

How Can Farming Restore Human and Ecological Health?

Rodale Institute Essay Contest

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In the 2002 Agriculture census it was determined that there is approximately 940 million acres of farmland in the United States. This amounts to 42 percent of the total landmass in the United States (USDA, 2002). The amount of land required for agriculture highlights its potential to have a huge impact on human and ecological health. As the population of the earth increases, more stress is being put on land as farmers strive to produce more food to feed more people. Farming and agriculture are vital for human survival so we must protect the land that allows for our very existence.

Unfortunately, farmland is decreasing in the United States while our population is increasing. As a result of urban sprawl, more crops need to be grown on less land. This trend encourages intensive, conventional, monoculture farming.

People in the United States and throughout the world are facing health problems such as obesity and diabetes. It is estimated that over 64 percent of adults are overweight or obese. The statistics are very similar for children as nearly 9 million children from all states and ethnicities are obese (Kretsch, 2006). Today's consumers are beginning to seek healthy, nutritious foods. The pressure that is being put on agriculture and the world's food supply is creating the need for a change that has the potential to benefit the environment and the consumer.

Global warming is one of the main environmental issues that the agriculture industry will need to address. People are beginning to see the results of years of excessive use of fossil fuels, and there is now a large demand for the development of clean-burning, environmentally friendly energy sources. Agriculture can play a huge role in the fight against global warming. Farmers can produce corn that is processed into ethanol and mixed with gasoline thus allowing a slightly cleaner burning fuel. In 2005,

over 1.6 billion bushels of corn was used for the production of ethanol. This represented 14 percent of the nation's total corn crop (Ethanol Basics, 2007). Many farmers have already greatly reduced the amount of corn being fed to livestock with positive results. Farmers also have the ability to remove the primary greenhouse gas, carbon dioxide, from the atmosphere by growing crops. If farmers use cover crops and dedicate a portion of their land to permanent pasture or forest, they will reduce soil erosion and likewise remove carbon dioxide from the atmosphere.

Many statistics also show that agriculture contributes to the problem of global warming. In the United States, agriculture is responsible for many of the greenhouse gasses released into the atmosphere each year. About 1.5 trillion pounds of carbon dioxide is emitted directly from agriculture (Rodale, 2009). Today, our huge feedlots produce as much waste as many of our major cities, and all of this waste emits carbon dioxide into the atmosphere. Farming requires the use of machinery on a daily basis so fossil fuels are essential to produce the food and fiber necessary to our survival. Moreover, the extensive transportation of agricultural products worldwide also greatly contributes to greenhouse gasses. To help solve the problem of global warming farmers need to do their part to reduce emissions on the farm and reduce carbon-containing gasses in the atmosphere by maintaining a green farm throughout the year. Far too many farms have become feeding centers instead to growing centers.

Water pollution and excess use of water is another environmental problem that is directly related to agriculture. Soil erosion is the most prominent pollutant in most water sources, and agriculture creates much of this problem. Not only does this affect the waterway in a negative way, but the farmer is also losing a precious resource - soil. Soil

is a very important nonrenewable resource that needs to be protected. When soil is lost as a result of erosion, it may take hundreds of years to replace it. Once the topsoil of a field has been eroded, the productivity of the land decreases drastically. The farmer responds by spending large amounts of money on fertilizers each year to maintain crop yields on marginal soil. These same fertilizers will in fact degrade the soil and are the product of high energy manufacturing (Schachter, 1999).

In 2001 Americans spent about 11,165 million dollars on pesticides (Kiely, Donaldson, Grube, 2004). Most of these pesticides were used in production agriculture. Every spring farmers can be seen spraying fields for weeds. In addition, many farmers will use pesticides throughout the growing season, and into the fall when harmful bugs and fungi need to be controlled. Chemical fertilizers that contain nitrogen and other elements are also applied to the soil on a regular basis to ensure that enough nutrients are available for the crops. The use of these chemicals has allowed farmers to become very efficient at feeding the world, but there are also many problems that have resulted from their overuse. Chemicals such as these pose environmental and human health risks that cannot be ignored. Many of these chemicals find their way into water sources and even food supplies and pose a threat to human health. As a nation, we must embrace the natural control of pests through biological control, crop rotation, and other environmentally friendly controls. Moreover, we should learn to be more tolerant of imperfection in produce and small losses to a few pests.

The most complicated issue of future farming is the production of healthy, nutritious, and consumer-friendly products. The health problems of obesity and diabetes are partly the result of foods that are high in calories and low in vitamins and minerals.

The wide use of products such as high fructose corn syrup has created a nation of people who consume more food per capita than any other nation in the world. In the year 2000, Americans consumed 200 pounds of flour and cereal products compared to just 135 pounds in the early 1970s (Putnam, J, Allshouse, J., & Kantor, S. 2002). Americans revolve around the use of technology while exercise and physical activity are becoming things of the past. Food scientists, food marketers and retailers, and farmers are being pressured to change the current food system to provide Americans with healthy, wholesome food products. People are also concerned with chemicals tainting food and disease and microorganisms causing illness. To help combat this problem, government health agencies are beginning to encourage farmers and food developers to produce healthy and tasty food products using fresh produce and lean meats. Many different artificial sweeteners are being developed, and diet products are just as common as non-diet products. “Low-calorie” and “sugar-free” are common words found on many food products. To completely solve this problem, the consumer will need to start living a more active lifestyle, and the producer will need to eliminate high-calorie and nutrient-deficient food products.

The demand for organically grown produce is increasing at a dramatic pace. This “new” type of farming actually revolves around many old practices. Organic crops are not sprayed with chemicals of any sort, and all fertilizers used must be natural. Organic farming provides many benefits which conventional farming does not. One major benefit to the producer is the premium prices being paid for organically grown produce.

Produce that is grown organically also does not need extensive processing. Organic

farming allows local communities to consume food that is produced locally instead of food products that have traveled thousands of miles.

Buying local farm fresh organics can also help save an American tradition – the family farm. These farms are being lost at an alarming rate and organic farming has the potential to reverse this problem. Another added benefit of organic farming is that it is much more energy efficient. Organic farms use less petroleum products, and the wide variety of plants found on an organic farm removes considerably more carbon dioxide from the air. Organic farming allows for healthy and safe food products to be produced which benefit the consumer and the environment (Core, 2006).

There is a part of the FFA Creed that states “in the promise of better days through better ways” (E.M. Tiffany 1930). E.M. Tiffany was referring to the future of agriculture when he wrote those words nearly eighty years ago. I believe these words still have a very special meaning when we think about the history of American agriculture and plan for its future. As a nation, we are facing many problems including costly and scarce energy, numerous environmental problems that seem insurmountable, loss of farmland, increasing human population, declining health, and now an economic crisis that has affected every segment of our global society. Agriculture is indeed part of the problem and can be a part of the solution. I believe that the future of agriculture will depend upon the willingness of the American farmer and the American consumer to embrace new technologies that will use less energy, fewer chemicals, and incorporate the natural environmental factors that have sustained us for thousands of years. We must learn to use, conserve, and appreciate all the benefits that nature can provide rather than

constantly trying to change it. Our “better ways” must enhance our environment, the world economy, and the health all the inhabitants of this planet.

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