

A Farmer's Perspective on Sustainable Farming

William G. Brammer

California Certified Organic Farmers

Santa Cruz, California, USA

Background and Evolution

Today I would like to describe the practice of sustainable agriculture from an organic farmer's point of view and then draw attention to specific areas of research and public policy which I feel would greatly benefit both farming and community development as a whole. I would like to describe the crops that we grow and the market plan that we have developed to make our farm (Be Wise Ranch) more sustainable in relation to the immediate adjacent large urban area.

In 1977, county farm advisors told us that we would not be able to grow anything on our 20 acres of land because it was too rocky and steep. However, we cleared the property and added alfalfa hay and organic matter to the soil since the soil was low in nitrogen. Grass around the trees where the alfalfa was added became much greener than the rest of the grass after the winter rains. Five years later we were growing and harvesting avocados, oranges and lemons.

After five years, we leased ten more acres to grow vegetables because tree crops take so long to mature, and we needed another source of income. We decided to save money by growing all our own transplants in the greenhouse and we eventually developed a very diverse farm. We found that we could grow tomatoes in the off-season since the growing season is very long in our area. Other vegetables were produced as we gained experience.

After planting the initial thirty acres, we leased another 220 acres of flat ground and in the last few years we have grown several different crops. We plant tomatoes, squash, corn, carrots, melons, lettuce, cucumbers and beans on a weekly basis. We started picking the fall crop about two weeks ago (late September) and expect to continue until early December. We have corn in various stages of development and also potatoes. We are harvesting red, yellow, and purple peppers for market and baby lettuce for restaurants and hotels. When a particular crop is finished, we disk it under, till the soil, add some compost and replant it, using floating row covers to exclude insect pests.

San Diego is about 18 miles south of us. In the future I believe we will see a lot more farms close to urban areas. Our proximity to San Diego allowed us to gradually develop a marketing plan specifically geared towards local urban markets. We began very conservatively with a small piece of land, very little money and equipment, and no farming experience in my background. We gradually developed a variety of markets. We started with the local and farmers' markets; these markets were not successful for us because we did not have enough diversity to justify the amount of time spent there (we were growing avocados and citrus at the time). We then decided to expand for the wholesale market and we began to grow tomatoes, squash and cucumbers in the spring and fall in order to hit off-season marketing windows. One of our major problems in Southern California is the high cost of water (\$700 per acre-foot as compared to the San Joaquin Valley which is about \$14 per acre-foot or \$20 per acre-foot in the desert). Since water costs are very high and land is very expensive, we have to hit marketing windows and/or develop creative markets.

Last year I started going directly to local retailers, hotels and restaurants with more specialty crops (baby lettuce, carrots, tomatoes, squash, cucumbers) to develop that part of the business. This year, we began a program called Community Supported Agriculture, a concept which originated in Japan. In this program, the farmer provides a wide assortment of fruits and vegetables directly to consumers. We have established about ten drop-off points in neighborhoods throughout San Diego, and we deliver boxes of produce to these points. Since June, about 200 families have enrolled in the program. It is a way for us to get closer to the consumer. In the past, the only time we ever got any feedback was when a wholesaler wanted a "credit." Wholesalers normally do not say "the squash is wonderful, you should charge more," but "I need a credit on this box or that." Now suddenly, we are starting to get direct, positive feedback from consumers about the freshness and quality of our produce; this gives us great satisfaction and encouragement.

Sustainable Farming in the Larger Economic Community

Now I would like to discuss the elements that I feel are important in making a farm and farmer sustainable in relation to the larger ecological and economic community: namely, spiritual values, good relationships in the surrounding community, and viable economic stability.

Spiritual Values

One of the important things about this conference is its emphasis on spiritual values and practices as necessary for a good sustainable organic or natural farm. Very little is said about this at most farming Conferences. When a farmer plants a seed and a tender little shoot comes up which survives the effects of bugs, weather and wind, squirrels and deer, it is amazing that the plant can actually survive to harvest. It is magical to watch the whole process unfold. Eventually, you taste the flavor and eat the fruit of what was actually planted as a little seed. The process gives you a great reverence for nature and for God.

