

Industrial vs. Sustainable Farming

For generations people have lived sustainably, growing and raising no more food than what the land could reasonably produce. This process was repeated season after season, without the addition of any pesticides, and without causing too much harm to the environment or putting ones own health at risk. Farming is a long standing tradition of growing crops and raising livestock for ones own use, or the use of others nearby. Until recently, this processes involved simply working the soil by hand and applying manure and compost whenever it was deemed necessary, not needing fossil fuels or chemicals to harvest a healthy crop.

However, overtime this system has changed dramatically with the advent of commercial fertilizer and pesticides in the early 1900's (Growing A Nation) along with the discovery of factory farming (IDAUSA). Now, CAFOs, concentrated animal feeding operations, and monocrop management systems have taken over the majority of arable farmland in the United States. Throughout this paper we will explore the highly mechanized industrial food system compared to local sustainable food production, learning that the benefits of the local outweigh those of the industrial. This paper will focus on the juxtaposition of cows, pigs, and chickens produced throughout the factory farming systems, as well as those raised on sustainable family farms, and the impact they have on the environment.

Currently, the environment is facing a number of problems including, but not limited to: climate change, soil degradation, water contamination, a decrease in

biodiversity, and stronger disease strains. Climate change is generally caused by greenhouse gases such as carbon dioxide and methane. These gasses come from a variety of sources such as cow manure and gasses extruded from either end of the cow, stacked and fermenting animal feed, and fossil fuels for transportation.

Soil degradation is also a danger and is created by over tilling the land, a lack of crop rotations, pesticides, as well as other assorted chemicals that can be applied to crops, and are therefore applied to the soil. Water contamination is another complication that our ecosystems face. This is a result of industrial runoff from cropland and CAFOs, which intern infiltrates groundwater supplies, and is then transported to streams, rivers, and eventually larger bodies of water like the Gulf of Mexico, killing off many organisms and creating dead zones.

Decreases in biodiversity are also becoming greater threats due to the existence of monocrops which limits the amount of animals and invertebrates that are able to live and survive in an intensive farming area. Lastly, many strains of disease have become too strong to be killed with a simple dose of antibiotics, making them increasingly resilient and forcing farmers to increase the amount of antibiotics fed or injected into their animals. Hence why we are finding such pharmaceuticals in our soil and water supplies.

The main offender of these environmental crimes are CAFOs. The USDA's definition of an animal feeding operation is as follows, "Animal feeding operations confine animals for at least 45 days in a 12-month period, and have no grass or other vegetation in the confinement area" (NRCS, 1). CAFOs "generally congregate animals, feed, manure, dead animals, and production operations on a small land area.

Feed is brought to the animals rather than the animals grazing or otherwise seeking feed in pastures. Animal waste and wastewater can enter bodies of water through spills or breaks of waste storage structures (due to faulty construction, excessive rain, and simple accidents), and non-agricultural application of manure to crop land” (EPA). Typically, a CAFO is owned and operated by corporate food producers who control every facet of the animals life, never stepping foot into one of these cramped feed houses.

These feeding operations require small amounts of land and a large amount of money, animals, food, water, and medical supplies. These feedlots often house an excessive amount of livestock, anywhere from “1,000 cattle, 2,500 hogs over 55 pounds, and 125,000 chickens” (EPA).

In these feedlots, an extreme disregard for animal welfare is evident. From birth, these animals have little to no room for natural behavioral actions and no access to fresh air or sunlight. Oftentimes, these animals will have their tails docked and beaks clipped, disabling them from expressing even the slightest amount of their ingrained natural animalistic behaviors. Even more, because these animals are so tightly packed together, their risk for contracting pathogens and diseases increases dramatically, which then increases the amount of antibiotics and growth hormones they are administered.

One of the main varieties of animals grown in CAFOs are cattle. In these “cow concentration camps”, the animals receive no exercise and no stimulation. “While corn is the king of cattle feed, many industrial food animals are fed just about anything that can add weight cheaply and quickly, regardless of how unappetizing or

sadistic it may seem. Some commonly used cattle feed additives include: hydrolyzed poultry feathers, by-products of slaughtered animals, inter-species waste such as swine manure and poultry litter, antibiotic drugs, cement dust, newspaper, and plastic roughage replacements” (CAFO). Not long ago, cows living under these circumstances were fed pieces of other cows, causing the outbreak known as “Mad Cow Disease”.

Once cows are injected with Bovine Growth Hormone, they are continuously bred until milk production decreases, and are then slaughtered and sold for meat. Most cows never have a chance to leave their stalls until they walk to their death, often times in a separate slaughtering room. The majority of cows in CAFOs stand atop slatted floors with their urine and feces falling through the slats into an open excrement cesspool below. However, many times the floors are not slatted at all, and the cows are forced to stand and lie in their own bodily fluids.

