

PEST MANAGEMENT WORKSHOP Nov 5! If you plan to attend, please complete SURVEY ASAP so we can narrow down our presentation...

Announcement and survey sent to you from RIAGNOTES listserv

--> Need to discuss? Got something you need looked at? URI Extension: 401-874-2967/andy_radin@uri.edu, hfaubert@uri.edu

How, where, and when will you fit cover crops onto your fields?

As the days rapidly shorten and your labors lighten, you can start considering the issues that you will ponder over the winter. Hopefully, one of those will be "Find more times and places to grow cover crops every year."

Cover-cropping is a much-ballyhooed practice for many good reasons, as most of you have no-doubt heard and read, including erosion control, nutrient recapture, soil microbe support, and more. Not everyone is strongly successful at getting a thick and effective cover, and not everyone finds it easy to shoe-horn these plantings in between cash crops.

Growing a mixed assortment of vegetables and including cover crops in rotations is complicated (something of an understatement.) It's not always easy to find ground that's open for a long enough time to grow substantial biomass. Now is the time to project forward into next year and think about where those openings might occur, or how you might modify your cropping schemes to create those openings.

Early spring can theoretically provide a good growing period for cool season grasses or short life cycle mustards. If you grow on a well-drained soil, you will have a hard time justifying why NOT to plant a spring cover crop. You can drive on your field and work your soil when others can't. It's understandable that well-drained soil is also valuable for your earliest crops.

But maybe it's time to look more deeply at the role that those early-maturing crops play in your business plan. It's not unusual for growers who mainly market through CSA to have some items available too early. That is, it's not justifiable to begin produce distribution for the season when all you have to offer is lots of radishes and arugula, while more substantial offerings are still 3 weeks away. Maybe it makes more sense to plant oats on those 4 or 5 beds on April 1st and turn in a nice fat crop of oat grass on June 1st. Then you can plant pumpkins or squash or a second crop of field tomatoes, or maybe snap beans. Mustard is also a quick-growing early option, as long as it's not adjacent to other Brassica family plants. It germinates quickly and because it's broad-leaved, it forms a canopy in no time, suppressing all early weeds if it's planted densely enough. If you allow it to come into full flower, you will find that it is



Teff, a warm season grass option for Rhode Island conditions

Cover crop considerations continued...

extremely attractive to bees. That's great, except that you may be hesitant to plow it down when it is so full of bee activity. To avoid that dilemma, turn it in just at the time of first flowering, which may be at 6 to 7 weeks, depending on growing conditions. Canadian field pea is an option for early spring as well, either planted alone or in combination with oats.

Summer cover crops are best for patches that you have already decided to take out of main season production. This is something to grow in the heat of summer for weed suppression and depending on species, for big biomass accumulation. Warm soil promotes rapid germination, which is especially important during the late spring flush of lambsquarters, pigweed, ragweed, and so many other heat loving weeds. It makes sense to let that flush take place in its full glory, then prepare the surface (shallowly, to avoid bringing up much additional weed seed to the light, which stimulates germination) for seeding.

Fall cover crops are for taking up residual nutrients following a season of crop production in fully-



Japanese Millet, easy to grow

warmed soil. Summer cover crops are for putting on biomass. In order for plants to do that, they need some degree of available nutrients, particularly N. While N mineralization may be in full swing in your soil at the time of planting a summer cover, an additional boost of N will go a long way. Consider applying an additional 35 to 50 lbs of N per acre for warm season grasses, which is about a third of what you'd be applying for heavy-feeding vegetable crops. If other nutrients test low, this would also be a good time to apply them.

Buckwheat is a reliable standby for smothering weeds if sowed densely enough. Thin stands are common- but if you are making the time and space to grow a summer cover, make sure to get solid coverage, particularly when it costs \$25 per acre, tops, or if you are organic, more in the range of \$50. But even then, if you are covering quarter-acre patches, it's not a lot to spend.

If you have an area with finer-textured soil that holds moisture well, consider Japanese millet, which is actually not a true millet, and has a finer stem. It establishes quickly and remains a strong competitor, again, if sowed densely enough. In fertile soil, it can grow to four feet. It's also pretty inexpensive at around \$20 to \$25 per acre. Leaving it to flowering stage (6 to 8 weeks) is great for biomass and weed suppression but don't let it get too stemmy if you want it to begin breaking down before fall.

Sorghum-Sudangrass (a.k.a. Sudex) is big stuff in fertile soil. Because of that, it is helpful to be equipped to handle it in the field. High-mowing can increase dry matter yield, as it will produce more tillers and more roots. If you let it elongate too much, decomposition will take much longer, which is not a problem if you only plan to put on a winter cover. It is a little more expensive (~\$60 per acre, double that for organic).