There are some principles that apply everywhere; as a farmer, you reap what you sow, and what you put out comes back to you. We're beginning to see this unfold in our environmental problems. We used a lot of chemicals in the 1940's, 50's, and 60's which are now causing problems. Paradise on earth can be implemented with an organic or natural system, and I think a lot of farmers are proving that this ideal can be successful. In California, farmers are growing up to 2500 acres of organic grapes at a cost similar to that of conventional farmers. The flavor and nutrition are better than conventionally-grown grapes and they are not using any chemicals on them. Cal Organics, a 2000 acre diversified vegetable farm in the San Joaquin Valley, has proven that sustainable farming can be done on a large scale. But we've got to keep looking to the future if we are to make wise decisions today.

One of the most important systems that I have read about came from the Hopis; they plan for the next seven generations, they think about effects on their great-great-great-grand-children, not just the bottom line for today or for a few months. As a nation or as a business, one of our big problems is that we look at everything for short-term benefits, and not for long-term effects.

As farmers we are caretakers of the land for the future; what we do now is going to have a dramatic impact in the future. This is the reason why I think organic farming is a living example of a good ecosystem. We are trying to cooperate with nature instead of trying to dominate it; this is much more than a decision to use or not to use chemicals. I think that the USDA's goal to reduce pesticide use by 75 percent by the year 2000 is possible, but I also think that we are going to have to change the way we look at farming. We can't just eliminate chemical pesticides and think that we will have a successful operation. We will have to change our whole philosophy about growing crops. We have to improve the soil to farm organically; we can't just be organic by neglect. One of the important things about sustainable farming is that it encourages development of a healthy, vibrant soil, full of microorganisms, in relation to the local environment.

Social and Community Values

I believe that organic farming is a very important part of the fabric of society. This is one of the things we haven't stressed because we are so busy just trying to grow crops, make money and stay in business. We have to demonstrate to society why and how we are important. For example, organic farms recycle waste. Organic farming methods can use wastes discarded by other parts of our society and as a result, reduce the amount of wastes going into landfills. I think China is a good example of this; in the last four centuries, the Chinese have taken wastes from cities to farms, used them as fertilizer, and brought them back in the form of food to keep the cycle going.

Another way that organic farms help society is by cleaning air and water. We organic farmers do not use toxic chemicals and pollutants. We are not going to manufacture them. Therefore, they will not spill into Lake Shasta or blow up in India. These problems will be eliminated before they start.

Organic farming also helps maintain open areas and wildlife corridors. Right now in San Diego we are trying to get 120,000 acres set aside for wildlife and endangered species protection. There are about 300 such species in San Diego County. We are working with environmentalists and with the government officials to convince them that organic farms can be part of the wildlife corridors.

Obviously, certain areas in San Diego County need to be left in sagebrush for the gnatcatcher. But a gradual transition from urban areas, to farms, and then into the wildlife areas free of human habitation would provide a good balance. It would keep open spaces for wildlife and would make the urban areas more livable. For example, I grew up in Los Angeles when much of the city was in orange groves; now traffic on the freeways is at a standstill. This is not a good way to live. Integrating towns with farms as they do in Europe - where older civilizations are integrated into the fabric of society - would make them a much more pleasant place to live; this would also bring food sources closer to consumers and give them a better appreciation for the farmer. In addition, food would be tastier and would be more nutritious when grown with good organic farming practices. Farms close to the city can also provide a good education for children about how their food is produced. They would be able to see the power of nature and how it works, i.e., instead of going to the supermarket, buying their food off a shelf, and thinking that milk comes from a carton, not a cow.

