

Workshop Title: Crop Rotations for Vegetable Farmers

Speaker(s) & their titles: Patricia Bishop & Josh Oulton, Taproot Farms (NS)

Executive Summary:

In this session, everyone is sitting in a sharing circle. This session is meant to be a sharing of knowledge, methods and ideas. What works, what doesn't work, etc. Patricia and Josh begin by saying that they are not experts in crop rotation but can share what has works for them. The rest of the session is a discussion.

Detailed Notes:

Who we are

- CSA and wholesale and a little retail. 60 acres organic and 45 in transition and 100 acres non-organic (will transition in future)
- Many references are out there on crop rotation, but each farm has its own unique challenges (financially, soil type climate, etc.)

Rotation

- Our goal is to promote good soil health. When we first bought the farm in 2004 it was a vegetable farm for several generations and the soil fertility was not being maintained. The pre-existing farm-owners had been using chemicals and as a result, the soil was not in good health.
- They came across « Soil Food Web » and liked that approach.
- According to Patricia, "A long-term crop rotation is about 7 years (3 alfalfa/4 veg). We have a lot of land so I can plant a large block in Alfalfa (for example) and leave it for several years. Forged a relationship with neighbouring livestock farmers who cut alfalfa in return for manure. Now we're thinking of adding in clover to reduce amount of bare soil."
- Industrial farming had created a hard pan and alfalfa should help to break that up.
- Sod for 4 years (ie alfalfa), Year 1 (cucurbits, cucumber or squash), Year 2, corn (or other heavy feeder), Year 3&4 Root vegetables
- They don't use legumes in rotation (but do use alfalfa).
- This particular crop rotation is now helping to build the soil health
- They took a course on soil food webs with Dr. Elaine Ingham and this theory claims that if you use this method (compost tea method) you wouldn't need to

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rotate. Using this method, they have since grown tomatoes in the same place for three years now.

- Scotian Gold (a computer program) offers a great way to track and plan. Planning rotations can be tough because of weather etc.
- You need to be prepared to make changes to plan and be flexible based on financial realities etc.
- They have decided to raise pigs and are wanting to move to permacultural principles to prepare for a time when it may not be feasible to use a tractor as much.
- Regarding pigs: a lot of infrastructure is still required to make this a reality (ie. Fences) but they now have 40 pigs on pasture.
- Important to remember that livestock can be an important part of crop rotation (and reduce the amount of nutrients you need to bring in).
- We do compost, but we treat it as raw manure (just to be safe).
- *Crop Rotations on Organic Farms, a Planning Manual (SARE)*. A great tool, but a lot of the rotations plans are really aggressive on tillage, we try not to use a lot of tillage. The soil never gets a break; not advantageous to beneficial insects.
- Try not to do any field work after mid-September; Soil microbes and insects have “settled in for winter”. Mow if necessary.
- Corn is a heavy feeder crop (for nutrients), but a lot of material is left in the field so you can sometimes put a heavy feeder (like potatoes) after you harvest corn.

Wireworms

- Second year post sod, wireworms go way down
- Smaller plots are harder because wireworms live in sod beside fields, we put our root crops in centre of field

Disease

- Luckily for organic growers, diversity helps.

Symbiotic Relationships

- Greens do well in soil after onions
- Everything seems to do well after garlic

Covercrops

- They use a lot of Rye, and like it because it doesn't die in winter. It pulls up nutrients and makes them readily available.
- Always a challenge to keep ahead of the Rye, have to at least chisel plow by mid-May.
- Use Barley as well
- Radish are great to accumulate nutrients and hold them for winter. Some argument that because they die, by the time you plow in spring nutrients are already incorporated back into soil. Good erosions control, but must be planted by early September to give the plants time to get big enough.

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- In some cases cover crops break down very slowly and that's why they like using Barley as an early cover crop because it is easy to break down.
- To grow crops like Brussels Sprouts, they plan their rotation several years in advance, and for many others it's more hap-hazard.