improve soil ecological function and reduce production costs by eliminating the use of annual tillage, inorganic fertilizers and biocides.[38] Ecosystem services that are enhanced using regenerative land management include soil stabilization and formation, water infiltration, carbon sequestration, nutrient cycling and availability, biodiversity and wildlife habitat, all of which cumulatively result in increased ecosystem and economic stability and resilience.

Unfortunately, many reports that focus on animal production and climate impacts do not distinguish between industrial and regenerative farming systems. As a result, the benefits of regenerative agriculture, such as the potential to build topsoil and sequester carbon, are not accounted. And it is safe to say that the full costs of industrialized animal agriculture are also not accounted. Since the opportunities to build soil, nutrient density and sequester carbon are unlikely in industrial systems, these have not been adequately integrated into meaningfully understanding animal agriculture and its impacts, not only costs but potential benefits and solutions to serious planetary problems.

Regenerative Animal Agriculture Increases Nutrient Density

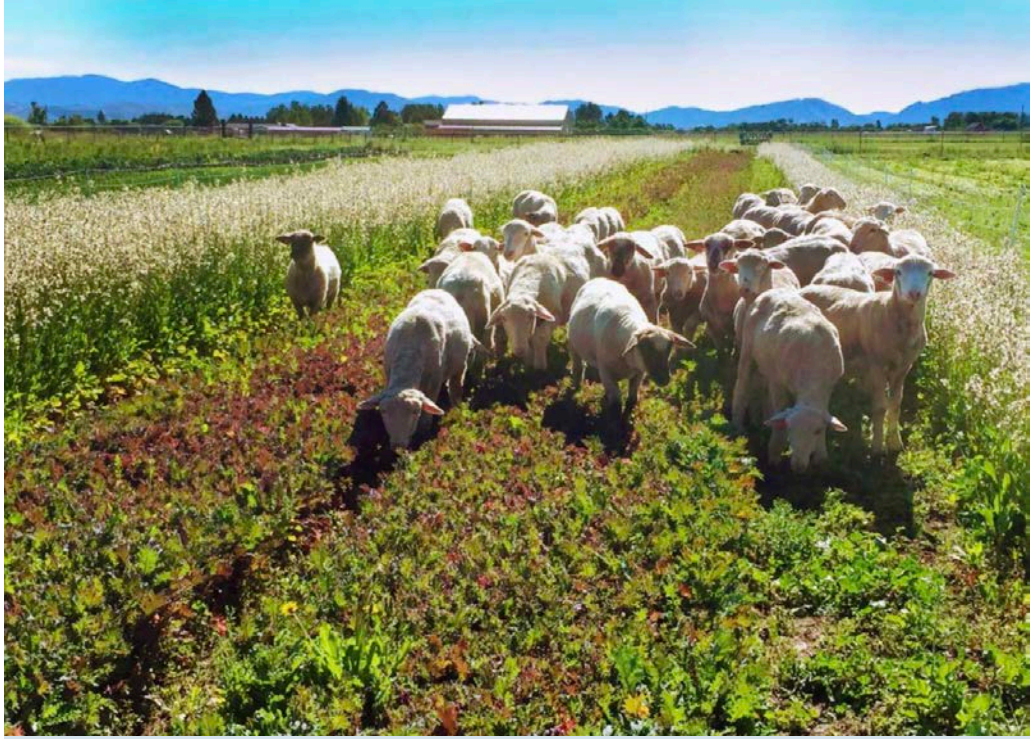
When it comes to impacts on human health, research spanning three decades suggests that pasture based, grass-based diets can significantly improve the fatty acid (FA) composition and antioxidant content of beef. Several studies also show that grass-based diets elevate precursors for Vitamin A and E, as well as cancer-fighting antioxidants such as glutathione (GT) and superoxide dismutase (SOD) activity as compared to grain-fed contemporaries.[39]

Piglets, Photo by Kendra Kimbirauskas

Regenerative Agriculture Does Not Rely on Intensive Drug Use

The lack of intensive drug use in regenerative animal agriculture means that hygiene and animal health must be managed more carefully. The result is often better animal health and safety and better safety when it comes to contamination of virulent and resistant pathogens which are highly prevalent in the industrial animal farms and lead to thousands of disease incidences every year. The lack of animal confinement in regenerative systems along with drug use only used for treating illness, largely reduces the risks of disease spread and proliferation that confinement brings.