Economic Stability and Sustainability

Economic stability is also important for sustainable farming. I think that a farmer has to maintain good business practices to have a truly sustainable farm. As with other enterprises, if the bills are not paid, the farmer will cease to function as a businessman. Diversification was one of the ways that we found to make our business grow; we try to grow as many different kinds of crops as possible. This makes us less efficient in raising individual crops, but it spreads our risk and it also opens up many marketing opportunities. We were able to supply hotels, restaurants, local markets, and participate in community supported agriculture because we can supply a variety of produce to meet the need. I am referring to the urban farmer who is able to tap into local markets and not to the grain farmer in Kansas who requires large equipment to farm his very large acreages.

I also think it is important not to incur a lot of debt. In the late 1970's and 80's, the USDA encouraged expansion: i.e., plant fence row to fence row, borrow lots of money, and there will be plenty of markets. In time, many farmers were forced out of business because of their heavy indebtedness. Instead of borrowing, I recommend starting slowly, and building momentum as your cash flow increases.

Marketing is the most important element for economic sustainability. Deciding what to grow, when to grow it, when to harvest it, and then selling the produce at the best location will help to involve the local community in your farm; these are some things that will help a farmer to succeed. You also need to collect your payments, which is important especially in this economy. Many farmers who produce good crops have no idea how to sell their product or to collect the money owed them. In order to be able to keep the farm going, they need to aggressively collect from brokers who often delay in making their payments.

Research and Education

Now I would like to touch on some specific areas of research and policy which I think need to be addressed by our research and governmental institutions. In the research area, studies are needed to develop non-chemical solutions to such pest problems as the cucumber beetle, mildew, bird, rodent and deer damage. In the public policy area, there is a need to recognize the sustainable local family farm as an ecologically-important food resource for urban communities. This includes the education of urban consumers and policymakers who do not have a clear understanding of the importance of local farming in a sustainable and balanced community. I would particularly like to address the problems of development and astronomical inflation of water costs which are now driving agriculture out of Southern California into Mexico.

Since there are a lot of researchers here from around the world, I would like to say something about what I as a farmer need from research institutions. I serve on the University of California Public Advisory Committee on Sustainable Agriculture and we are starting to see more whole farm systems research instead of narrow studies on isolated aspects of farming. Pesticide research is still focused on the elimination of one pesticide for a less toxic one. We are now trying to look at the

system holistically: how to make farming more sustainable; how to make it more environmentally-friendly; how to eliminate many different toxins; and how to create a better tasting product. In our farming operations, we have suffered many crop failures, e.g., we have lost several fields of squash to mosaic.

Another area that we would like to see developed is the invention of inexpensive tools for small-scale vegetable farmers. The cost of water is so high that we are now trying to grow vegetables on drip tape. Much of the technology has been developed for sprinkler irrigation; we need a machine that can cultivate without disturbing the irrigation tape. With an ever increasing cost of water, we need research into inexpensive transplanters and cultivators that will work around drip tape which will be used to a greater extent in the future.

Small scale hydrocoolers will also need to be developed. We built our reputation on quality, and one of the most important practices that contributes to quality is good post-harvest handling. If we can't preserve the quality of a well-grown, nutritious crop after it is harvested, i.e., with the proper storage temperature and humidity, the produce will not arrive at the market in good condition. Originally, organic farming got a bad reputation because farmers were under-financed and did not have the resources for proper handling and storage of their produce. For example, a box of lettuce left in the sun will soon wilt badly and not keep well. Some said that this was the way organic produce was supposed to be, but now organic farmers and brokers know how to preserve the excellent quality of organic produce. Also, recyclable row covers, mulches, and drip tape are needed so that we do not add to the waste. Right now it is necessary, with water costs at \$700 per acre-foot, to reduce water and labor costs as much as possible. Some research on the cost-effectiveness of starch polymers for soil water conservation would also be useful.

