



## The *New* American Farmer

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### Jim and Moie Crawford

Hustontown, Pennsylvania

#### Summary of Operation

- *More than 40 varieties of organically grown vegetables on 25 acres*
- *200 laying chickens*
- *Co-founders of a 20-member organic marketing cooperative*

#### Problems Addressed

*Environmental concerns.* Former gardeners, Jim and Moie Crawford sought to grow vegetables both profitably and in an environmentally sensitive manner. “We were both interested in gardening,” says Jim Crawford. Near where he grew up, a farmer grew produce and sold it in the neighborhood, “so I developed a desire to do this from my childhood.”

That memory inspired the adult Crawford, who, in 1973, began farming in ignorance but with a lot of enthusiasm and good connections with other farmers.

*Operating at a profit.* Rather than accept wholesale prices, the Crawfords help found the Tuscarora Organic Cooperative in 1988. The co-op establishes an efficient marketing system that helps ensure premium prices the farmers need for economic success.

#### Background

Today, the Crawfords use an intensive management system incorporating crop rotation, cover crops and organic soil inputs to operate their 25 acres of organically grown vegetables near Hustontown, Pa. To keep pace with the fresh produce market, they grow more than 40 crops of vegetables, with 180 to 200 plantings each year.

The Crawfords direct market their produce at farmers markets in Washington, D.C., and through the Tuscarora Organic Growers Cooperative.

#### Focal Point of Operation — Intensive vegetable production

Intensive management practices allow the Crawfords to raise more than 40 vegetable crops on 25 acres, two cold frames and a greenhouse. “We’re direct seeding crops in the fields from as early as the end of March, if the weather permits, all the way into mid-September,” says Crawford. The only time they are not seeding in the greenhouse is September.

Because their business revolves around the fresh produce market, the Crawfords strive to extend the season as long as possible in their cool Pennsylvania climate. They begin harvesting vegetables by the end of April and are able to sell storage crops such as winter squash, turnips and potatoes into the winter.

They start early spring and late fall crops under “high tunnels” — plastic-covered hoop structures measuring 20 by 100 feet. The greenhouse is used mainly to start plants for field planting, but salad greens also are grown there to harvest in late winter.



Chris Fullerton

*After Jim and Moie Crawford switched from wholesale to direct marketing, their profits soared.*

Each season, the Crawfords move 180 to 200 vegetable plantings from their greenhouses into the ground, often setting out 500 to 2,000 transplants at a time. “To make this work, there are lots of things happening in any given week,” Crawford says. This is no understatement.

To accommodate the consumer market demand for a daily supply of fresh produce, the Crawfords plant beans 15 times and lettuce 25 times. Corn is planted nine times and harvested weekly, extending the corn harvest from late July to late September. Most vegetables are planted anywhere from four to 25 times, with a few nonperishable crops, like winter squash or pumpkins, planted only once.

Plants started in the greenhouse and transplanted into the field require hand work. “We have owned three transplanters in our time, but we’ve ended up discarding all of them because our plots are so small that we are actually better off transplanting by hand,” says Crawford. “With only a couple thousand plants at a time and continual

adjustments to the machine for different crops, it isn’t worth the trouble.” They do save time, however, by using seed planters.

One of their main sources of organic matter is composted manure from their 200 laying hens, along with manure from local chicken farms. Crawford also spreads mushroom soil, a fertile byproduct available by the truckload from southeast Pennsylvania’s active mushroom industry. The “soil” is actually the spent remains of composted matter such as hay, leaves, manure and sawdust that mushroom producers use to cultivate their product. Crawford leaves a portion of the farm fallow each year.

The Crawfords devised a rotation for crops that require more fertility, especially nitrogen. For example, they’ll plant sweet corn in the first year on soil freshly spread with manure. They follow the next year with tomatoes that do not require the same high level of nitrogen. The third year is a crop of beans or peas that produce their own nitrogen. In the fourth year, Crawford spreads more manure and plants a crop like squash

that requires a fresher source of nitrogen.

They control insects and weeds primarily through their well-managed rotations supplemented by hand labor and mechanical cultivation. They also use beneficial insects to control pest populations and have applied some biological pesticides, such as Rotenone.

The intensive hand labor required is more than the couple can do themselves. They hire six apprentices from early spring to late fall who live in a nearby “tenant house,” which the Crawfords purchased down the road, or with them on the farm. They employ an additional six to nine hourly employees, including high school students, during peak times in the summer months.

