

Organic Plan for Hoyland Farm 2008 Update

My wife, Joy, and I were Peace Corps Volunteers in Nicaragua from late 1970 to early 1973. I was sent there as an emissary of the Green Revolution. There, I got a lot of experience working with people who were involved in both subsistence and market oriented farming. I learned a tremendous amount and had two years to think about agriculture. I saw, first hand, some of the drawbacks of chemical agriculture, but also the allure of chemical solutions. The drawbacks included health hazards to the farmer, as well a danger to water and wildlife. At the same time, I enjoyed turning seed, soil, water, labor and knowledge into wholesome food. We also enjoyed being a part of a rural community. We decided that upon our return, we wanted to live a rural lifestyle and make a part of our living from farming. We rented a house on a ranch north of Lawrence for three years as we returned to school and I worked as a hand on the ranch. I was able to use some of the landlord's property garden organically. At the time, the conventional farmers I knew considered organic farming to be admirable, but unrealistic. Many of them are now out of business.

In 1976 we bought a forty acre farm just a few miles from where we rented. 1976 was our first growing season, so 2008 is our 33rd year of growing on the same farm. We have used organic methods that whole time. We first became certified in 1994 through OCIA and then switched to ICO in 2003 because of odd politics in OCIA and an increasingly burdensome user fee.

We have marketed through farmers market, wholesalers, and to stores and restaurants. In 1994 I became a founding member of a CSA/subscription marketing coop called Rolling Prairie Farmers Alliance. This increased sales significantly and put me in close contact with other organic growers. We have been able to teach each other a lot about organic production and marketing. When I was growing alone, I stopped going to market and only sold through Rolling Prairie and to the Community Mercantile. Several years ago my 29 year old son returned to the farm and we have again been selling at the farmers market.

Having had my first experiences as a backyard gardener and in the Third World, I have been slow to embrace the use of machinery. I have had a tractor for only about five years now. Other important machines are a tiller, a DR mower, and a chain saw. I still get excited by a good quality hoe.

Our farm is on the top of a divide. Water runs off in three different directions. This is an advantage in that no one else's water born chemicals, with couple of exceptions on our new property, can run off onto our land. Our roadside is posted with "No Spray" signs, and after some hassles, our neighbors understand and respect what we do and modify their spraying in order to protect our crops. There is evidence that the land has been abused in the past and it taken a lot of work to get it to garden fertility and tilth. This has been done though the addition of organic matter. We bought 40 acres in 1976, but have since added 15 acres to the south and 14 acres to the north. These are contiguous, so they provide us with an even bigger buffer zone than we had previously.

Another motivation for buying the land was to protect it from the dumping of trash, chemical agriculture, and development. Of the 69 acres, less than 5 are under cultivation. We have built several ponds on our land for recreation, wildlife habitat, and to provide water for irrigation. Much of the rest of the farm is managed for wildlife as a diverse biosystem. It is not being grazed at this point, but we may get involved with sheep or meat goats in the future.

Growing successfully for a CSA and farmers market demands that we have a wide range of produce available several times every week from the end of April through the end of October. This provides some very special challenges not faced monocroppers or farmers growing just five or six crops. We are constantly preparing soil, planting, weeding, harvesting and marketing in order to meet these demands. This involves succession planting of many different crops, often at odd times in order to stretch the harvest season. So for marketing reasons, and because it is a sound practice for managing disease, pest, and fertility, I do a lot of interplanting in that I plant a row or 2 of one vegetable and then another etc. Some of my major crops that I want to be sure to rotate, I do plant in fairly large blocks. These would include tomatoes, peppers, okra, and green beans. This year we observed that beans seem to have less bug damage and are easier to pick in single rows, so we may switch over to that for fall beans and next year's spring plantings.

Plants

I both direct seed and set out transplants. I grow almost all of my own plants. My certified partner, Mark Lumpe does start a few for me. I get organic garlic from Peaceful Valley. I have not had success starting onions for myself and have not found an organic source, so I have been buying them from Dixon Dale and explaining the details to customers.

