

# Global Warming, “grass” farming, and a planned economy

by oaklandsocialist

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**Top: Evolution of teosinte grass seeds into corn. Under capitalism this led to monoculture, mass use of chemicals and a host of other harmful effects.**

**Bottom: Regenerative or “grass” farming is part of the solution, including helping stop global warming. To make this the standard, what’s needed is a planned economy under the control and management of the working class.**

*As the global climate disaster threatens, the question that will be on the minds of millions will be: “Is there a possible way to avoid a disaster that could threaten the existence of life on earth?” Michael Pollan’s book “The Omnivore’s Dilemma” helps provide an answer, and that answer is “yes”, but with some qualifications. Here’s why:*

## Corn

Corn has some features that made it the go-to crop including in pre-Columbian times. These include the fact that it uses more carbon atoms in photosynthesis, which allow it to use less water, and the fact that a single corn kernel can grow 300 new ones.

These features (plus a few more) made early societies like the Aztecs dependent on corn. As Pollan puts it, “corn has succeeded in domesticating us.” And because of its complex pollination system, corn proved easy to hybridize. The Native Americans hybridized thousands of different species of corn, adapted to different soils and climates. Also, corn is an easy crop to store for long periods of time.

## US Agricultural policy and corn monoculture

Under FDR, US agricultural policy was to keep the small farmers in business by in effect paying them not to grow too much in order to keep prices higher. Under Reagan, that changed to direct price subsidies. No matter how much a farmer grew, a certain price was guaranteed and if they got a lower price, the federal government paid the farmer the difference. This was an inducement to grow ever more. Economies of scale meant that growing massive

amounts of a single crop would create more profits. Corn was a natural for monoculture because of the amount it produced from a single kernel. The fact that it depletes nitrates from the soil at a higher rate than other crops was not a deterrent because of the development of modern chemistry; chemical fertilizers could take care of that. And if monoculture attracted pests, then modern pesticides can take care of that. The resulting soil depletion (also due to plowing the soil) were compensated for by ever increasing doses of chemicals. These facts lead to a policy that rewards the huge growers.

“So the plague of cheap corn goes on, impoverishing the farmers (both here and in the countries to which we export it), degrading the land, polluting the water, and bleeding the federal treasury, which now spends up to \$5 billion a year subsidizing cheap corn,” writes Pollan. In 1970, the US produced 4 billion bushels of corn. By 2005, that was 10 billion, according to Pollan. (By 2013-14 it had increased to 13 billion bushels, according to wikipedia.)

As for what to do with all the surplus corn, again modern chemistry took care of that, partly through the use of such products as high fructose corn syrup, which is added to huge numbers of processed foods. But the single

greatest user of corn and corn by-products is the beef industry; 60% of the corn produced in the US goes to feed cattle on the feed lots, known as “Concentrated Animal Feeding Operations” or CAFO’s.

Here, the cattle are concentrated by the thousands in huge, open air pens and fed a mixture of products, most of which cows did not evolve to eat. Corn and corn by products are the major ingredient. Because cows (which are ruminants) evolved to eat grass, not corn, they do not digest the corn easily and are subject to infection and disease as a result. That’s partly why they *have to* be fed antibiotics on their way to their date at the slaughter house.

These methods not only produce unhealthy meat, they also deplete the soil by killing off the bacteria and insects that maintain soil fertility and health. By plowing the earth, they help increase erosion. There is also the run-off of nitrates and pesticides which damage the environment, including causing algae bloom in oceans.

Not directly mentioned in Pollan’s book, but of significance here, it is generally estimated that 9% of global greenhouse gas emissions comes from agriculture. We will see the relevance below.

### Organic farming

“Organic” farming, which in 2005 was an \$11 bn. industry, often uses the methods of monoculture and mass produced meat. While it’s not as harmful, it doesn’t really resolve the main problems of industrial agriculture.

