Fruit Update: July 22, 2022

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Strawberry Collapse: Several samples were submitted to a couple of labs for diagnosis of why strawberries across the state, (as well as New England, NY and the Mid-Atlantic regions) were collapsing. The results came back as root rot issues – Rhizoctonia, Pythium and Fusarium. Combined these pathogens cause **Black Root Rot**. If you recall, we had between 5 and 11.4 inches of rain across the state in the first 3 weeks of July last year. This created the potential for root rot and crown rot issues, particularly in heavy and poorly drained soils. Many strawberry plants were weak from the 2021 growing season and then had to endure a winter of up and down temperatures.

Your next steps:

(1) Fields that are poorly drained
   a. Contact NRCS for assistance with drainage engineering and installation
   b. Plant cover crops, such as mustard, in those fields to help reduce these pathogen populations.
   c. When you replant the field to strawberries, plant on a hill, not flat ground. This will allow for better water drainage in seasons when we are extremely wet. With climate change, our growing seasons are waffling between too much rain and drought.

(2) Fields with some damage but salvageable, as well going forward when replanting a field:
   a. Aliette (FRAC 33; REI 24 hours) foliar at 2.5 to 5 lb./acre for strawberries (12-hour PHI).
   b. Other options from the New England Small Fruit Management Guide:

FRAC		
11	**Abound**, 0.40-0.80 fl oz/1000 row feet banded or in-furrow	**Abound** (Azoxystrobin) should be applied at planting.
19	**Ph-D**, 6.2 oz (0)	All **RootShield** (Trichoderma harzianum Rifai strain T-22*) formulations should be used preventively.
BM02	**RootShield WP**, 16-32 oz in-furrow or transplant starter solution (0); 3-5 oz/100 gal for field chemigation (0)	**Ph-D** (Polyoxin D zinc salt) is recommended to target the root rot Cylindrocarpon spp.
BM02	**RootShield Granules,** 2.5-6.0 lb/ half acre in-furrow (0)	**Double Nickel** (Bacillus amylolique faciens strain D747) can suppress *Rhizoctonia*, *Fusarium* and *Pythium*, fungi associated with black root rot.
BM02	**RootShield PLUS Granules**, 2.5-6.0 lb/half acre in-furrow (0)	**Actinovate AG** (Streptomycin lydicus) not foliar application. Soak roots overnight or up to 3 hours. Use pre-plant or via drip irrigation.
BM02	**RootShield PLUS WP**, 16-32 oz in-furrow or transplant starter solution; 3-8 oz/100 gal in field chemigation (0)	
BM02	**Double Nickel LC**, 0.5-6 qt (0)	
BM02	**Double Nickel 55 WDG**, 0.25-3 lb (0)	
	Actinovate AG, 3-12 oz/A soil application	

It's Foliar Analysis Sample Time: Tissue analysis is an excellent tool to use when diagnosing nutrient problems, as well as when making your fertilizer decisions. Optimum sampling time for tree fruit is 60-70 days after petal fall; for grapes either at bloom or veraison; for brambles and blueberries late July- mid-August; and for strawberries, renovation time.

Tissue analysis indicates the level of macro and micro nutrients in the plant. Combine this with a soil analysis, which indicates what is available in the soil, for a fine tuned fertilizer program. However, if your pH is way off, the tissue results will not be very accurate. Soil pH impacts the ability of the plant to take up nutrients as well as the availability of nutrients.

For tree fruit - select leaves from this years' growth that are in the middle of the shoot (do not take leaves from vigorous suckers), are insect and disease free, are the same variety and same age bracket for accurate recommendations. If you have several trees that look odd, sick or just plain not right, submit a sample from those trees and a separate sample from the same variety that is healthy. This will provide a good comparison. For example, trees showing signs of blind wood, caused by deficiencies of zinc as well as magnesium, would be sampled and submitted as a separate sample from the same variety that is not exhibiting the same symptoms.

For berry crops select the most recently mature leaves. For grapes, select petioles from the youngest fully expanded leaves.

Rinse the leaves/petioles to remove any spray deposits which will scew the results. Dry and then ship to the lab. All labs use the same testing method for tissue testing. Soil testing methods vary by lab so once you select a lab, stick with that lab in order to compare results from year to year. Sampling instructions and forms can be found on the UConn Nutrient Analysis Lab website (http://www.soiltest.uconn.edu/index.php).

Pear Psylla is alive and well and dripping honey dew onto leaves and fruit, making fruit unmarketable. Management options are here.

Apple Maggot populations have been low likely due to the dry weather making it difficult to emerge from the dry soil. But there was enough rain on Monday that, where you have known populations, you should be able to catch them on traps now. The threshold is 5 adults on a baited sticky trap, 1 on an unbaited trap. Scout trees near the woods first, looking for AM stings on fruit, because AM will move into the orchard from there.

Management options include:

IRAC		Rate/acre	REI	PHI	Efficacy	**Comments**
none	Surround 95WP	25 to 50 lb.	4	0	moderate	**OMRI** listed.
4A	Assail 30SG	8 oz.	12	7	High	
4A	Belay	6 fl. oz.	12	7	High	
22	Avaunt	6 oz.	12	14	moderate	
28	Exirel	13.5 to 20.5 fl. oz.	12	3	moderate	Avoid tank-mix with Captan
28	Altacor	2.4 to 4.5 oz	4	5		
28	Verdepryn 100SL	5.5 to 11 oz	4	7		
3, 28	*Besiege	6 to 12 fl oz	24	21		
1B	Imidan 70-W	2.125 to 5.75 lb	96	7	High	14-day REI for PYO/public orchards

Spotted wing drosophila are being caught in traps even in this heat although numbers are low. For the latest chemical charts, click berry crops and stone fruit.

BMSB trap captures are ranging from none to 1 – extremely low this year. As you summer prune and pick fruit, keep your eye out for egg masses. If you find any please let me know so I can collect them and rear them out to see if the predatory wasp has laid eggs in them. Our population has been declining in orchards, which is great, but now we need to know why. If you are trapping for BMSB, the threshold is 10 cumulative/trap.

Mites are loving this heat wave and thriving. They feed on the chlorophyll in the foliage causing a bronze appearance that, when significant, can be easily seen in a drive-through of the orchard. The threshold for July is 5 mites/leaf and in August it is 7.5 mites/leaf.

Check leaves on the inside of the trees – that is where you will often times find them first. When populations are high they can be found throughout the tree canopy. Get them under control now so the trees have one less stressor to deal with. I have seen some orchards with predators with the mites but others where there are no predators.

Check the New England Tree Fruit Management guide for both ERM and TSSM options.

Peach tree borers and **Lesser Peach tree borers** are best controlled with mating disrupters. The first year using MDs you may see some damage, although not as much as in the past. By the 2nd year you should see no more damage and have complete shutdown of this pest. Young trees are especially vulnerable to dying the first year of being attacked. Unfortunately, I have recently seen several young trees either dead or with dead branches and twigs. Plan ahead for next year by ordering this year.

Peach Tree borer, *Synanthedon exitiosa* and **Lesser Peach tree borer**, *Synanthedon pictipes*:

Disrupter: Isomate PTB Dual (Pacific BioControl)
Organic: No
Rate: 150-250/acre
Placement: 5'-6'high, halfway between trunk and outer canopy
Avoid twisting too tight, can break down dispenser

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