Deep-Rooted Pasture, Photo by Kendra Kimbirauskas



Integrated Crop and Livestock, Credit: NCAT

SIDEBAR: REINTEGRATING ANIMALS AND CROPS

For centuries, traditional and Indigenous societies have understood the close relationships between crops and animals. For example, the Iowa Tribe of Kansas and Nebraska annually grazes their crop fields after harvest, letting the animals harvest the residues and leave behind a natural fertilizer in the form of their manure. Today, these regenerative relationships are core to modern agroecology. For example, tree crops, pasture, and livestock can be combined ecologically in mutually beneficial ways.[40] Integration influences crop production principally by improving soil properties, including increased fertility and reduced erosion.[41] Researchers have seen an overall increase in crop yields and weed control and decreased costs when compared to conventional systems.[42]

Livestock performance is improved by the nutrient availability provided by grazing in autumn and winter. Reintegrating animals into crop production, also called mixed farming, can result in a variety of benefits, such as:

- **Building topsoil.** Integrating livestock with crops is a quick way to build topsoil and maintain soil health. Livestock mix their urine and manure into soil with their hooves as they graze. Chicken manure can make nutritious fertilizer when composted. Regenerative agriculture with grazing increases soil organic matter and biology and enhances natural cycling of carbon, nitrogen, phosphorus, and water, all of which boost beneficial insects, soil microbes and fungi.
- **Storing carbon in soils.** The combination of well-managed grazing with regenerative crop production can boost soil carbon faster than crop systems that employ no grazing at all.[43]
- **Producing nutritious food.** Healthy soil makes nutrients available to plants and ultimately to humans. In addition, well-integrated crop/livestock systems provide protein sources such as meat, dairy and eggs. It can also sustainably intensify food production.[44]
- **Restoring degraded land.** Integrated crop/livestock systems can build soil health on degraded landscapes more quickly than crops or grazing alone.[45]
- **Increasing economic vitality.** Crop and animal integration can improve the productivity of principal crops and diversify income, as well as enhance food security through increasing nutritional indicators.[46]
- **Supporting biodiversity.** Recent studies have demonstrated that adopting specific regenerative farming practices, especially using managed grazing, can increase biodiversity, in particular native bird abundance, native vegetation, native aquatic biodiversity and native insect populations.[47]

Benefits of Grazing Systems Table, Credit: Grassland2.0

REGENERATIVE AGRICULTURE RESTORES ANIMAL HEALTH AND WELFARE

The gold standard for animal welfare is called the Five Domains, a model that evaluates both the physical and mental state of an animal and emphasizes positive experiences, not just the absence of negative conditions. We need to create environments where animals can engage in behaviors that are rewarding. To have good welfare animals need:

- **Nutrition.** Enough water and food, a balanced diet, a variety of foods, and in the correct quantities.
- **Environment.** Fresh air, space to move, appropriate temperatures, tolerable odors, light intensity, and noise levels.
- **Health.** Good body condition and fitness levels, little or no disease, injury, or impairment.
- **Behavior.** Free movement, engaging choices, bonding, and playing, and a varied, novel and stimulating environment.
- **Mental State.** Pleasures, comfort, calmness, novelty, sexual gratification.

Pigs, Photo by Kendra Kimbirauskas

Regenerative Agriculture Puts Animal Health and Welfare Principles into Practice

However, the Five Domains, while helpful, are not specific enough to avoid their co-option or greenwashing by industry players. With this in mind, it is important that the regenerative movement prioritizes specific practices that should be synonymous with high animal welfare, such that animals:

- Are raised on pasture or other natural environments.
- Stay together as a family or herd.
- Are protected from predators as much as possible.
- Eat the vegetation they want and then move on to another paddock or pasture, leading to healthier digestion and better nutrition. Their health is enhanced by phytochemically rich mixtures of grasses, forbs, shrubs, and trees that enable health prophylactically and therapeutically. Animals foraging on phytochemically diverse pastures require less anthelmintics and antibiotics than animals foraging on monoculture pastures or in feedlots.[48]
- Have space for normal behaviors.
- Are exposed to fresh air and outdoor conditions daily but need to have access to shelter in cases of extreme weather.

High animal welfare also means that:

- The farmer or rancher adjusts herd management according to current conditions, feedback from the environment, and the animals.
- Painful procedures such as tail docking or beak trimming are prohibited.
- Pain management is provided for procedures like dehorning or castration.
- Small cages or other types of close confinement are prohibited.
- When housed, animals should have clean bedding. Good ventilation and natural lighting are necessary.
- For poultry, keeping the lights on continuously is prohibited.
- Animals must be protected from temperature extremes during transport to the slaughterhouse and must be handled gently, without the use of electric prods.
- Growth-promoting drugs, including hormones, are prohibited.
- Antibiotics can be used to treat illness but not to prevent disease.
- Animals must be selected so that they have robust immune systems, healthy musculoskeletal systems, and retain the ability to reproduce naturally and conserve welfare between generations.

While the industrial model of CAFOs and feedlots (and federal standards) fail to meet these standards, pasture-based regenerative agriculture can and should meet them easily. To do so, the regenerative movement has more work to do to make sure that each of the entirety of these practices become fully and consistently integrated into regenerative standards.

