

## Soil Health Practices at Roxbury Farm

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Roxbury Farm is an organic farm that encompasses 425 acres with 300 acres farmed, primarily for vegetable crops. Other products include pork, beef and lamb. We market through an 1100 member CSA in NYC, Westchester and Columbia County and the Capital District

### Cover Crops

We have been using fall/winter cover crops on the farm for 35 years.

We have found that essentially all cover crops reduce erosion and can serve as nutrient traps. In general, benefits we see are improved soil fertility, less chronic compaction, and the disease, weed and insect pressure is reduced by the practice of rotating with cover crops.

Some specific cover crops and the reasons we utilize them include:

- Rye** as winter cover crop and mulch (including roll and crimp) or bedding,
- vetch** for winter cover mulch and N fixation,
- oats** as winter cover, spring cover, nurse crop,
- peas** as winter cover, spring cover, N fixation,
- buckwheat** as summer cover crop,
- crotalaria** as summer cover crop for N fixations and biomass,
- sorghum, Japanese millet, pearl millet, and teff** as summer cover crops and biomass producers,
- Austrian winter peas** as winter cover crop and mulch (roll and crimp),
- mustard** as biofumigant,
- tillage radish** as nutrient traps, compaction mitigation,
- sweet clover** for N fixation, biomass and compaction mitigation,
- red clover** for N fixation,

We have not run into major obstacles for adopting cover crops, although there is of course the cost of seed and planting, and organic cover crop seed costs can be high. There also are the

challenges of fitting cover crops into rotation cycles, and taking advantage of the contribution of legume cover crops to soil fertility.

### **Reduced Tillage:**

We haven't (moldboard) plowed since 1992 when we converted to a spading plow followed by a coultter chisel plow. Recently we have incorporated more minimum till practices by purchasing a no-till grain and grass drill.

Weed control systems have to be adapted when going to reduced tillage, particularly in an organic system. Most weed control needs to take place before planting a cover crop

We use a roller crimper at end of cover crop season. It takes some experience and adjusting of cultural practices and tools to deal with issues of cover crop termination and dealing with large amounts of residue.

Benefits of reduced tillage have included:

Erosion control

Save labor

Saving fuel

Soil health-increasing soil organic matter.

Improved nutrient cycling

Reduced fertilizer use

Reduced compaction