However, the cattle are not the only ones falling ill because of their by-products. “California officials identify agriculture, including cows, as the major source of nitrate pollution in more than 100,000 square miles of polluted groundwater” (NRDC, 1). The Natural Resource Defense Council also found that, “Manure from dairy cows is thought to have contributed to the disastrous Cryptosporidium contamination of Milwaukee’s drinking water in 1993, which killed more than 100 people, made 400,000 sick and resulted in \$37 million lost in wages and productivity” (NRDC, 1).

Pigs are another animal that corporations have deem profitable to raise in large quantities. With 1,000 to 2,500 pigs in one building, these swine have no way of

expressing what it truly means to be porcine. Even though these hog houses are climate controlled, the atmosphere inside is anything but pleasant. The pigs are confined to single stalls with no room to maneuver or turn around. The pigs can also be packed into larger, crowded stalls, with 20 or more pigs limiting movement altogether.

Pigs in CAFOs are often fed and treated the same way as the cattle listed above, and given similar growth hormones. Similarly, with regards to effects on the environment and human health, “in Oklahoma, nitrates from Seaboard Farms’ hog operations contaminated drinking water wells, prompting the Environmental Protection Agency to issue an emergency order in June 2001 requiring the company to provide safe drinking water” (NRDC). Also, “Large hog farms emit hydrogen sulfide, a gas that most often causes flu like symptoms in humans, but at high concentrations can lead to brain damage. In 1998, the National Institute of Health reported that 19 people died as a result of hydrogen sulfide emissions from manure pits” (NRDC). We must keep in mind that the people who were affected in these articles lived in communities close to the CAFOs in question; however, nobody is asking how these toxins are affecting the animals that are creating them.

Unfortunately, for chickens living in these so called poultry prisons, life is far from fair. Laying hens, used only in egg production, “spend their entire lives in ‘battery cages,’ which are wire cages generally twelve inches by eighteen inches, holding up to six chickens. The cages are stacked on top of each other in a layer house that may hold over 80,000 birds. Broiler chickens, or chickens raised for meat, are raised and live with as many as 40,000 other birds in litter on the floor of a

warehouse. The warehouse has no windows and no cooling, and the air is heavily filled with ammonia” (Overcash). These chickens grow extremely fast due to the feeding practices and through the administration of growth hormones. Often times chickens will have heart attacks as early 4 weeks of age, before they can be slaughtered at 7 weeks.

Just like hog and cattle operations, “big producers have found that they can hire out the raising of the livestock. This benefits them in several ways and this example is how it works in the poultry business; A farmer borrows money to build a chicken coop. He signs a contract to raise chickens with say the Tyson corporation. Tyson delivers hatchlings and makes regular deliveries of feed for the next 8 to 12 weeks. Tyson then picks up the fryers. The farmer doesn’t own the chickens; he only owns the manure and the dead birds. He is paid for the weight gain of the birds, plus he gets a premium if his birds weigh more and die less than his neighbors’ birds” (Porter). The farmers contracted to raise animals in this way profit very little, and are often indebted to banks or the conglomerates they have signed contracts with.

In stark contrast of this industrial agriculture model, local sustainable food production values the health of the environment and respects the true nature of the animals it raises. At the forefront of this movement is Joel Salatin. Salatin has etched a path towards sustainability by creating a “solar driven, pasture-based, locally-marketed, symbiotic, synergistic, relationally-oriented farm” (Polyface, Inc). Joel grew up in Swoope, Virginia on the same farm he owns and operates to this day. Polyface

Farm is a shining example of what a little hard work, ingenuity, and reverence for the environment, as well as animals, can accomplish.

Joel raises something he likes to call “salad bar beef”. These are organic cows that are rotated from paddock to paddock each day, grazing on fresh, wild, untreated grasses and clovers. The paddocks these cows graze within are surrounded by a small electric fence and are a few acres in diameter. Each day the cows are moved from one paddock to the next, grazing the same spot maybe once every 150 days, depending solely on nature. These happy cows are never fed grain and are always moving, mowing, and mobbed up, creating an extremely healthy carefree cow. This is historically normal and mimics nature and the natural processes of large herd animals (Salatin).

As long as a cow is producing a calf, it has a home on Polyface Farm. This system of intensive grass management uses solar energy instead of fossil fuels to produce a product. Because the land is broken up by paddocks, it is not continually grazed, which encourages the cows to enjoy each new patch of grass they visit each day. The cows feed the soil and in turn, the soil feeds the cows. Because these cows are in open air fields, and can feel the sun on their backs, their immune systems are constantly functioning at peak performance, eliminating the need for antibiotics (Salatin).

In the winter months, the cows bed down in the hay barn enjoying a feast of previously cut hay, which is harvested from the property. In order to preserve the liquid gold many of us call cow manure, multiple layers of sawdust, hay, and peanut shells are put down to sop up the nutrient dense goodness and to provide a warm

dry place for the cattle. In between every few layers of bedding, corn kernels are scattered and allowed to ferment which encourages the pigs to dig. This happens once the land has thawed and the cattle have moved back to pasture.