I start my plants in our sunroom using a combination of sunlight and grow lights and heating mats. I have been doing this for many years. I also have grow lights in our cellar. This has worked out very well for starting plants both in the winter and in the summer for fall planting. This had allowed me to move away from using the barn for starting plants. My starting mix has consisted of various combinations of compost, peat moss, bone meal, blood meal, vermiculite, and kelp meal. I finally found a source of commercial potting soil (Sunshine Mix) in 2006 and tested it with good results. This has solved damping off problems I was having, so I will be using a lot more of it in the future. In 2007, Morgan Co. Seeds no longer had the Sunshine mix available, but had their own organic mix prepared for them, which I purchased and am happy with. I add blood meal, bone meal, and kelp meal for fertility.

Fertility Plan

Part of my fertility plan consists of turning organic waste into food for plants. As opportunities arise, I have done this in different ways over the years. When local dairy farms were still in operation, I collected and spread manure in the winter. I have used very little manure for a number of years. This is because it is less available and because of the compost rules set out by the USDA regulations. My primary source of nutrients is the okara from Central Soyfoods. I am an investor in the plant and we make certified organic tofu. Okara is the pulp that remains after making the soy milk. I have gotten it analyzed by K State and it is an excellent source of N,P, and K. It is sterile when it comes off the machine, so I do not think it has the biological complexity of manure or compost. I also pick up coffee grounds from 2 local coffee shops and vegetable scraps from the Community Mercantile. The vast majority of these inputs are from certified organic sources. A new source of fertilizer for me is spent grain from a local microbrewery. I also gather leaves in the fall, and old hay from neighbors to use as mulch and soil conditioners. When I use manure, I record the application dates on a calendar. I try to stockpile it, age it, and then spread it. It gets spread late in the fall.

I have 2 kinds of compost. One is made solely from vegetable material. Any compost made with manure is spread in the winter as I do not have the time, equipment, or inclination to go through the process required under the standards.

I use cover crops and green manures to fight weeds, build fertility improve tilth, fix nitrogen, protect the soil, and maintain biological activity. I use buckwheat and various beans during the main growing season and cereal grains (oats, wheat, rye) to provide cover over the winter. In the spring Canada field peas have worked well as a green manure. Cilantro has also served as an unusual cover crop for me and it has worked quite well.

Irrigation

Irrigation is needed in this part of the country in order to grow a wide variety of vegetables over the entire growing season from mid March to the end of November. In the 19th century and through most of the 20th the only water on the farm came from 3 hand dug wells and cisterns off the barn and house. A pond was put in in the early 1960s and we have had several built since then. In 1997 we hooked up to rural water so we would have treated water for washing vegetables and to supplement irrigation from the other sources. All these sources are used for irrigation. Water test results are available.

Pests and Their control

We are challenged by a number of insect pests. These include blister beetles, flea beetles, grasshoppers, squash bugs, bean beetles, harlequin bugs, cucumber beetles, stem borers, cabbage loopers, and corn ear worms. While I would be happy to be rid of these pests, I am usually able to keep the level of damage acceptable. This includes educating customers about accepting vegetables that are not absolutely perfect. I just read recently that a bit of stress caused by combating insects actually makes vegetables more nutritious.(?) I use a number of methods to help my plants beat the bugs. I rotate my vegetables to different beds and sites on the farm, skip planting some crops for a year and plant them at a distant garden, time plantings until after bugs have normally made their first appearance, and mowed and tilled plantings that have become overly infested. I do a lot of hand picking of problematic bugs such as blister beetles. If they get especially thick, I shake them into a pail of soapy water where they quickly drown. I have found BT to be an effective spray against cabbage loopers and normally use it once or twice during a growing season. I have tried rotenone, but not found it effective against anything but cabbage loopers. I just did a sample spraying with pyganic against blister beetles and they died, so I may use that more. A dusting of diatomaceous seems to discourage blister beetles and bean beetles, but is not a long term solution. I have a sample of Diatect V that I plan to try this year.