Commercial organic farming does little or nothing for the issue of global warming. That’s because, according to Pollan 80% of the fuel used for agriculture is used to bring food to the market. According to the US Department of Agriculture, 30% by weight of all hauling by rail, roadways and waterways is so used. And according to the EPA, the transport sector is the single largest emitter of greenhouse gas (at 29% of the total). But these figures are misleading; they underestimate how a transformation in agricultural practices can be a huge step away from global climate disaster.

### Regenerative or “grass” farming

As opposed to mass commercial organic farming, a new development is regenerative or “grass” farming. Here’s what that means:

In the beginning, there was... the bison. And there were the wolves. And there were thousands of square miles of grasslands at least in North America; similar conditions existed elsewhere. It is estimated that in the US these

grasslands (and some other areas) supported up to 60 million bison, which are also a ruminant, like cattle. The bison were forced by predators – mainly wolves – to bunch up together and also to frequently be on the move. This accomplished several things: It prevented the bison from grazing the grass down to the very roots, which would have prevented the grass from regenerating itself as well as from the more ground-hugging types from growing altogether. It also meant that the bison were a constantly moving fertilizer (manure) spreader.

### One example: Polyface farms

Enter Joel Salatin and his “Polyface Farm”. Although he calls himself a “grass farmer”, Salatin raises not only beef, but hogs, chicken (both broilers and egg layers), turkeys, rabbits and vegetables. Salatin mimics nature by how he raises his animals through “managed grazing”. He divides his pastures into small “paddocks” enclosed with mobile electric fences and moves the cattle from one paddock to another every few days.

How does all this relate to the issue of greenhouse gas emissions and global climate disaster? Let’s get back to the roots, literally – the roots and the dirt they grow in.

When Pollan visited his farm - named “Polyface farm” - the first thing Salatin did was take him out to a field and get him down to dirt level. He emphasized that healthy soil is not simply a soil with proper NPK (nitrogen, phosphorous, potassium) amounts and balance (as modern chemistry claims). Nor is it inert; rather it is in constant change, more like a living organism than a “thing”. Pollan explains the importance of humus, which is “what’s left of organic matter after it has been broken down by the billions of big and small organisms that inhabit a spoonful of earth – the bacteria, phages, fungi and earthworms responsible for its decomposition” if they haven’t been killed off by harsh chemicals. Pollan explains that this decomposition is only part of the process. “A whole group of other

organisms slowly breaks humus down into chemical elements plants need to grow, elements including but not limited to, nitrogen, phosphorus, and potassium. This process is as much biological as chemical, involving the symbiosis of plants and the mycorrhizal fungi that live in and among the roots; the fungi offer

soluble nutrients to the roots, receiving a drop of sucrose in return.... [Humus also enables the soil to]hold water in suspension so that rainfall remains available to plant roots



**Left: A wolf hunting bison; Right: Polyface**

**farm & “multi paddock grazing”.**

***This method of farming mimics what happened before agriculture in N. America, when bison bunched together and were constantly on the move. It builds the soil, allowing it to absorb CO2.***



instead of instantly seeping away.” Think: water and soil retention vs. water runoff and soil erosion.

Salatin explains to Pollan that grass grows in phases – slowly at first, then a sudden spurt and then another slow stage where it becomes “woody” and less sweet. He explains that it’s vital to have the cows graze at the peak of the first growth phase, after it’s started to grow but before the growth levels off. This accomplishes a couple of things: It allows the lower-to-earth grasses such as clover to grow. A legume, clover fixes nitrogen to the soil with its roots. It also stimulates the just grazed grass to grow again. In doing so, the grass puts most of its energy into growing above the soil, shedding much of its roots, which then decay below ground, enriching the soil.

After the cattle, Salatin brings in the chickens who, among other things, eat the fly larvae growing in the cow manure. Scratching and clawing at the manure to get at the larvae, they also help spread it. Also, by eating the larvae, they eliminate a huge mass of flies, thereby eliminating the need for Salatin to bathe his cattle in pesticides. They, too, leave their nitrogen-rich droppings in the paddock as they are happily running about doing what chickens were born to do.

