

Can a Vegan-based Agriculture Feed Six Billion People?

As we step into the post-petroleum era, we are taken back by the sheer magnitude of our petroleum dependency. The dominant role of petroleum and natural gas products in food production has been largely imperceptible to the average consumer. As we are now forced to evaluate and implement alternatives to oil-based agriculture, a vegan-based agriculture is touted by some as an efficient, viable alternative. The platform most often utilized by the vegan fellowship extols the inefficiencies that are assumed as a result of feeding grain to animals: Utilize the land base to feed people directly rather than the inefficiency of feeding so much grain to livestock only to achieve less bulk in protein. On the surface, this appears to be a logical argument. After all, even the best feed efficiencies, (chicken) requires 3 lbs of feed to produce 1 lb of meat, therefore we could simply feed three times the number of people by feeding the grain directly to people, right? There are two major shortcomings to this ideology. The first involves the human metabolism, which for much of the populace requires the enzymes and complete amino acids as are derived from animal proteins. I will leave the details of this critical aspect to Dr. Joseph Mercola and Sally Fallon, (www.mercola.com; www.westonaprice.org). What I will speak to in the following brief essay is the critical element of fertility.



Long before we ever brought an animal onto this farm, we first converted the land from row-crop to oats and hay fields. We sold the oats to the elevator and the hay to horse folk. We also planted 1000 raspberry plants and a large area to asparagus. We knew we were moving the farm off conventional and into organic, but at that time we did not have a clear plan on how to get there. Everything did fine the first few years but then either slowed down or succumbed to disease. Our ancestors of years ago likewise utilized the land until it became infertile at which point they abandoned it for virgin ground. Land is no longer free for the taking so we had to address fertility. We'd kept a large garden in the past and had experience with using home-based compost, tilling in leaves and such. But on a larger scale, this wasn't practical - perhaps not even possible when considering business economics. This brought us to a crossroads. Now years later, a diverse and symbiotic rotation of livestock provide all the fertility for this farm. As a result, this farm does not require petroleum based chemicals, herbicides or pesticides - the primary motivation that led to this farm's conception.

But what if we had taken the other road - to raise vegetables exclusively? How do organic vegetable farms maintain fertility without some interaction with animals. The answer is...they don't. Most, if not all organic vegetable farms rotate their fields. Planting the same crop in the same ground in consecutive years depletes the soil of specific nutrients while at the same time establishing a favorable environment for disease - be it disease induced by infertility or pest, (the two are interrelated). By rotating into the right type of crops, the assets and liabilities of different crops create a successful growing environment. One of the most important rotations for a plot of ground is the years in which the plot is planted to a legume. Typically this is done every fourth rotation. The effect is significant in that legumes harbor rhizobium bacteria on their root systems. These beneficial bacteria actually "fix" nitrogen into the soil. These legumes are best established with a cover crop - a crop that establishes itself much faster than the legume, thereby holding the soil in place as well as shading the delicate legume sprouts as they emerge. Oats are a common cover crop. By mid-summer, the oats need to be harvested. However, because the farm owner is a vegetable farmer, he or she contracts the removal of the grain, straw and forage to....a local livestock farmer. The financial loss the vegetable farmer realizes by not planting this plot to an annual is offset by the livestock farmer's payment. While a very large percentage of organic vegetable farms are actually spreading animal manure or animal manure composts on their land, it is clear that even if the vegetable farmer chooses not to spread manure, he/she would still be sustaining their farm with the interaction of livestock via plot rotations. With this reality in mind, there are but three choices:

- 1). Buy organic vegetables. Even though the organic farm exhibits a direct or indirect dependence on livestock, you know the fertility was provided by a sustainable source. You know that no petro- chemicals were applied to the vegetables or soil. You know the farm is diverse and more likely to be economically sustainable. You will be allowed to witness humane and natural conditions for livestock.
- 2). Buy conventional vegetables. You know the vegetables and soil will have been treated with non-sustainable and toxic petro-chemicals. You know the farm

was more likely to be a monoculture. You know the quality of the vegetables are scientifically proven to contain less nutrition than organic.

- 3). Grow your own vegetables using home-made, non-animal based compost. You put in the work. You know how it was raised. You are no longer complicit in supporting animal agriculture.

The third option demonstrates the only true vegan diet. However, to be successful in providing complete nutrition, the vegan gardener would have to raise foods containing the full spectrum of amino acids (as well as understanding how to combine these amino acids in order to synthesize essential amino acids in the body). There is no doubt that if one apply's the necessary hours and expertise, one will be successful in their endeavor. Clearly, if the remaining six billion hungry people could be enrolled into this method, many problems in the world would be alleviated. We could then allow all domesticated livestock to become extinct as they would no longer be needed for food nor would there be land available to raise them much less people willing to feed them as pets. The soil formerly used to feed livestock would be divided and worked by all peoples, each for his/her own personal consumption. Perhaps chamber pots would be in vogue for the added fertility this would provide.

It comes as no surprise that most organic omnivores agree with the vegan concerns regarding animal welfare. But these vegan concerns are not spoken from one unified front. The most outspoken and militant vegans are not content with the improvement of animal welfare, but rather, they are explicit in their intent of abolishing all forms of animal agriculture - fully recognizing that to do so would lead to the extinction of domesticated species. While it is fair to say that no one should be told what it is they can and cannot eat, it is equally true that if consumers are to make an educated decision about food production methods and nutrition, they must pay attention to the details. It was only a few generations ago that each one of us had direct ancestry with their hands directly involved in agriculture. Imagine how much less traction the activist agenda would obtain if more people were still farming for a living. Extremism never works when people are informed enough to see through it.

We can certainly disagree with someone, yet respect them for the integrity of their argument. It is truly inspirational to witness someone devoting their life to their passion. An individual or group which promotes a vegan lifestyle and feels strongly enough about their convictions that they are willing to implement the changes and make the sacrifices of themselves, deserves this respect. While I'm sure some of these folks exist, I'm equally sure that most of the *noise* coming from the animal rights loudspeaker is from individuals who've been indoctrinated into an emotional supposition - a sort of alternative utopian reality fed by their passion for animal welfare - which to some degree, but not all, is fed by anthropomorphism. Unless these outspoken folks have their hands in their own personal compost pile - doing the work that will be required in an animal-free agriculture - making the sacrifice that they militantly demand of others, they deserve neither our attention nor our respect. Meanwhile, the only realistic response to animal welfare, nutritional deficiencies and sustainable fertility is found on well managed pasture-based farms. Fertility knows of no free lunch. This statement is not an opinion - it is reality.