One of the methods for controlling bugs that I actually enjoy is to encourage beneficial insects and animals. The vast majority of the land on the farm is not dedicated to vegetables, but to pasture, woods, ponds, and wildlife habitat. We provide food, water, habitat, and nesting sites for birds. We have built ponds and wetlands for frogs, toads, and dragonflies. We also have a good population of predatory wasps. I allow herbs such as dill and cilantro to go flower and go to seed as they provide food for an amazing array of bees and wasps. We plan to buy guineas to help control grasshoppers and ticks.

Mammals have sometimes been more of a problem than insects. The deer population has boomed since we bought the farm and rabbits, small rodents and groundhogs can be a problem. A 7 foot fence with a finer mesh wire has been our most effective solution but it takes a fair amount of maintenance. Our dogs and cats help. I keep areas I want to protect clear of brush and weeds, and provide a great deal of attractive habitat on the rest of the farm. I have had a certain amount of success using a live trap in removing rabbits.

Diseases are not much of a problem. I combat them by rotating crops, growing resistant varieties, mulching, providing air circulation by growing some crops on cages or fences and by keeping plants growing vigorously. Good drainage also helps.

Taking care of the soil does a lot towards helping the plants take care of themselves. You also need to be prepared to accept some losses.

Weeds

Giving your crops a competitive advantage over weeds is a major issue in any form of agriculture. Weeds have evolved with farming and are amazing in their ability to adapt. While I admire their evolutionary success, I still have to work hard at keeping them down. I use various hand hoes, a wheel hoe, a rototiller and hand weeding to mechanically control weeds. The tiller on the tractor has been very helpful in controlling and incorporating weeds into the soil. I use vegetative mulches to smother weeds. Rotating crops helps break the reproductive cycles of different species of weeds. One reason I cut way back on the use of manure is that I felt I was bringing in weed seeds. Cover crops also help in discouraging weeds. I am not comfortable using plastic mulch and have not done so.

Avoiding Contamination

We live in an area that is primarily pastureland, so there is less use of chemicals than in an area that has intensive row crops. We are at the top of a divide, so contaminated water does not flow onto any of our land where we have gardens. We have large buffers, as can be seen on the maps. We added to those buffers by purchasing 15 acres on the south and 14 acres on the north. Our neighbors know we are organic and respect that. We organized the neighborhood many years ago and so many of us posted no spray signs that the county switched to mowing to control weeds. I have always used organic methods on this property and with my present equipment and tools, so contamination and cleaning is not an issue there. Our newer plots have buffers and the neighbors have been notified. My vegetables are picked into purchased tubs or washed, reused plastic buckets. My vegetables are packed into purchased plastic tubs or plastic or paper bags, or reused boxes that formerly contained certified organic produce.

Erosion control

The vast majority of the farm is covered with permanent vegetation. The areas that are tilled for gardens are protected in a number of ways. The plots are fairly small. I leave grassed walk and driveways between the beds. I have allowed windbreaks to grow up. I have dug ditches to divert water from the occasional cloudburst onto grassed areas. I plant across the contour when appropriate. The soil is protected by crops or cover crops (sometimes weeds) as much as possible. We have done research into the history of the farm and there is evidence that the whole thing was ploughed up at one time and the top soil wash washed away. It has taken many years of hard work to build the soil back up, so it is very important to us that it be protected.

Processing

The only processing we do on the farm is washing, cooling, and bagging. Some vegetables are washed for the sake of freshness, cleanliness, and to remove possible bugs. Some vegetables are bagged in plastic or paper bags. When it is appropriate, vegetables are cooled on a walk in cooler. We hooked up to rural water in 1997 for the express purpose of having potable water that is tested on a regular basis for washing our vegetables.