#### Carbon emissions vs. carbon sequestration

*Here’s where the issue of carbon emissions and sequestration (removal of carbon from the atmosphere) comes in.* According to Pollan “if the sixteen million acres now being used to grow corn to feed cows in the United States became well-managed pasture, that would remove fourteen billion pounds of carbon from the atmosphere each year, the equivalent of taking four million cars off the road.” This shows how “grass farming” could be a major step in the right direction, if combined with other fundamental economic and political changes.

Also, as as Pollan explains, 80% of the fuel used in bringing food to the market is used by processing and transporting the food. So consuming locally grown unprocessed foods would be another important step.

#### Leave it to consumer or plan the economy?

Simply leaving it up to individual consumers to “consume locally” might make a few people feel morally just, but it won’t counter all the pressures of agribusiness and their allies. In addition, businesses from Cargill to Dow Chemical have too much influence to ever allow such methods to become generalized. From imposing all kinds of “health” requirements on slaughterhouses that enable only the biggest to survive, to socializing the real costs (in terms of environmental degradation, human health, etc.) thereby enabling them to sell cheap, industrial agriculture

will remain the order of the day under capitalism. But Salatin’s “grass farming” (he actually backtracks and says he’s not even farming grass; he’s farming solar power!) shows what’s scientifically possible.

#### Harvesting subsidies

There are powerful interests opposed to these methods.

First are the recipients of agricultural subsidies. According to Forbes (08/14/2018) by 2018, “Over \$11 billion in farm subsidies flowed to just 6,618 lucky recipients *who received at least \$1 million since 2008.*” Of the 23 largest recipients, these subsidies ranged from \$10 million to \$23.8 million. Nor did the money even go to rural residents. “Residents living in America’s five most populated cities received \$18 million in farm subsidies” and 25% of the subsidy money went to somebody who received at least \$250,000.

NAME	CITY	STATE	ZIPCODE	AMOUNT
CONCORDIA ALLIED PRODUCERS LLC	ASHBURN	GA	31714	\$23,787,621.00
SCOTT FARMS G P	BRINSON	GA	39825	\$21,988,168.00
HEARD FAMILY FARM	BRINSON	GA	39825	\$20,874,304.00
HADER FARMS PARTNERSHIP	ZUMBROTA	MN	55992	\$19,946,024.00
CROSSROAD FARMS	WILLIAMSPORT	IN	47993	\$18,603,265.00
AMERICAN PEANUT MARKETING ASSOC.	LEARY	GA	39862	\$17,907,523.00
JENKS FAMILY FARMS	MONMOUTH	IL	61462	\$17,363,798.00
MICHAEL STAMER FARMS GENERAL PART	WILLMAR	MN	56201	\$14,191,190.00
P G C FARMS	BRINSON	GA	39825	\$14,164,396.00
DELINE FARMS PARTNERSHIP	CHARLESTON	MO	63834	\$14,053,570.00

SOURCE: Department of Agriculture data released via FOIA.

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#### Hooked on corn

As for the smaller farmer, like a drug addict hooked on meth, once she or he is hooked on government subsidies to raise corn, it’s nearly impossible to get off. That’s because after just a few years the soil has become so depleted (and also compacted by the use of heavy equipment) that it would take years to recover. Meanwhile, the mortgage and other debts have to be repaid. And, big farm or small, the over 90 million acres of US farmland devoted to raising corn involve massive investment in that particular crop.

According to Pollan, just two companies – Cargill and ADM – buy one-third of all the corn produced in the US. They control the corn-growing process from start to finish. All this means that there are powerful investments in keeping US agriculture as it is.

#### Hooked on chemicals

Then there is the chemical fertilizer industry, which invests \$3.8 billion annually in new facilities (according to their report<sup>1</sup>). As far as pesticides and herbicides, the EPA stopped releasing reports on their total sales 20 years ago, according to Pesticide Action Network<sup>2</sup>. However, they report that in 2012, agribusiness spent \$12.6 billion on pesticides (90% of the total) and the expenditures for pesticides as a percentage of overall farming costs is increasing.

