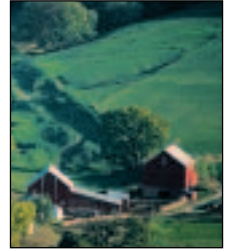


What Is Sustainable Agriculture and How Do We Do It?

By Craig Kallsen



“Sustainable agriculture” should not be considered a separate system from the current production agriculture system in the U.S. Artificial boundaries will not be conducive to meeting the goals of sustainable agriculture or to meeting the challenges of providing food, fiber, and fuel needed by the world’s growing population.

The Sustainable Agriculture Research and Education Program of the USDA’s Cooperative State Research, Education, and Extension Service defines sustainable agriculture as an agricultural production and distribution system that:

1. Achieves the integration of natural biological cycles and controls.
2. Protects and renews soil fertility and the natural resource base.
3. Optimizes the management and use of on-farm resources.
4. Reduces use of nonrenewable resources and purchased production inputs.
5. Provides an adequate and dependable farm income.
6. Promotes opportunity in family farming and farm communities.
7. Minimizes adverse impacts on health, safety, wildlife, water quality, and the environment.

The objectives of sustainable agriculture programs are admirable and each of the points listed above expresses a very worthy objective. Being against sustainable agriculture as expressed in these objectives is akin to being against motherhood and apple pie. However, we have to be careful in our enthusiasm for the objectives of sustainable agriculture that we don’t encourage a backlash against agriculture in general, that is harmful to the food distribution system and human nutrition. Some enthusiastic supporters of sustainable agriculture are creating an image of agriculture as it is currently

conducted in the U.S. as a ‘nonsustainable agriculture’. Creation of artificial boundaries between us (strong adherents of sustainable agriculture objectives) and them (other people who do agriculture) is not conducive to progress in meeting the goals of sustainable agriculture.

The fact that we defined some desirable objectives and loosely encompassed them under the term ‘sustainable’ agriculture should not suggest that our current agricultural system in the U.S. is unacceptable, antiquated, or evil. American agriculture, while far from perfect, is productive, evolving ecologically, and remains an important breadbasket to the world. Agriculture within the confines of the U.S., and even more so in many western European countries where population growth is negative, becomes more sustainable every year.

We do not want to get into playing the game of who is more sustainable than whom. While a sustainable agriculture is essential for maintaining long-term human existence, problems with its establishment are in the details. Putting full effort into meeting one of the objectives of sustainable agriculture may infringe negatively on one of the other objectives. For example, the development of the tomato harvester maximized the use of on-farm resources (such as capital) and improved farm income for some tomato-growing farm families while at the same time reduced employment opportunities for others who

depended on hand-picking for their livelihood. Which uses less non-renewable energy—a single tomato picking machine, or 60 people driving to the farm to harvest tomatoes by hand? Who decides what is an adequate and dependable farm income? The objectives of sustainable agriculture are not as straightforward as they appear and conducting a more sustainable agriculture is just as much of a balancing act among environmental, economic, and social issues as is any other human enterprise.

Many of the success stories described for programs supporting sustainable agriculture describe small family farm enterprises. Typically these families have found a niche that is vertically integrated in that they both produce food or fiber and take a more active role in marketing it. Often they receive a price premium for their produce because it was grown organically with natural pesticides and fertilizers or, at least, with reduced levels of synthetic pesticides and fertilizers. While these enterprises are admirable, there is no way that everyone who desires to make a living from agriculture can survive economically doing this. If too many people get in the niche, it either is no longer a niche, or it is overly crowded and somebody is no longer going to have an adequate or dependable income.

Large corporate farms are often accused of being contrary to the objectives of most if not all of the goals of sustainable agriculture. In fact, some of the most innovative and environmentally friendly farming practices are being conducted by large farming operations in the San Joaquin Valley of California. These practices include integrated pest management, water protection and storage, the creation of good paying jobs with reduced drudgery and with reduced potential for repetitive work injuries, and the use of more energy efficient machinery that comes with taking advantage of scale.

There is a potential danger of having an agriculture that gets too far out ahead of the rest of American society and the world in sustainability. For example, the world's current use of oil is not sustain-

able. Oil reserves are down and world stockpiles of agricultural commodities are the lowest they have been for years. The forecast increase in world population is not sustainable. World agriculture, sustainable or not, must sustain the world's population growth, sustainable or not. Somehow American agriculture will have to help support the huge population growth forecast for many of the world's developing countries. To feed the world's burgeoning population over the next 50 years or so, we need the ability to harness the productivity of synthetic fertilizers, pesticides, and groundwater supplies, even if the use is nonsustainable. Sustainability, and the health of the world environment, may have to be compromised to some extent in the short-term, if people are to be fed in the next few decades. Agriculture is just a piece, albeit an important piece, of society. For sustainability to occur in agriculture, society, as a whole, must use its resources of air, water, land, energy, and all else in a more sustainable way.

To insist that farmers in the U.S. become fully sustainable immediately, when farmers in the rest of the world are not, puts American farmers at a real and distinct economic disadvantage. Sustainable agricultural objectives should be guidelines for all of agriculture. To try to make these guidelines into a separate farming system or a philosophy of life is to unduly complicate the already fragile balance that feeds the world and keeps food affordable.

Sustainable agricultural programs have rediscovered and increased the knowledge base of practices that farmers used to maintain their productivity before the advent of the 20th century. **The safest, most secure, and prudent changes that agriculture accomplishes toward greater sustainability occur from within the agriculture system, one producer at a time, and not from attempts to force premature and possibly catastrophic changes en masse from the outside.** **BC**

Mr. Kallsen is Farm Advisor, University of California Cooperative Extension, Bakersfield; e-mail: cekallsen@ucdavis.edu.