Monitoring

Observation is the primary monitoring tool I use. I am in the gardens every day, usually for many hours. I am close up weeding, picking, watering, observing. I have done this for 30+ years and pick up quickly on signs of trouble.

Organic Seed

I have always been 100% compliant about using untreated seed. I am also committed to using organic seed whenever possible. I am a member of Seed Saver's Exchange because I support protecting the genetic diversity of our food crops and support having seeds under the control of entities other than purely profit oriented corporations. These seeds are part of our heritage as human beings. I also save some seeds, though, as a market gardener, time is a huge constraint. Saving seeds is one way of obtaining organic seeds.

Johnny's Seeds provides an excellent model for providing a commercial source of organic seeds. They have a decent selection and the price is only moderately higher than conventional seed. Some sources are 10 or more times higher for organic seed as compared to conventional. Those prices are not sustainable for those of us trying to provide reasonably priced food for our customers and earn a living for our selves. I have seen some good results from the requirement in that some new companies such as High Mowing Seed Co. seem to have come into existence as a result of the new demand. I will buy organic seed that is up to 100% higher than an untreated conventional source. I will not pay \$57.00 for a pound of seed that I can get for \$4.50 from a conventional source. I make a sincere effort to support the organic seed industry by buying organic seed. I have documentation of attempts to buy organic seed and I have seed packets for organic seed I have purchased.

Records

I would guess that record keeping is the weak link for many organic growers. We do everything the hard way, there is always more to be done in the gardens, and record keeping, beyond a certain point, is for the certifier, not the farmer. I have always kept the records that met my needs, those of my hired help, the taxman, and certification. I have garden maps going back to 1991 that serve as my field histories. Wholesale tax receipts from 1997 forward, a farm journal, input labels, non GMO statement from suppliers, a calendar where I record any applications of manure or spraying, my organic certification certificates going back to 1994.

Rhubarb Patch

About 12 years ago, I started managing a rhubarb patch, using organic methods, for a neighbor who had become disabled and, as a result, the rhubarb had almost been lost to weeds. It took about 3 years of care to bring it back into production, but I have gotten good harvests of rhubarb for years now. My neighbor died several years ago, but I still manage the patch and pay rent to his widow. She has given me permission to till up more ground and plant other crops. Because of intense deer pressure and lack of water, I have limited my plantings to garlic, onions, potatoes, radishes, turnips and squash and other less palatable plants.

New Land

We have some new gardens. We have purchased a small plot along Mud Creek and are gardening a patch in North Lawrence. My son also bought a house nearby. And we are gardening there. All have been fallow for at least 4 years.

Wildlife

We have made a concerted effort to provide habitat for wildlife. We have built ponds and wetlands and managed the land to include grassland, brush, and woods. There have been no chemical pesticides or fertilizers applied to the land since 1976.

Hired Help

I took early retirement from teaching in May of 2005. My son came back to the farm in 2002. As a result of these two actions, we use very little hired help. The work is hard, we cannot afford to pay a decent wage, and help takes a lot of direction, so, at this point, we find it easier to do the vast majority of the work ourselves. This year I have a volunteer apprentice 4 hours/ week.

Hoop House

I 2005 I built a High Tunnel. We are still learning how to best use it.

The Future

Having my son join me in the farming has been very good. Instead of thinking about winding down, as I get older, we are thinking about new and better ways to grow food. I am experimenting with fruits in the hope of finding more that do well without chemical interventions. I am thinning woods and planting brambles there. I am planting trees such as jujubes, juneberries, medlars aronia berries and autumn olives. It is exciting to figure out what grows here, how to grow them, and the, teaching customers to try them out. We are also looking for some good bottom land where we can do better growing white potatoes, sweet potatoes, and other crops that are hard to grow in our heavy clay soil.

Our species and our planet face some very serious challenges. Modestly scaled, sustainable farming is one of the easier answers to the problems ahead.