**COVER CROPS**

- Someone comes into your office and asks you, “what cover crops can I plant to improve my soil?” What do you ask them?
  - How long can you rest the land? How much land do you have to work with? What time of year are you starting at? Do you already have a source of N for the land? What crops do you want to grow on this land?

- **Cover crops in general**
  - Biggest distinction b/w organic and conventional growers is that organic growers tend to be really into cover crops.
  - Very hard to make blanket recommendations about cover crops b/c even in replicated experiments, there seem to be different results every year.
  - Avoid soil nudity! Raindrops can wreak havoc on bare soil.
  - “The later you go, the thicker you sow.” (can sow oats even in mid-Oct, but at high rate of 4,000 lb/ac)

- **Cover crop technical info**
  - Winter wheat can buy a grower time – it’s later to get woody, stemmy, and to head up in the spring, so a grower will have a couple extra weeks before needing to turn it in
  - Field peas stop fixing N once they’re in flower
  - Hairy vetch and oats – when plowed down, give a better seedbed than other mixes
  - In one trial at Vern’s, Japanese millet gave the best weed control as a warm-weather cover
  - Judicious amounts of fertilizer can triple your biomass on some cover crops (like Sudex) on poor soils
  - Double the forage seeding rates when planting cover crops; otherwise, the weeds can get ahead of you.
  - Is there a reference for proportions when sowing a mix of covers? 20-25 lb. vetch w/ 1 bushel rye is one generally good mix

- **Summer smothers**
  - Summer smothers can be used to suppress plant parasitic nematodes (sudangrass, rapeseed, mustard) – it may just be that crops like sudangrass are just not hosts for certain nematodes, but there has been some research that sudangrass has some biocidal properties when it’s chopped up. Some research at Cornell has shown that root hairs of sorghum have weed-suppressive properties.

- **How do you work with two different sized seeds?**
  - Sow Sudex first, make sure it’s covered, then do a light cover of clover. Can use a chain harrow to create different habitats for seeds. At Cornell, we use a Culti-packer after a drill.

- **Examples of farms with very successfully integrated cover cropping systems:**
  - Eileen in Easthampton (from cover crop video) – has a very elegant system (like a mechanical version of the Nordell’s) - ½ the farm is always in cover crop
- Organic capitalists’ dream – NH farmer sells pea tendrils from his cover crops and makes $10K/yr. Same farmer mows down rye and pushes it over so that it touches his potato, eggplant, or tomato crop. Makes it harder for potato beetles to find the crop.
- NJ farmer is managing 60 acres, but only ¼ of it is in production at any given time. The rest is in cover crops and has 4-6 inches of leaf mulch added each year. He is an amazing model of successful farming in an area of very high land values and McMansions.
- Steve Groff – no-till farm, has an amazing mechanical aptitude so he can rig up machinery to do what he wants it to. He has reduced his herbicide use in recent years, but sometimes needs to use it to kill a cover crop when it’s out of sync with his cropping system.
- Dennis King in ME also has alternating strips of cash and cover crops; at the end of the season he brings in his animals to graze residues from both.

Discussion:

- **Ryegrass as a covercrop**
  Some people really like to use ryegrass as a cover crop, and other people are really afraid of it going to seed and becoming a weed. Does anyone in the group have experience with that? Some get the annual, thinking it’s going to die but it doesn’t. They seem to perform the same. Ryegrass is hard to kill with herbicides, so conventional no-till farmers don’t like it. Easy to broadcast without incorporating it, so that seems like a good feature.

- **Sourcing organic vs. treated seed?**
  Organic cover crop seed is often available, but often more expensive. Growers need to show that they tried to source organic seed from 3 or 4 places if they’re using non-organic seed. Treated seed is not allowed. If buying from local farmers, one issue to pay attention to is weed seed contamination. Dilemma of certifiers is, do you require that a grower order organic seed from across the country, even if they can get it non-organic from their neighbor across the street? If the rotation is long enough (3 years from planting cover crop to harvest of cash crop), MOFGA is allowing use of conventional cover crop seeds.

  What happens if a farmer orders their seed from their neighbor instead of a commercial organic source? Penn. Certified Organic says quantity, quality, etc. justify use of non-certified seed, but price is not allowed to be a factor. Basically, a grower needs to document their feeble excuse for not buying organic cover crop seed if they choose to go with a local non-organic source. Certifiers don’t want growers to leave bare ground just b/c a cover crop is too expensive – they’d rather see you put conventional cover crop seed down. As ag. advisors, we can encourage certifiers to give farmers a break. It’s really stressful to be a farmer, and we shouldn’t be adding to that stress.

- **How common are genetically-modified inoculants?**
  Very common – and they’re not generally labeled. Look for OMRI certified inoculant

- **How to balance spring management of hairy vetch and rye (HV/R)?**
  Eric uses HV/R before he’s going to plant a summer cover, instead of planting a veg crop after it. Bill had a disaster last year where they were planting SC after HV/R, 10 days to 2 weeks after working the cover in, and had an amazing seed corn maggot infestation. Vern
likes the idea of having ½ the farm under cover, and just being able to really focus on piling on the cover crops and not having to worry about growing a cash crop after it.

- *Is the use of the strips mostly for farms where they’re continually using the land as opposed to having a lot of land that they can rest entirely?*

At Eileen’s farm in MA, ½ the farm is fallow – entire acreage is set up as strips, and every other block is under cover. Have to take wheel compaction areas into account. Can be more difficult to mow this type of system, but it works well on Eileen’s small (6 ac) farm.