Joel has also coined the term “pigaerator”, which embraces the true pigness of the pig. Once the cows move out of the hay barn, the pigs are let in. The hogs instantly pick up on the scent of the sweet fermenting corn and dig in. Using their snouts as shovels, they quickly aerate the “cow bedding/nutrient pack” and in 45 days they have a rich oxygenated compost to apply to their fields. During the rest of the year the pigs are pastured just like the cows, moving from spot to spot, digging and rooting around. The hogs are fed a variety of corn, oats, and soybeans, all organic and free of genetic engineering. About a month before slaughter, the pigs are allowed to run in the forests eating all of the grubs and acorns they can find (Salatin).

Joel’s “pastured poultry” is exactly what it sounds like, poultry grazed on pasture. Just as the cows and hogs move from pasture to pasture each day, so do the chickens, only instead of being vulnerable to predators in the open fields, these broiler chickens are protected by open air wire structures composed of a 75% shaded/protected area and 25% non shaded area. The laying hens, make their homes in the famed “eggmobile”. This converted trailer comes equipped with slatted floors and nesting boxes, allowing the hens to go in and out freely. All of these chicken operations are free grazing and devoid of smell and odor.

The chickens follow the path of the cows on pasture, and arrive to their new paddocks, 4 days after the cows have left. This amount of time allows fly larva to

hatch in the cow patties, creating a veritable buffet for the chickens. The birds work the manure into the soil scratching and sanitizing it as they go.

The beauty of many sustainable farming systems is that they are flexible! There is no single use for any one thing, everything is used in multiple ways, for multiple reasons. This way of farming increases biodiversity, soil fertility, has no need for antibiotics, growth hormones, manure cesspools, intensive use of fossil fuels, or for feeding massive amounts of highly processed GMO grain.

While people such as Joel are healing the land, others are destroying our precious ecosystems and taking our health with them. By supporting local food systems we can help move sustainable agriculture toward the mainstream, generating acceptance around the globe. Factory farms are just as sustainable as they are “aesthetically, aromatically, and sensuously appealing” (Salatin).

Unfortunately, concentrated animal feeding operations are only concerned with the industrial food model, not about taste, quality, or the happiness and health of the products they are producing, and the people they are feeding.

Even though industrial feed lots claim they can feed more people, on less land, for less money, the mile and miles of monocrop grain that is grown just for these operations is never taken into account; not to mention the environmental damage and underlying health effects of such a large and loathsome system. We need to start taking control of what we eat, because only we have our own best interests at heart. By patronizing local sustainable farms, and knowing exactly what conditions the animals we consume are raised in, we can begin to correct the damage, and right the wrongs of industrialized food systems.

Works Cited

- CAFO. (2013). "The Tragedy of Industrial Animal Factories". Retrieved from: http://www.cafothebook.org/theissue_3.htm#up
- Environmental Protection Agency: Nation Pollution Discharge Elimination System. (2013). "Animal Feeding Operations". Retrieved from: http://cfpub.epa.gov/npdes/home.cfm?program_id=7
- EPA. (2013). "Regulatory Definitions of Large CAFOs, Medium CAFO, and Small CAFOs". Retrieved from: http://www.epa.gov/npdes/pubs/sector_table.pdf
- Grace. (2013). "Sustainable Crop Production". Retrieved from: <http://www.gracelinks.org/249/sustainable-crop-production>
- Growing a Nation. (2013). "The Story of American Agriculture". Retrieved From: <http://www.agclassroom.org/gan/timeline/index.htm>
- Gurian-Sherman, Doug. (2008). "CAFOs Uncovered"/ UCS Publishing. Cambridge, MA.
- NRDC. (2012). "Facts about Pollution from Livestock". Retrieved from: Agriculture and the Environment, NDRC articles.
- IDAUSA. (2013). "The Evolution of Factory Farms". Retrieved from: <http://www.idausa.org/facts/factoryfarmfacts.html>
- Overcash, Elizabeth. (2011). "Detailed Discussion of Concentrated Animal Feeding Operations: Concerns and Current Legislation Affecting Animal Welfare". Retrieved from: <http://www.animallaw.info/articles/dduscafo.htm>
- Porter, David. (2013). "Oklahoma Sierra Club and Confined Animal Feeding Operations". Retrieved from: <http://oklahoma.sierraclub.org/greencountry/Pages/cafo.html>
- Salatin, Joel. (2011). "Folks, This Ain't Normal". Hatchette Book Group, New York, NY.

Thrupp, L. A. (2000). "Linking Agricultural Biodiversity and Food Security: The Valuable Role of Sustainable Agriculture". Royal Institute of International Affairs.

USDA. (2013). "CAFO Fact Sheet". Retrieve from: ftp://ftp-fc.sc.egov.usda.gov/NV/web/publications/CAFO_factsheet.pdf