Teff is an option to consider in Rhode Island. It is a somewhat expensive seed but a little goes a long way. The seed is very fine and does not flow very well so planting it can be tricky. But it produces a beautiful dense grass that can suppress weeds, make high quality hay, and can also be grazed.

See fact sheets by Dr. Rebecca Brown Teff and Japanese Millet at URI Vegetable Research Reports site: https://digitalcommons.uri.edu/riaes_bulletin/

If you are planning to follow a summer cover with a fall cash crop, it is important to project forward to when you want to be planting or transplanting. This may mean turning in the cover as early as August 1. If your plan is to grow it for eight weeks, then cover crop planting time is around Memorial Day.

Fall cover crop planting dates have a limited window- too late can be a complete a) waste of time and b) waste of money. Some of your cash crops run late

Cover crop considerations continued...

into the fall so of course, it makes no sense to cancel late crop production for the sake of planting a cover. Again, it's important to sow densely enough to get solid coverage. Cereal or Winter Rye is everyone's go-to, and that's perfectly fine. For fields that will be worked early the next spring, it might make more sense to plant oats to winter-kill (which doesn't happen near the coast in some winters), but seeding must be done by early September in order to get strong growth. Oats and Rye do their best work of "mopping up" available nutrients through fall root growth.

Mixtures of legumes such as hairy vetch or Canadian field peas with grasses are very popular. Many growers have some success with such mixes, though they can be difficult to tame in the spring. Legumes need to be planted a little earlier than cereal grains- absolutely no later than September 15. Think ahead on how compatible this is with your late summer harvest.

Speaking of mixtures, there is much talk of **multi-species mixes**, seed companies sell pre-mixed products, and NRCS promotes several such options. Some have reported success, but your chances may depend on your soil type, moisture conditions at the time of planting, uniformity of seeding, planting method, seed coverage, adaptation of each species to our climate conditions... Often, such mixes of half a dozen or more species may be dominated by one or two in the mix, the others unable to compete or germinate. You may do better by starting with one, or possibly two species at the most, and getting good at simply having a good cover crop at all.

If grazing animals are a part of your operation, they can convert some of your cover crop into weight gain, and the rest of the top-growth into manure. Depending on the species planted, regrowth may also be possible. If you don't have animals to clip the cover, mowing may stimulate tillering and root growth in grasses. This sort of management can provide a biomass bonus beyond planting it and just turning it in.

One year of cover cropping does not cause dramatic improvement in soil quality: effects are cumulative and require several years of consistency. For some who have less than secure land tenure, this is a prob-

lem. However, we should always try to leave soil in as good or better condition than we found it.

Report from Tennessee

Wait- what? Why Tennessee? Rhode Island lost a great small-scale vegetable grower to the State of Tennessee two years ago. Dan Geer had been growing a very interesting selection of vegetables in North Smithfield for a number of years alongside his wife, Deborah, who was doing a nice little business in cut Dahlias. They had long planned to "retire" to the farm they own in Tennessee, which is the state from which Dan hails, and that time finally came. They still receive The Week in Vegetables and we correspond with Dan from time to time. Here are some of his 2019 season wrap-up thoughts.

Had a mostly good season here with the usual sort of farmer's exceptions such as getting a calendar year's worth of rain before July 1 then ten weeks of 90+ and zero rain that was finally broken yesterday (October 8) when it rained 1.75" and dropped 30 degrees.

In the success department, the top one is that I got 350# of field pea seed out of 3200 sq ft starting with 2# of seed. Also grew an heirloom pole bean that seems to have turned in about 250# in a different 3200 sq ft plot though the bean required weekly spraying with copper whereas the field peas required only early spraying with Azera -- we have potato leafhopper here, too...

Have more paprika than I know what to do with, a problem that is being solved by a joint venture with a chef whose in-home prep kitchen has a freeze drier and a smoker. Lots of cayenne and lots of lemon tabasco as well. Luckily, the cayenne will dry on the bush. Unlike in R.I. where my #1 jalapeno customer wanted only red and paid top dollar, here the Mexican restaurants want only green and are cheapskates. (Interesting point: one Mexican joint said he'd like to buy local, but he signed a deal with Sysco where they provide his entire product liability insurance on the condition that he buy exclusively from them, and Sysco's price for fresh jalapenos is \$0.90/lb which is simply unapproachable.)

All 18 beds are 32x100, rotated by stepping every bed once to the right from the year before. Year one

Report from Middletown

No, September wasn't mild – it was hot, humid, and occasionally catastrophically rainy. For a while it seemed like we would never catch three dry days in a row to bring in the popcorn, but we finally managed it this week. Popcorn marks our last major harvest of the season, and now it's about holding on to what we have until frost arrives.

