
Farming Today, And What It Means For Our Tomorrow

The year 2017 was about one degree Celsius warmer than an average year on Earth, and from now on, each year is only going to get warmer (NASA). This is what scientists have dubbed climate change, and it has been happening for years. Climate change is often associated with greenhouse gases like carbon dioxide. The phrase greenhouse gas is misrepresented in the media, making it seem like something that is released from the most toxic of chemical spills or from nuclear reactions. The reality is that these are simply gases that trap heat in Earth's atmosphere, and they are released during every-day human activities. Climate change is affected by several things, but there has been a recent conversation about how factory farming, a means of producing animal products, and climate change are interrelated. Factory farming, also called concentrated animal feeding operations, is when animals are kept in "unnaturally high densities" to be fed and bred for meat or other products for human consumption (Turner). Many scientists have concluded that factory farming is accelerating climate change and detrimental to the environment, but others believe it is simply necessary to produce enough food for a growing global population.

Factory farming is one of the top emitters of a greenhouse gas called methane, and this has led scientists to conclude that it is a main contributor to climate change. CH₄, methane, is "a greenhouse gas that is [thirty-four times] stronger than carbon dioxide," meaning that it traps and retains thirty-four times more heat in the atmosphere as CO₂ (Dean). Methane is a powerful greenhouse gas which warms Earth's atmosphere when it is emitted into the environment. There are a few natural emitters of methane, such as "wetlands and freshwater systems," but anthropogenic methane emissions far outweigh natural sources of methane gas (Dean). It has been found that 37% of the world's methane emissions is from the farm animal sector, namely factory farming ("An HSUS Fact Sheet: Greenhouse Gas Emissions from Agriculture"). This is the largest amount of global methane emissions that can be attributed to one specific industry. The agricultural industry is the single largest emitter of methane, and the vast majority of it comes from concentrated animal feeding operations. One way this methane is getting into the atmosphere is from animals' digestion. Ruminants, such as cows, sheep, and goats, emit methane during their natural digestion process (Turner). This is a natural occurrence, but these methane emissions have become a problem because of the sheer density of animals that are kept on factory farms. Animals in concentrated animal feeding operations are typically crammed into a building designed to only feed them until they are ready to be prepared for their fate on a grocery store shelf. This makes for extremely high densities of animals on small plots of land. Since there are so many animals in a small area that naturally would not occur, the density of the methane released from animal digestion and practices such as manure lagoons create exceptionally high levels of methane emissions. Scientists have looked at these facts to determine that the emissions from factory farming has accelerated climate change due to the sheer amount of methane released and its potent greenhouse abilities.

While many people agree that factory farming is extremely detrimental to the climate, others still believe that concentrated animal feeding operations are necessary to produce enough food for the world's population. It is no secret that most people eat meat as the main source of protein in their diet, but it is interesting to recognize that only 2% of the people in the world do not eat animal products as their main source of protein (Moreno). This means that the world requires

massive amounts of meat, dairy, and eggs daily to meet the requests and nutritional needs of the other 98% of the population, and “factory farming is currently the most efficient way of producing mass amounts of animal protein” (Moreno). Although the argument against factory farms stands, it is extremely important to recognize that there are people around the world without enough food to sustain themselves, and if we scale back factory farming, it could result in reduced protein availability and intake around the world, causing malnutrition. Additionally, reducing the size of the factory farming industry could have massive impacts on low-income people. The price of meat has been “decreasing at a constant downward slope” in recent years, so reducing the amount produced would increase demand and lower supply, causing a skyrocketing effect on the price (Moreno). As the largest concern around factory farming is the greenhouse gas emissions, it is necessary to note that recent technology developments have reduced the amount of energy and natural resources that are needed to perform tasks required on these industrial farms (Lusk). Before the current technological advances in the farming industry, it would have required multiple carbon-emitting vehicles to do the job of one new vehicle, or even would have required more animal power resulting in higher methane emissions. Though there are valid concerns about the effects of factory farming on climate change and the environment, it is important to consider that the world’s population is growing exponentially, and there is currently no method of producing protein that is more efficient than factory farms.

As there are two valid arguments on the issue of factory farming, we must consider the remaining question: what happens next? Many people have been taking personal steps to show their opposition to the factory farming industry by removing meat or all animal products from their diets. In a study conducted on American adults, “two-thirds reported reducing meat consumption” in the last three years (Neff). This is especially important to note because the United States of America is one of the top meat-consuming countries. Americans eat dramatically more meat than the rest of the world, at an average of over 100 kilograms per person per year, compared to the worldwide average of 43 kilograms (Ritchie). Since Americans eat a large portion of the world’s meat, they are also responsible for a significant portion of the pollution caused by factory farming. If Americans reduced their meat intake to align with the global average, it could have massive effects on the amount of greenhouse gases emitted and slow the effects of climate change. In addition, there has been a growing trend of limiting red meat consumption. Much of this trend can be attributed to the health benefits that accompany the decision, but environmental reasons are also cited as a cause of the shift in diet. American beef consumption was at the very highest in the 1970s, and “has since declined by about one-third” (Waite). The growing awareness around the issue of factory farming and climate change has led many to not eliminate the food group from their diets, but rather reduce their animal product consumption overall. Beyond personal choices, new legislation in America is being introduced which addresses the issue of climate change. The Green New Deal was introduced by Senator Ed Markey and Representative Alexandria Ocasio-Cortez, and the bill is intended to be an aggressive approach at reducing America’s carbon emissions and slowing climate change. The Green New Deal included means of addressing environmental impacts of factory farming and attempted to place restrictions on the industry to eliminate future danger from the industry (Roberts). While the Green New Deal did not pass in the Senate, Ocasio-Cortez and Markey are in the process of writing multiple smaller bills which would accomplish parts of what they hoped the Green New Deal would accomplish (Steinbuch). This push towards legislation regulating factory farms and the increase in individual actions shows that Americans are gaining awareness that the meat industry is a factor in climate change, and they are acknowledging scientists’ findings on the issue.

With these steps being taken by those in opposition to the factory farming industry, it is important to consider that not everyone is able to make these changes in their everyday life. For many people living on a low or fixed income, sometimes the only option to choose to eat a one-dollar hamburger rather than a ten-dollar salad or meat-free option. Meat is simply affordable and readily available for those in need of a quick, inexpensive, calorically dense meal. The factory farming industry feeds the majority of the world's population; thus, it cannot be eliminated immediately. Rather, we must consider the environmental effects of the food choices we make. When food is purchased, it sends a message to every industry involved that the buyer supports them. Each person must decide for themselves how they wish to vote with their dollar. Scientists and meat-lovers alike make the decision of what message to send with the purchase of their food. In the meantime, the temperatures keep climbing.

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