#### Hooked on processed food

Corn is also essential to the food processing industry. Pollan explains the profits involved. Whereas

<sup>1</sup><https://www.tfi.org/sites/default/files/tfi-stateoftheindustry-2018.pdf>

<sup>2</sup><http://www.panna.org/blog/us-and-world-pesticide-use>

40% of the retail price of an egg (= unprocessed food) goes to the farmer whose chickens laid the egg, only 4% of the price of the ubiquitous corn sweeteners go to the corn farmer. (This also proves the labor theory of value!) As Pollan quotes farmers, “there’s money to be made in food, unless you’re trying to grow it!”

According to the capitalists - including Bill Gates, who salutes<sup>3</sup> the chemical fertilizer industry – all these methods are necessary in order to provide inexpensive food. But is it really so cheap? The reality is that they have once again privatized the profits while socializing many of the costs – costs which include algae bloom from nitrate runoff into lakes and oceans, health care costs, and the costs of long term environmental damage including but not limited to global climate change.

### Two (really) revolutionary steps needed

Two revolutionary steps are necessary: One is to gear food production to social – including environmental – need rather than private profit. This would have to coincide with a conscious and systematic plan for such production. But neither of these steps is possible in isolation; they could only be realized in the context of a planned economy based on social and environmental need. And in any case, even if it were possible to plan food production based on human and environmental need inside a profit-driven (i.e. a capitalist) economy, just that change alone wouldn’t solve the global climate change crisis. What’s needed for that is the transformation of the entire economy, including transportation, industrial production, etc. through such planning.

Such a plan would have to include an integration of the countryside with more urban areas. True, more labor is required for grass or regenerative farming, but huge amounts of labor are potentially being freed up through the introduction of computers and mechanization in other industries.

Then there’s another issue: This writer, who grew up in New York City, worked for a couple of summers on dairy farms as a teen ager. My experience tells me how enormously healthy, both physically and mentally, such work is, especially for young people. Yes, “getting back to nature” should be part of a planned economy!

Another part would have to be preserving wilderness areas. Three quarters of Polyface is actually forest. And Salatin explains how the forest areas are necessary for soil and general environmental health of the rest of the farm.

All of this and more would have to be considered in planning an economy.



### Planning by workers, not bureaucrats

As shown by the failure of the Soviet Union and similar governments, such a plan can only succeed if it is managed and controlled by the workers themselves, including such farmers as Joel Salatin. In other words, through a workers’ state.

And how we get there is a whole other topic!

### Further reading

This pamphlet is condensed from a longer article on our blog site. If you found it interesting, we urge you to check out the full article and related ones on our blog – oaklandsocialist.com. These include

- **“Developing A Marxist approach to global agriculture: a primer on the role of animals in maintaining soil health”** In this article, the author David Walters, also develops the ideas of “regenerative farming.”
- **“Can the Green New Deal Save the Planet?”** In this article, we analyze the different main points of Alexandria Ocasio-Cortez’s Green New Deal from a Marxist point of view. While her proposal has some good ideas, it still tries to deal with global climate disaster within the capitalist system, which is to say without economic planning, and without making a clean break from the profit-addicted economy.
- **“The Environmentalist Manifesto”** This full length pamphlet, also available online, carefully analyzes the enormous harm done by fracking, among other things. It also exposes the links of both the union bureaucracy and the NGO’s to the Democratic Party and big business and shows how these NGO’s serve to water down a real grass roots environment movement.
- **“What is socialism?”** This pamphlet (also available online) explains the basis for the evolution of human society from stone age humans to modern capitalism. It explains that socialism is far different from how Bernie Sanders pictures it. It means the entire transformation of production from the anarchic profit addicted system it presently is to a democratically planned one. It also involves the transformation of the “state” (the government).
- **“What is Revolution?”** In this pamphlet, we show how the structures of the government (the “state”) were organized to ensure that the capitalist class can stay in control. We show, through historical examples, how a working class movement tends to develop its alternative structures and how a workers state can rise to power.

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