### **Economics and Profitability**

Effective marketing of the Crawford’s organic vegetables became a critical component of their success. “The simple way to do it was to load everything you had onto a truck and haul it down to the city to the wholesale market — unload it and get a few bucks,” Crawford says. “We tried that.” They also would deliver wholesale products to retailers and restaurants.

They soon realized those approaches did not bring prices to justify the time spent managing sales. It also did not appeal much to buyers, such as chefs, to deal with an individual farmer when they were used to choosing from a huge line of offerings from distributors.

“We thought that by forming a cooperative and getting a group of growers together, we could be more attractive to the market and operate much more efficiently,” says Crawford.

The Crawfords were one of five growers to form the organic cooperative. They now

have 20 certified organic members with a 5,000-square-foot office and warehouse equipped with coolers and short- and long-term storage facilities. By marketing the produce wholesale through their cooperative, the farmers incur a much lower marketing cost per unit.

Crawford describes the operation as a produce wholesaling distributorship. Growers bring their produce into the warehouse and co-op staff oversees sales. The co-op usually makes two deliveries per week to Washington, D.C., using one or two 16-foot trucks. During peak times, they may make three deliveries in a week.

Co-op staff promotes sales over the telephone and sends out notices of produce availability. The major customers of the cooperative are small retailers and restaurants, and a few institutions. Restaurants buy about 60 percent of the produce. Co-op sales for the 1999 season totaled almost \$700,000, which represents a steady increase since 1988, Crawford says. Gross produce sales from their farm alone totaled close to \$250,000 in 1999.

“We have increased our sales by 100 percent in the past 10 years by becoming more intensive and successful in our practices,” Crawford says.

### Environmental Benefits

Crawford credits the increasing capacity of the farm not only to the intensity with which they farm, but also to sustainable practices he feels has improved the quality of the land. The Crawfords are able to maintain fertility in their land, even under intensive use, through crop rotation and incorporating cover crops, minerals and other organic matter into the soil.

“To be operating in what we think of as a sustainable way, we’re not depleting soil,”

Crawford says. “We’re building up the resources, which is very important to us.”

Each year, they test part of their acreage, usually patches that have generated some problems. They not only look for the soil’s phosphorus, potassium and organic matter content, but they also evaluate trace elements like calcium and sulfur. Crawford is proud of the increased fertility of the soil, which he says has improved in the past 27 years. Those improvements can be seen in both improved plant quality and increased production. “We started with land that was not particularly fertile,” Crawford recalls. “We were at a fairly low point, but we’ve seen an enormous change in the fertility of our land since.”

The Crawfords’ rotational system is more complex than that of larger, conventional farmers because of their wide array of crops. “We’re always sure not to plant any crop in the same ground more often than every three or four years,” Crawford says.

### Community and Quality of Life Benefits

The Crawfords run an organized apprentice program they structured to benefit employees as well as help with their labor needs. Not only does an apprentice receive a monthly salary and free room and board at the tenant house, but he or she will likely earn an end-of-season bonus. Moreover, all of the apprentices participate in educational seminars the Crawfords hold about various aspects of producing and marketing produce.

Working in the Tuscarora Organic Co-op puts the Crawfords in regular contact with other farmers who share their values. At about six meetings a year — and in phone conversations that take place frequently throughout the season — the group trades information about new techniques, pest control and the like. “It’s a very important part of co-op,” Crawford says. “We’re learn-

ing all the time.”

Each year, the co-op organizes a production plan that guides members in what to grow, and how much, to ensure the co-op’s markets are well-covered. The co-op continues to evolve as farmers hear about Tuscarora — and its market edge. “We’re not closed and static,” Crawford says. “We continue to grow and change.”

### Transition Advice

Crawford cautions that those wishing to get into a family-sized vegetable operation may have a difficult time economically. They should expect to take a lot of risks and put in a lot of hard work. “We’ve survived because we have spent the last 27 years trying to develop a model that will support us,” he says.

On a brighter side, Crawford says a cooperative that markets your produce can make all the difference. “Marketing cooperatively is a fantastic improvement,” he says. “You are part of a much larger system of which there is a lot more to offer to the buyer. And you’re much more competitive with the mainstream.”

### The Future

The Crawfords plan to continue with the vegetable operation and hope to steadily increase the production on their 25 acres. They have not increased the acreage they farm for many years, yet they feel it still has potential for more production.

■ *Mary Friesen*

### For more information:

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