Public Policy Issues

Local Production and Marketing

We need to encourage farmers to produce more locally-grown food. Santa Barbara is a good example of an area where locally-grown food is plentiful; several small organic farms provide produce to area restaurants and hotels. Small farms, like other small businesses, are adding jobs to the economy as compared with the large corporations. Local farming also reduces transportation costs and the time needed to get the produce to market. As a result, the flavor of the produce is better because it is picked ripe. It is not surprising that consumers complain about tasteless vegetables since, for example, conventional farmers pick tomatoes green, gas them with ethylene, and then send them to market.

Biotechnology

One research solution might be biotechnology, i.e., removal of a decomposer gene and, thus, prolonging shelf-life. I think we need to take a closer look at this "solution" before we accept it. It may be that this solution is similar to hybridization, but right now it is not acceptable to the organic community. Why do we need a longer shelf-life? Instead, we need to produce ripe tomatoes closer to the market. The consequences of this concept would be smaller farms and a smaller-scaled agricultural system where locally-grown food would create jobs and distribute the revenue within the local community, and at the same time provide better tasting, more nutritious produce for the consumer. We also need to examine the recycling of local wastes, i.e., leaves, manures, and lawn clippings for use as organic amendments to improve soil quality on organic farms and to help alleviate a waste disposal problem.

Set-Aside Programs

We need to work with consumers and in the schools so that non-farmers will gain respect for the land and other natural resources, and will experience the wonderful taste of fresh produce that our grandparents enjoyed. We do this by inviting entire families to our farm and by encouraging them to support set aside programs that would provide land for future farms. In many localities around San Diego developers are rapidly transforming raw land into urban and industrial developments. If some of these lands are not set aside for farms now, it will be impossible to do so later. In San Diego

County we are trying to encourage the use of organic farms as greenbelts, to encourage the government to set them aside for the long run. Developers now have to set aside land for endangered species; it would be nice if that land could be viewed as a developing ecosystem. We have found that we have more wildlife now on our farm than when we started; it is now a vibrant ecosystem. We need more research into the use of farms as greenbelts to provide environmental solutions to some urban problems.

Affordable Water For Agriculture

Unfortunately, in Southern California we have done little to make the cost of water affordable to farmers. The NAFTA agreement may make it possible to bring produce in from Mexico where people are paid \$7 a day instead of \$6 per hour. When water costs suddenly go to \$700 per acre-foot, it is very difficult to compete. I don't want subsidies, but there has to be some equitable way to encourage organic farmers, maybe through recycling of water. Water losses are large in Southern California, so we need to decide how to use the available water and how to make it more affordable. I also think the same problem will develop soon in other parts of the world where this precious resource is being rapidly depleted with little hope of recharge or replenishment.

Organic Certification Programs

During my five years as president of CCOF (California Certified Organic Farmers), we helped to draft and pass the Organic Food Act of California and we were involved in the passage of the federal organic standards. We have seen rapid growth in California during the last five years. CCOF farms now total about 72,000 acres. Agribusiness and other segments of the industry are becoming interested in organic farming. The California state standards law is expensive and the bureaucracy has been slow to implement it. We would like to see a national overview program which would certify the certifiers, develop a good materials list, and work to keep the costs down as much as possible. As it stands now, the current law needs more enforcement by certifiers and states.

Soil Health and Human Health

More documentation and research is needed on the effects of soil health and microorganisms on produce in the United States. In the U.S. we have had trouble promoting organic produce as nutritionally-superior to conventionally-grown produce, even though we and many of our customers believe that good local organic produce is more nutritious. This needs to be examined more fully. I encourage the USDA to cut down on pesticides, and I'm glad to see the year 2000 goal. Conferences like this one set high standards, but we can reach them in our lifetime. As we educate people about the long-term benefits of sustainable agricultural practices as well as the health benefits to consumers in general, I think that the lessons we are learning in sustainable farming can be used to help make this world an ecologically-sound and beautiful place for our children and our children's children to enjoy.