



Vermont Vegetable and Berry News – July 31, 2015  
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## TIME FOR SMALL FRUIT LEAF ANALYSIS

Leaf analysis (also called tissue analysis or foliar analysis) is an excellent means of monitoring perennial plant nutrient levels. While soil tests reveal the quantity of available nutrients in the soil, leaf analysis shows exactly what the plant is taking up. However, soil tests are necessary for determining soil pH and thus lime (or sulfur) recommendations. It's a good idea to conduct both types of tests, but late summer is the time for leaf analysis.

Strawberries: Sample the first fully expanded leaves after renovation or within the first 6 weeks after harvest. Raspberries: Sample healthy leaves on non-fruiting canes between August 1 and 20. Blueberries: Sample healthy leaves between July 1 and August 30. A minimum of 2 oz. fresh weight from a minimum of 30 leaves are needed per sample. Each leaf should be taken from a different plant. Plants should represent the average condition in a planting unless samples are being taken from an area with a distinct problem. The cost is \$24 per sample at Dairy One lab, with Cornell recommendations included from. For more information and submission form, see: <http://dairyone.com/analytical-services/agronomy-services/plant-tissue-testing-services/>. Tissue testing is also available at UMaine (\$25): [http://anlab.umesci.maine.edu/soillab\\_files/prices/index.html](http://anlab.umesci.maine.edu/soillab_files/prices/index.html) and at UNH (\$26): [http://extension.unh.edu/resources/files/Resource002488\\_Rep3658.pdf](http://extension.unh.edu/resources/files/Resource002488_Rep3658.pdf)

## KEEP AN EYE OUT FOR LEEK MOTH

Leek moth is spreading southward in Vermont. It first appeared in the northwest several years ago and I have now seen damage in the northeast and central Vermont. Leek moth larva is a small, leaf-mining caterpillar that attacks onions and garlic as well as leeks. The first generation in May-June feeds on the leaves. The worst damage is done by the second generation in July-August as it continues to damage emerging leaves and moves down towards the bulb. Plants may appear stunted, with windowpane feeding damage and frass on the leaves. Damage can lead to rot during storage.

Management options include: application of row covers prior to flights of adults, crop rotation, removal of old and infested leaves, early harvesting to avoid damage by last generation larvae and population build-up, destruction of plant debris following harvest.

Pheromone traps are available and these can be used to time insecticide application 7 to 10 days following a peak flight of leek moth adults. For more information and images, see:

<http://web.entomology.cornell.edu/shelton/leek-moth/index.html> and

<http://www.omafra.gov.on.ca/english/crops/facts/08-009.htm>.

## LOW-MOW GRASS-IN-THE MIDDLE TRIAL AT WATERMAN'S BERRY FARM

By Ben Waterman, Johnson VT

In 2008 we fallowed and acidified an acre of land in prep for following year's blueberry planting. We tried to established perennial ryegrass middles in spring 2009 but germination was poor, conditions were terrible and we ended up with a field of mixed perennial grasses such as quackgrass and quick growing brome and timothy left over from prior years' haying. Then we had blueberry bushes planted into it so it seemed too late to try again with the middles. For the next five years we mowed and mowed those middles, I'd say about once every two weeks from mid-May thru August in the early years. The more we mowed, the more fertility we built in the middles, and the more vigorously the middles grew. Quackgrass and Timothy and Brome dominated. In recent years we've needed to mow almost once a week during a three month window. That adds up to about 14-16 hours per acre per season of mowing not to mention equipment and fuel costs that I'd estimate were around \$300 per year. That's way too much!

In 2012 we started prep for a trial installation of low-mow grass middles. We first ran our pigs into one part of the field, about 1/10 of an acre. (We removed blueberry bushes from this area for other reasons.) We ran a Perfecta cultivator repeatedly every month after that to get rid of any remaining quackgrass and create a stale seedbed. We seeded a low-mow, low-grow Karma perennial ryegrass / Dutch white clover mix in early fall 2013. Blueberry bushes were planted. Germination and establishment of the rye/clover was excellent. This year, 2015, we just walked by the area and laughed. That's because we not once ran a mower through there until mid- July. Flowering of the white clover amongst the rich green backdrop of the ryegrass was spectacular. Bees loved the area. Even upon our first mowing in July our riding mower could easily handle the height which had reached only about 8-10 inches at the ryegrass tillering stage. The only reason we mow the area now is to keep it nice for our u-pick, but I don't think it would need to be mowed much otherwise. For us this trial has proved that the savings in cost and time from not needing to mow paid back our investment in the renovation in the first year. If we were to do this on the entire acre we would theoretically also mow half as much with the low-mow middles, thereby saving about \$150- \$200 in fuel and equipment costs per acre and 10 hours of time per acre per year.

(Editor's note: this UNH Extension fact sheet from 1993 has some interesting info about low maintenance turf grasses for fruit plantings, including use of endophytic cultivars.

[https://extension.unh.edu/resources/files/Resource000037\\_Rep37.pdf](https://extension.unh.edu/resources/files/Resource000037_Rep37.pdf))

## EVOLVING VEGETABLE WASH WATER RECOMMENDATIONS

Recommendations related to produce safety continue to change with new research, regulations, and experience. Although most Vermont growers are not currently required to use specific produce safety practices (such as those in GAPS and FSMA) many have adopted key practices to reduce risks. These include waiting 3-4 months after manure application to harvest crops, assuring that produce containers and storage areas are clean, and training workers in sanitary behavior. Some growers have also adopted multiple rinses and/or use of sanitizer when washing produce that is typically consumed raw, such as leafy greens.