Turkeys, Photo by Kendra Kimbirauskas

Benefits of High Animal Health and Welfare

Cattle and other ruminants are central to many regenerative farms and can enjoy the highest health and welfare standards of farmed animals.[49] Some poultry, who have been bred to have high welfare genetics,[50] do well in agroforestry, viticulture, and mixed farming environments. Chickens in these types of systems have increased levels of eating, scratching, and relaxing. Tree-Range farms in Minnesota are a role model in this field of work. They raise slower-growing breeds of chickens in small flocks and are free-ranged under a protective and productive canopy of trees. While genetic selection and genetic welfare aren't always covered by typical regenerative standards, selection for fast growth in poultry, or selection for milk production has negative welfare impacts. If the regenerative movement is going to prioritize the highest animal welfare, it is necessary to take breeding into consideration separately from the environmental and housing conditions.

Benefits of high animal welfare for the farmer, rancher, consumer, and community include reduced veterinary bills, lower mortality rates, healthier meat and dairy products, and the knowledge that animals are being treated humanely. Animals have improved fertility, lower incidence of lameness and mastitis, decreased risk of nutrition-based complaints, and decreased need for parasite treatment. These alternatives can require more land, labor, and time for the animals to grow to market weight than conventional agriculture. As a result, meat and dairy products from animals raised with higher farm animal welfare standards are often more expensive. One key lever that could help make high animal welfare, regenerative products more affordable is in reforming our policies and public financing so that the financial incentives and subsidies that currently flow to agribusinesses from government agricultural programs and the Farm Bill flow instead to support regenerative production systems, rewarding and incentivizing good stewardship of land, animals, and ecosystems. The National Sustainable Agriculture Alliance, the National Organic Coalition, and many other advocates are working towards just such reforms, including proposing reforms to the upcoming 2023 Farm Bill, including increased support for organic, support for new and beginning farmers and other regenerative practices. However, transitioning away entirely from factory farming to a regenerative production system also means that we will need to prioritize whole plant foods grown in regenerative systems, alongside consuming less and higher quality, regenerative meat.

Meaningful Animal Welfare Certification Systems

There are several farm animal welfare certification programs that support both the well-being of animals and a sustainable future for family farms. One example is the certification program run by A Greener World, a nonprofit based in Terrebonne, OR, called Animal Welfare Approved (AWA). Consumer Reports rates AWA as Excellent, saying that "they address the most important expectations consumers have for a humane claim. Animals are raised on a pasture-based family farm—meaning that the farmer owns the animals—and are treated humanely at all times." AWA is the only USDA-approved third-party animal welfare food certification label that supports and promotes family farmers who raise their animals with the highest welfare standards, outdoors, on pasture or on range, and that does a third-party audit of slaughterhouses used. Other examples of leading standards that center on high animal welfare include American Grassfed Association, Regenerative Organic Certification, and Savory Ecological Outcomes Verification.

A Word about US Organic

The USDA Organic standard does require animals to eat organically produced feed. It does require pasture for ruminating animals (cows, lambs) during the grazing season of the location with a minimum of 120 days on pasture. There are no pasture requirements for pork or poultry but requirements for "outdoor access," which can include screened in porches. The best organic ranchers and farmers go beyond the basic USDA requirements and are in fact reaching points of ecological, land and community regeneration. Unfortunately, that is not the case for all organic farming. However, given the prominence of organic in the marketplace and the unique set of federal policies that already exist around it, the role and importance of supporting high integrity organic is critical in the regenerative agriculture movement. The National Organic Coalition is a group of high integrity organic organizations working together on organic policy reform for more than 20 years. Non-profit organic certifiers throughout the country work tirelessly to keep organic high integrity. Increasing collaboration and support with the organic movement is critical to achieving the transformation of food agriculture systems.

CONCLUSION

At FORA, we believe that regenerative agriculture is a holistic philosophy—a way of seeing and acting in the world—not simply a suite of practices implemented on a farm or ranch. Regenerative agriculture focuses on creating the conditions for life above and below ground and takes its cues from Nature. Regenerative agriculture restores and maintains soil health and fertility, protects watersheds, supports ecological and cultural diversity, and expands economic resilience. Its long history, Indigenous roots and multiple co-benefits, including the production of nutritious food and improved water cycles, must also continue to do more to make central and prioritize the highest levels of animal health and welfare that have been described throughout this brief.

While regenerative practices and production systems can and should be consistent with high welfare animal farming and the standards laid out in this brief, that is not always the case. Raising animals on pasture and in natural, healthy ecosystems in lower densities is far better for animals compared to conventional production methods. Regenerative Agriculture clearly provides methods for raising animals humanely and with benefits to producers, biodiversity, human health, and the climate. However, factors such as body modification (dehorning, castration, etc.), breeding and genetic selection, as well as transport and slaughter, can have just as much of an impact on welfare as their living environment, and the regenerative movement must ensure that these factors also become incorporated into all regenerative system standards. Doing so will place regenerative agriculture squarely within the global agroecological, food sovereignty, and animal welfare movements. Simply implementing regenerative practices on a farm or ranch without adhering to a holistic philosophy will likely fail to achieve the high levels of health and welfare that animals deserve.

Cow in Sunset, Photo by Kendra Kimbirauskas

ENDNOTES

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