Pest report: flea beetles faded early, which was great; cross-striped caterpillar remains, as of 25 October, a problem. We have had a lot of slug damage on collards. Slugs are interesting in that you can't find any good information on them in the literature, other than vague recommendations to use diatomaceous earth. [*Very little efficacy, if any.*] "Sluggo" over 1000 row feet doesn't seem like the most practical answer. [*Yeah, but it works.*] We'd love to hear from people who have battled slugs successfully. An army of cucumber beetles continued to eat into late October, devouring a post-cucumber succession crop of bok choy.

But the lingering late summer and early fall was great for greens production. On Aquidneck Island, we often have a sneaky freeze followed by days of mild weather. That didn't happen this year; we dipped as low as 34, but other than that we have had no frost or freeze, and although growth of greens has slowed, they still look great.

We are spending a fair amount of time looking at our margins on different crops as we plan for 2020. It was startling to find that our fourth-highest seller was the ground cherry, which is a low-margin crop because of the high labor cost of gathering and grading them. If we can find a way to harvest the more effectively – maybe a really raised bed with landscape fabric between the rows – we just might make some money on the ground cherry. We can dream. We hope everyone is in good shape heading into late Fall, and that all of your sweet potatoes cured nicely.

[Special thanks to Jim and Michelle Garman for contributing these great pieces on their growing season! And: CONGRATULATIONS to them on the birth of their baby girl, Freya Gabriella Garman!!]

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(2018) was damaged because I made and used a mountain of compost out of cow and horse barn wastes but, it turns out, every hay grower around here uses phenoxy herbicides like Grazon and those go right through the animal unchanged so that mountain of compost I made had active broadleaf herbicide in it. (None of the Extension services in this or the surrounding states have testing for herbicide carryover so I'm now sticking to chicken litter and tree leaves plus hay off my own land.)

Three beds are (were) in Sorghum-Sudan which produces simply astonishing amounts of biomass. Going all in with Groundhog Radish for this year since there seems to be a plow pan. Have a pretty good irrigation setup but the ten rainless weeks of 90+ used all the water we could pump. Think I will go to having a couple of 1000 gallon tanks at the head of the field (south facing 8% grade) and gravity feed the irrigation while pump-filling the storage tanks with timers that respect the yield capacity of the well, i.e., no longer pumping well-to-field directly.

Always looking for the odd crop, and I noticed that these workshops on saffron (https://urldefense.proofpoint.com/v2/url?u=http-3A__www.uvm.edu_-7Esaffron_resources.html&d=DwlBAG&c=dWz0sRZOjEnYSN4E4J0dug&r=yCw1CLWOLNh5aNtW6TZGyK98qzycspgVVOegtLq1cA&m=nGsjmveb41T7ZteE2IGCTqEqBl1A797gCl4Y5q2Kgo&s=YuemyYAbY2TFytO4VucpeZ8Ofpavy11YzWQHwhp0pA&e=) had URI representation every time. Got an opinion on saffron? [*This link is good and yes, we have a specialist in Saffron here at URI. If you would like to know more, let us know.*] Folks around here are going the hemp direction since the word is that if you used to grow tobacco then you can manage hemp. I wanted to do canola since it's marketable as oilseed and makes good honey, but the only processor shut down and stiffed the farmers so nobody will touch it now which means no new processor will show up.

As a test grower for Johnny's, I grew six kinds of basil (four of theirs and two of my own selection) as part of a test of BDM resistance. Interestingly, no BDM showed up at all (and the two of my own selection were specifically chosen for their vulnerability to BDM.) Similarly, a PM-resistance pumpkin trial and a PM-resistance squash trial were uninformative as no powdery mildew showed up, either (and I did, you will be pleased to know, use Montana Grow on half of the transplants for each variety of cucurbit I grew



per your recommendation). [*Montana Grow is one brand name of a potassium silicate mineral that has been definitively shown to strongly deter powdery mildew in cucurbits.*] What did show up really hard were both Anthracnose and *Alternaria*. Even the trees and shrubs have *Alternaria*; the lindens are entirely leafless, for example.

Last fall, I put three acres in a mix of five clovers (for elongated period of bloom) and upped my beekeeping game to thirty hives. Worked really well. Am a bit worried as the bees have not been treated for Varroa mites because the only treatment you can use while collecting honey is contraindicated if the temperature is over 90 which, as I said, was the case July through September. It is not too late now, but if the treatment kills the usual 20% of queens it is too late to repair that.

I'll shut up. If you're ever down this way...

--dan