

## Thought for Food

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The Uncompahgre Valley Association is dedicated to assuring and enhancing the health, beauty and prosperity of this valley and its surroundings. In this context it seems appropriate to offer some thoughts on sustainable agriculture as part of a wider, increasingly common concern with sustainability generally. The following is an initial overview, offered with the hope that a broader discussion might continue.

Just off of I-70 between Manhattan and Salina, Kansas stood a billboard with a picture of sunshine and wheat proudly proclaiming “One Kansas farmer feeds 96 Americans and You!” Proponents and promoters of Modern American Agriculture used to talk about “Feeding the World.” reminding us that “this agriculture is the most productive in the world.” So why in the world would anybody want something different, or question anything about this near-miraculous source of our food?

One starting place to answer those questions might be the “most productive” claim. If we look at the number of man-hours needed to produce a bushel of corn or many other agricultural commodities, the claim holds up. But there are other measures, other things that are important to agriculture, to farmers, to the broader society—to the world. A few of these are the health of that farmer, his farm, his community and the consumers of his production. A closer look reveals real problems, and questions whether this modern agriculture can continue as it is, and whether that farmer can continue operating the way he does.

The first fundamental problem concerns the enormous amount of fossil energy this system requires. The big diesel tractor with air-conditioned cab, the chemical fertilizers, the pesticides and much else on that farm, require massive doses of fossil fuel, most coming from petroleum. On average every kilocalorie produced in the form of food from such a farm, requires 10 kilocalories of fossil fuel input. With cheap petroleum becoming a thing of the past, the clock is ticking. But that farmer, on average again, was already on the edge financially and was likely staying in business only because of government farm-program subsidy payments.

Beyond the huge and expensive energy subsidy is a host of other problems beginning with the soil—the fundamental base for farming, and in fact for modern urban societies and ultimately, civilization. In much of the corn belt, the breadbasket for the country including that part of Kansas where the billboard stood, about half the depth of the rich, deep black soil has disappeared since we recent Americans began to farm it. Annual plowing has left ground, which was protected for millennia by the tall-grass prairie, exposed for much of every year. The water and wind erosion results, by some calculations, in one bushel of soil lost for every bushel of corn produced. And the constant use of chemical fertilizers and pesticides have left the soil biota so impoverished that increasingly heavy applications are necessary to maintain the high crop yields, that are needed to pay the bank loans taken out to buy the machinery, fuel and fertilizer to keep farming in this “modern” way. It’s a brutal treadmill that has already devoured most conventional farmers and their communities. This pattern is repeated across the country with

local variations in climate, terrain, soils, crops and cultures. But the outcome has been much the same, leaving us as a nation mostly dependent upon an industrialized, large-scale, monoculture-inclined, financially-precarious source of food. There are other problems intertwined with these, but one deserves special attention.

Since the 1950's when this industrialized system started to become dominant, the U.S. Department of Agriculture has been keeping statistics on the nutrient content of our food. For the 43 crops tracked, critical vitamin and mineral content has decreased from between 15% and almost 40% for common foods. Have we noticed? Most of us didn't know to look. But a pattern has appeared showing significant increases in chronic diseases with well-established links to diet. Four of them—heart disease, diabetes, stroke and cancer are among the top leading causes of death in America. Part of this increase is certainly due to altered patterns of eating, but part is also certainly due to decreased nutrients in the food supplied by industrial agriculture.

There are serious, important problems here, so it seems worthwhile to look for alternatives. At the opposite end of the spectrum from industrial agriculture in most things considered above are the Amish—the quaint horse-and-buggy folks sometimes referred to as "Pennsylvania Dutch" though they are also found outside that state, with the largest populations in Ohio. A recent comparative Ohio State study of Amish and conventional farmers there found that, "Small highly-diversified Amish farms relying on traditional draft horse powered equipment have remained surprisingly competitive even in a market dominated by huge farms with massive machinery investments." In fact, the Amish farms were more profitable, certainly on a per acre basis, earning \$126/acre for small grains, \$253/acre for alfalfa and \$65/acre for corn, compared to \$28, \$124 and minus \$9 for those same crops on conventional farms. While the Amish spend more time per acre, they spend less total time per year than their conventional neighbors. How does this happen? The actual acres devoted to the three crops on Amish Farms were only 15, 20 and 15 requiring only 920 hours/year of work to farm them. The 1000 acres of the conventional farm required 3600 hours of work per year! Facts and figures may be better illustrated by an earlier report on "Amish Economics" in Ohio which not only confirmed the greater profitability of the Amish farms but also observed that in the adult baseball league in the town near the Amish settlement, Amish teams always had full player turn-out while the conventional farmer teams constantly scrambled to have a full team and regularly accepted Amish substitutes to keep from forfeiting games—perhaps a commentary on who works hardest, but certainly on who has more leisure time. This study also examined the most serious problems of the two groups. For the Amish the main problem was finding land to buy which they considered suitable for farms for their sons. For the conventional farmers it was simply staying in business

I brought the Amish into the discussion for several reasons. First to contrast their farming with conventional agriculture, but also to show that alternatives can be successful. Equally important, they demonstrate that life can be approached in a much more thoughtful and deliberate way that is still quite creative and not-at-all oppressive (contrary to the first impression many of us might have of the Amish). This thoughtful, creative approach is illustrated by the quite varied adaptations different groups of them have made to modern technology and ways. Some operations are almost totally animal and human powered. Others might have a gasoline engine-powered hay baler pulled by a team of horses. Still others might use a tractor for heavy plowing. The variation is explained by different decisions different church districts (the functional

operational social unit in Amish society) made when confronting some new technology or practice. The central question they ask is simply this “Will this help or hinder us in living how we have chosen to live?” And being very normal human beings, they come up with different answers while holding to some fundamental principles common to all Amish groups. And there is one further point which is important.