UVM Extension conducted several years of on-farm research and produced fact sheets and a video promoting use of a specific sanitizer and/or multiple rinsing. I recently pulled the video and fact sheets from the web because of some new issues that have emerged.

- 1) Products not labeled for reduction of human pathogens should not be used for that purpose. For example, Sanidate 5.0 is not labeled for that use, though it is labeled for prevention of decay organisms, so it is still legal to use it in vegetable wash water. The company is considering an expanded label, meanwhile you can use up your stock and in future seek a product that is labeled for pathogen reduction, such as VigorOx15 F&V, and Tsunami 100. These contain similar active ingredients as Sanidate.
- 2) Application of sanitizer to the first rinse, rather than a subsequent rinse, may be the best practice for avoiding cross contamination--The information I had posted suggested adding sanitizer to the second rinse was equally effective.
- 3) Use of sanitizer when washing produce that will be consumed raw may be a better management practice than multiple rinses with clean water (and sanitizer may eventually be required under FSMA rules). However, if sanitizer is not used (and again, it is not required at this time,) multiple rinses with clean water is clearly a better option than a single rinse or dunk.
- 4) Best practices for disposal of used wash water containing sanitizers are not yet clear. Our current recommendation is to apply used wash water to grassy areas or fields but never into ditches or other surface waters. It would have to be diluted prior to doing that, but the rules on this are not yet clear, other than following label instructions, if present.

For more information see the excellent resources developed by Ginger Nickerson of the UVM Extension Center for Sustainable Agriculture about using sanitizers in wash water at:

<http://www.uvm.edu/sustainableagriculture/?Page=whatwedo/producesafety/gapresources.html>

## USING TRICHOGRAMMA WASPS FOR CONTROL OF ECB IN PEPPERS

(From UMass Extension vegetable notes, <https://ag.umass.edu/vegetable/newsletters> )

Sweet corn is not the only crop where ECB can be controlled with the parasitic wasp, *Trichogramma ostriniae*. Most of what you have read about using *Trichogramma* in corn applies to peppers, with a few important differences. Peppers are susceptible to the second generation of ECB, because that is when the plants are fruiting. ECB will invade fruits that are > ½ inch across. *Trichogramma* attacks only the egg stage, so timing is critical.

We recommend that you begin releases the week that flight begins and continue weekly releases for a total of 4 weeks. Release 90,000 to 120,000 wasps per acre and spread the cards out throughout your pepper block. Higher rates are needed in peppers compared to sweet corn because the tolerance for damage is virtually zero and ECB larvae attack the fruit directly. Four releases are needed because the egg laying period for the second generation is longer than for the first generation of ECB. Fortunately, peppers are also a higher value crop and worth the extra cost. After four releases, *Trichogramma* will have reproduced in the field and biocontrol should continue. Wasps can be ordered from IPM Laboratories, at [www.ipmlabs.com](http://www.ipmlabs.com) or by phone, 315-497-2063.

## LATE SUMMER LEGUME COVER CROPS FOR OVERWINTERING

(adapted from the very useful Cornell web site “Cover Crops for Vegetable Growers” <http://covercrops.cals.cornell.edu/index.php>)

Late summer is one of the best opportunities for vegetable growers to establish a legume cover crop to supply the following year’s N needs. Planting in late summer allows time for the legume to establish in the fall. Enough fall growth is needed for the plants to develop a strong root system and enough shoot growth to provide valuable winter cover. Most of the N is fixed during growth in May.

There are two legume cover crops that are reliable and economical: medium red clover and hairy vetch. Red clover is normally spring seeded, but the easy availability, low seeding rate, and high N fixation make it an attractive choice in the late summer as well. If well-managed, these crops can provide as much N for the next crop as fertilizer containing 100 to 150 lb/ac of N.

Depending on your needs, medium red clover can be more versatile and economical than hairy vetch. The decision of which legume to use is based on subtle criteria. If timing demands that the legume be overseeded into a vegetable crop at the time of the last cultivation, the choice must be red clover. It has the ability to establish in shade after being broadcast on the soil surface. Vetch seed needs to be drilled for reliable fall growth, and therefore best follows harvest and incorporation of the vegetable crop.

If the soil is dry, clover will have a better chance of establishing because it needs less moisture than the large-seeded hairy vetch. Clover is also preferred if soil compaction is a problem. Neither cover crop does well on compacted soil, but hairy vetch is more sensitive to the resulting waterlogging.

Hairy vetch requires a small-grain nurse crop to reliably overwinter, and nurse crops are valuable for medium red clover as well. The nurse crop helps keep down weeds during the legumes' slow establishment, reduces winter-kill, and provides physical support to reduce matting under the snow and during spring growth. The nurse crop should be sown at a low rate (approx 40 lb/ac). Wheat overwinters to provide support in the spring, especially for hairy vetch. It is likely the best choice for most situations. Oats can be used for early spring planting, as they die during the winter, allowing faster breakdown for earlier vegetable seeding. Rye is the classic nurse crop with vetch, but can be too vigorous for vegetable production.

**VERMONT VEGETABLE AND BERRY GROWERS ASSN. PARTY THIS SUNDAY!**

Sunday, Aug. 2, 4-8 pm at High Meadows Farm in Westminster West, VT. Great food, great music, great company...buy tickets now at <https://vvbgasummerparty.eventbrite.com>

**UPCOMING WORKSHOPS**

<http://www.uvm.edu/vtvegandberry/?Page=meetlist.html>