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2013 Farm Plan Update

This year we continue to move toward a more holistic farming system as we improve our animal rotation system and reduce the amount of off-inputs. This year we will not be applying commercial compost to the orchards. The soil on the farm continues to strengthen and tree health looks good.

We are expanding our animal feed production this year with plantings of corn, pea/oat, and pea/succotash, winter wheat and winter rye last fall, and less ground committed to annual Sudan sorghum. We are going to try to establish more perennial plantings for hay production and reduce our reliance on annual grasses. We hope to eliminate or drastically reduce our purchases of feed for our animals in 2014.

High Tunnel Number Three

We set up our third high tunnel last November. This tunnel will be planted with primo cane fruit raspberries with strawberries at the base of the raspberry rows and around the borders of the tunnel. We are also planning to plant some other perennials within the raspberry rows in order to increase the biodiversity and enhance more types of soil organisms. We will be testing asparagus, rhubarb, horseradish, garlic, and some herbs.

Berry Production

We will be expanding berry production in tunnel three. We do not have any new berry beds planned, but we are going to plant strawberries under the trees in a new apple block. We have been testing this concept the past few years and we feel we are getting the bugs worked out. The strawberry plants will be planted on a slightly raised bed in the apple row. The berry plants will grow on top of this bed and the sides will be cultivated with the small 10 inch head of our cultivator. The strawberry plants grow well under the young apple trees and the trees seem to tolerate the berry plants much better than they do the thick root mass of grasses. In this system we do not have to cultivate in between the apple trees. Only one pass is made with the cultivator keeping the weeds from encroaching into the berry plants. In time the dwarf apple trees will fill their space and the canopy will shade out the strawberry plants, but in the mean time we cultivate less ground and get a berry crop.

Apple Production

We have two new plantings planned this year. The biggest planting is about a half acre of the new disease resistant variety Crimson Crisp. We grew about five hundred of these trees in our nursery and dug them last fall. We plan to start planting as soon as the ground dries. The dwarf trees will be grown on a trellis consisting of cedar posts and high tensile wire. Each tree will have a 1 inch by 10 foot bamboo stake attached to the tree and the wire. The trees will be three feet apart in the row and the rows will be twelve feet apart. This gives a planting density of 1200 trees per acre.

The second planting is one row added to our largest Disease Resistant Variety block. This row will be a test planting for about a dozen of the newer disease resistant varieties. We hope to get all of the disease resistant varieties available in the US planted here for testing in the next few years.

Meat Production

We will continue to experiment with flash grazing through our orchards and gardens. In 2012 we completed the construction of energized pasture fences between the new woven wire deer fences and the borders of the orchards. We now have easily accessible pastures around much of the fruit production area. This ring pasture is divided into several paddocks. Last fall we planted some of these paddocks with winter wheat and winter rye so we will have some early grain production for our stock this year. We plan to seed some of the paddocks with a mix of alfalfa, clovers, and grasses.

Hogs

Our herd currently consists of the following:

2 American Guinea sows – Vanessa and Miss Kitty

1 Ossabaw Island sow - Zoe

1 Gloucestershire old spot cross bore – Big Guy

1 mixed breed bore, son of Zoe and Big Guy – Professor Beefcake, PB for short

1 gilt, daughter of Zoe and Big Guy

2 mix breed gilts, $\frac{3}{4}$ ossabaw, $\frac{1}{4}$ American guinea hog (possible breeders)

10 hogs eligible for organic slaughter

- 1 mixed breed barrow that was bottle fed by Missy Hoch, he is son of Big Guy and Vanessa
- 6 mixed breed meat hogs born June 2012, Ossabaw and Guinea Hog heritage
- 3 mixed breed meat hogs born October 2012, offspring of Big Guy and Vanessa

Chicken

We plan to produce around four hundred organic range chickens this year. We purchased one group of 150 day old Dominique heritage breed, and one group of 150 French Freedom Rangers. We also are incubating some eggs produced on our farm. We are trying to set up a system to produce our own chicks instead of purchasing. If we are successful this year we plan to produce all of our chicks on farm next year. We plan to process chickens one time this year.

We plan to keep a flock of around 30 layers to produce eggs for on-farm use.

Other Poultry

We plan to raise 12 water fowl that will be used to weed strawberry beds and rotate through other areas of the farm. We also plan to raise 10 turkeys to be rotated around the farm.

Forage and cover crops

There is approximately 12 acres of land in these plots. Some are open, some have winter grains on them, and some have perennial crops that have been removed or will be removed this spring. All plots will be seeded or will be allowed to grow a cover of weeds. None will be kept bare.

The crops grown will be incorporated as a green manure, or fed to our own livestock, or used as mulch for perennials and vegetables. None of these organic crops will be sold.

Pest Control

In 2012 we started brewing compost tea and applying it to the orchards to help reduce the pressure of summer diseases. This year we will be adding compost tea to our early spring sprays to help break

down overwintered leaves that harbor pathogens. We will also apply tea to selected apple blocks to establish full colonization of the apple leaves with beneficial organisms that will compete with apple scab and rust spores. Our current program depends on the use of micronized sulfur and liquid lime sulfur to control apple scab, rust, and sooty blotch. While these compounds are allowed under the NOP rules they can be disruptive to the microorganisms in the soil and on the trees. Our current system is designed to minimize the use of these mineral compounds but is still very dependent on them. We are going to try to replace the sulfur based compounds with several applications of compost tea.

Strategy

We will be brewing teas using a variety of commercial organic composts and nutrients to develop a recipe that produces the proper ratio of bacteria and fungi to combat apple scab and other diseases. We will focus our applications during the most critical periods in the development of the disease organisms.

This year the teas will be brewed using commercial compost from Purple Cow Organics and Tea starter from Purple Cow Organics, organic poultry compost, and worm castings. We will also try biodynamic preps in the teas. We will use organic fish hydrosate, Naturall CS molasses, and Crockers Fish Oil as brewing nutrients. We will evaluate these different brews using the microscopic qualitative assessment developed by Dr Ingham.

Compost

We are starting a compost system on the farm this year. We will be composting the bedding from the hog pens and chicken house this spring. We will attempt to create organic compost and will be setting up a compost area and recording system. We have found a source for cow manure from Art Thicke's organic dairy. We plan to use this cow manure as an ingredient in our compost. We will use biodynamic compost starter in our system. In addition to the organic compost we will test static pile compost using bramble canes as a base with hay and bedding on top. This compost will be slowly decomposed and over the course of the season and be applied to the soil the following year. This unturned compost will not be 'organic compost' and will require a 90/120 day to harvest interval on the crops it is applied to. Its primary use will be spring application to woody perennial crops.

We have also started mulch piles using large amounts of woody material to create a slowly decomposing fungal rich material. This material can be blended with other materials to produce fungal dominated compost for use in the orchards.

Other uses for compost teas

While the use of compost tea to control apple diseases in the Midwest is untested, the benefit of teas on vegetables and small fruit is well documented. We will be applying compost teas to the greenhouse, high tunnels, and berry beds again this growing season. Teas applied directly to fruits and vegetables will be brewed from commercial certified organic compost. Per discussion with MOSA staff in 2012, the certified organic compost does not require the application of the 90/120 day manure rule so the tea brewed from this compost will not have to follow the manure rule either.