In a recent world-wide study of what was described as life satisfaction –a term describing not just the exuberant giddiness of a lottery winner, but instead, a deeper, calmer, sustained celebration of the circumstances people find themselves in, with the lives they have been able to create within those circumstances. The study found several groups at the top of the scale in which 7 was the highest score possible. At the very top were the Inuit (Eskimos) in northern Greenland with a score of 5.9. Virtually as high in second place with a score of 5.8 were the Amish (the Masai cattle herders in East Africa were third with 5.7). There are many things which can be taken from such results, but primary among them is the importance of community and a way of getting along in the world in harmony with nature—factors which describe the Amish very well. And, in fact, also describe very well many in our country, and community (and around the world) who are part of a renaissance of ecologically-oriented and locally-based food production which has adopted a variety of descriptive names including organic, permaculture, holistic, new agrarianism and several variations of sustainable. All share some things in common with the Amish, most notably the thoughtful, deliberate approach to how they have chosen to produce food as an integral part of their lives.

At a recent program on sustainable agriculture held by the Montrose League of Women Voters, one of the speakers, when asked how he got into what he was doing, replied that when he and his wife started to have children, they looked for a way to make a living that could engage the whole family, that would maintain and maybe even improve their health, and that was consistent with the long-term well-being of the planet. They now have a successful market garden and kitchen operation which helps supply the local farmers market and other food outlets in the community. This is just one example in our community, but there are many more here and across the country. An inspiring DVD entitled FRESH has recently appeared which surveys a surprising variety of sustainable operations engaged in several aspects of food production from a downtown garden greens complex to larger farms raising animals and field crops. I'd like to conclude with a brief survey of some of those examples.

An up-and-coming professional black basketball player had finished a game with his team in Europe and was traveling through that countryside. He was struck by the beauty of the farms and farmland and how it reminded him of his childhood farm days back in the U.S. Almost on the spot he decided that those farms represented what he really wanted to do in life. He now has a three-acre intensive produce garden offering 150 varieties of what he calls micro greens within the city of Milwaukee. He takes food wastes from the town and expired food from the supermarkets, composts it with earthworms to create soil for his garden beds. He has tilapia fish ponds that provides further fertilization to keep astoundingly high production levels without using any commercial fertilizer. He not only employs a significant number of people at different stages of his operation, but has ongoing open house days and other outreach efforts that has created a mushrooming in the number of individual garden plots within the city.

Joel Salatin and his Polyface farm outside of Swope, Virginia are recognizable to anyone who is at all familiar with the sustainable agriculture movement in the U.S. In size, his farm is more like what most of us consider a farm to be, but is probably not a full 100 acres. But by concentrating on growing grass (no plowing here), with a continuous rotation of cows, chickens, hogs, sheep with appropriate rest periods for the fields, he is able to earn \$3,000/acre/year compared to his neighbors practicing conventional agriculture earning \$150/acre/year. He hasn't bought any seed or an ounce of commercial fertilizer in 30 years. Because he closely mimics nature in the operation of his farm, weed or animal diseases have never been a problem. Incidentally, it was a visit to Polyface farm by a young local farmer, also a speaker at the league program, that was the final inspiration that propelled him into a nationally-recognized, high quality meat production operation here in Montrose.

I've not mentioned here anything specifically about ranching although operations like Polyface farm graze their animals on cultivated pastures. But there is a vibrant movement afoot in the ranching world using ecological/holistic approaches to raising animals on both cultivated and natural grazing land. It is every bit as effective and exciting as the cultivation examples above. And it is worthwhile to emphasize the element that is essential to most sustainable food production—the importance of having both plants and animals involved in the moving of nutrients through the production/consumption/waste and recovery cycle. Nature has the animals fed by the plants and the plants fed by the animal wastes, and it happens naturally in sustainable systems.

As mentioned at the outset, this is just an overview, but hopefully it at least cracks open the door to this exciting and important movement that is central to getting human habitation on this beautiful planet back on track. We are looking forward to a continuing conversation and UVA will arrange for a public showing of the FRESH video in the near future to provide a springboard. Stay tuned.

The Food Safety Act (S.510) that will probably be taken up by Congress in March 2010 needs to exempt small farms from some of the provisions. As it now stands small local farmers will be subjected to the same burdensome paperwork and fees imposed on industrial farming operations. For more information on this, please go to the Western Organization of Resource Councils (WORC) web page:  
[http://org2.democracyinaction.org/o/5706/p/dia/action/public/?action\\_KEY=1775](http://org2.democracyinaction.org/o/5706/p/dia/action/public/?action_KEY=1775)