

NH Integrated Pest Management Newsletter

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Bud Stages This Week

Fruit bud development was as follows on April 20th at the Woodman Horticulture Farm in Durham: Pioneer McIntosh Apple: 1/4 inch green; Red Haven Peach (?dead?); Sam Sweet Cherry: swollen bud; Bartlett Pear: swollen bud; Blueberry: swollen bud. Our raspberries are mowed down, but those at Kingman Farm were at ½-inch on Sunday. Temperatures here reached high 80's on Monday, April 19th!

Correct Area Code for Great Lakes IPM

Yes, it is early for me to be making mistakes, but that didn't stop me. In the last issue, I listed the OLD area code for Great Lakes IPM. I must have inadvertently looked at an old catalog when I wrote the number, because the area code is now **989**. The correct numbers are **989-268-5911**, **989-268-5693**. The toll-free telephone number I did get straight; 800-235-0285 and a FAX: **989-268-5311**. I apologize for the trouble I may have caused.

Some Growers Still Have Time to Set Out Leafminer Traps in Apples

It may not be too late to set out traps to monitor populations of apple blotch leafminer and spotted tentiform leafminer. Your last chance will be just as buds reach 1/4-inch green stage. Traps go on the trunk, south side, at knee height.

Did Apple Mites Survive the Winter?

Well... maybe. We had some pretty cold temperatures early this winter, and we may find that European red mite eggs suffered more than the usual amount of mortality, as a result. Later in the winter things were mild enough that they should have done well. Remember, ERM eggs are on branches and twigs. My thinking is that we'll see that a lower than usual percentage of ERM eggs survived this winter (compared to "normal").

Two-spotted spider mites overwinter as orange adult females, clustered at the base of the tree. During the periods of very cold weather, we had **some** snow cover, and I'm guessing it was enough to protect them.

Our introduced predator mite, *Typhlodromus pyri* overwinters under bark scales. I'm concerned that some locations that have this mite may have suffered serious mortality. It will take quite a while for us to tell on this. The mite is present in at least 8 orchards now, possibly 10. Low winter temperatures can cause high mortality of this species.

Timing of Oil Spray on Apple

Our "delayed-dormant" oil sprays are usually targeted at eggs of European red mite. They are most effective when coverage is thorough, and the material is applied when the eggs are fairly rapidly respiring, which is just before hatching. That's why I recommend spraying at tight cluster stage. By pink, some have already hatched, and are much less vulnerable to oil sprays.

Timing is important not just to get the most vulnerable period for the overwintered eggs. Weather is a concern. Oil can injure trees if temperatures drop into the 30's (yes, that includes 39 degrees) within 24 hrs. after treatment. That means growers need to wait for an appropriate weather window (little or no wind, mild temperatures) and have dry enough orchard floor to avoid getting stuck, or causing soil compaction. Boy, this is getting complex. How do you guys do it?

But there's still more. For growers with moderate or large acreage, it takes so much time to spray oil, that you may have to start well before tight cluster stage. I wouldn't want to go too early, but half-inch green might be great, if weather is appropriate. If you have significant infestation from San Jose scale, half inch green is actually the preferred timing.

Mummy Berry Note From George Hamilton

Last year was one of the worst years for Mummy berry in the last 30 years. Irrespective of last year's disease, all growers should be prepared for this season. Bill Lord has applied for a Section 18 for Indar to use for prevention of Mummy berry, yet he believes that the approval may come too late for the first one or two applications this season. He has recommended that growers use a product called Captevate. Captevate is approved for use on blueberry bushes in NH to control Mummy berry. This product's EPA registration number is 66330-48. The company that produces this product is named Arvesta Corporation.

According to Bill Lord, Captevate was the most effective material in trials at Michigan State University for controlling Mummy berry. According to this research, it was as effective as Orbit and Indar. It is however, unproven in high-innoculum situations.

The label suggests that this product be rotated and not used more than twice during the growing season. So if you intend to apply multiple applications, please consider having other appropriate fungicides on hand. Indar may become available through a Section 18 permit during the growing season, but Orbit will not be registered for use in NH this year.

A good resource to find recommended materials to help prevent Mummy berry and to treat other small fruit diseases is the [2003-2004 New England Small Fruit Pest Management Guide](#). Pages 58 and 59 discuss Mummy berry, while pages 68 and 69 list recommended materials and timing of applications. As always, please check to make sure that the materials listed are registered for use in NH.

George originally included details on ordering copies of The 2003-4 New England Small Fruit Pest Management Guide, but I understand the supply has been exhausted. You can still access this reference online. The url is <http://www.umass.edu/fruitadvisor>

Eastern Tent Caterpillar

Eggs of eastern tent caterpillar usually hatch in Durham on Tax day. I checked several masses, and found them hatched or hatching then. For a day or two after hatching, the tiny caterpillars cluster on the egg mass, and then they move to the nearest crotch, where they begin their "tent". For most commercial growers, these caterpillars will die when an insecticide is applied for some other (more serious) pest at pink or petal fall. For organic growers, any (caterpillar strain) B.t. product will control them, if it is sprayed on the nearby foliage. For backyard growers with only one or two trees, why not control them with thumb and forefinger now? The **tiny** tents are visible if you look carefully. They become easier to see as time goes on.

Mummy Berry Spores Should Be Ready

In Durham, buds are at the stage when we first expect Mummy berry fungus spores to be ready. Farther south, even more spores should be ready. The fungus needs rainy weather for spores to be released, and wet tissue (green shoots, foliage) for the spores to land and germinate. Mummy berry has two cycles. The first cycle is initiated by ascospores released from fungal cups that grew from last year's mummified fruit. The spores land on the new, growing green shoots or leaves and produce lesions. Sometimes these primary infections look a lot like frost injury. The fungus grows from these lesions (which are not very obvious or abundant) and produces secondary spores, or "conidia". The conidia are spread by rain splash and pollinating insects. They infect the (green) fruit, but infection isn't obvious right away. Last year Mummy berry was really bad (see George's letter above).

Other Pest Events Due Soon

Tree Fruit:

- heavy releases of apple scab spores (usually come on just about pink stage)
- cedar-apple rust and quince rust spore releases (also during rainy periods, usually by pink)
- black knot fungus spores infect stone fruit twigs through shuck split (especially on plums).
- scout for Rosy apple aphids (Cortland & Delicious) before pink
- emergence of leafminer moths (STLM, ABLM) starts about 1/4-inch green to 1/2-inch green
- European red mite eggs hatch during pink stage.
- European apple sawfly adults emerge during pink stage.
- Tarnished plant bugs feed until shortly after petal fall (then move to other crops).
- Pear psyllas lay eggs on twigs on sunny days (already started).

Small Fruit

- raspberry fruitworms (adult beetles) appear as leaves unfold.
- if scale problems are on blueberry, apply oil by pink bud stage.
- set up frost protection for strawberries (frost is a pest, right?).



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