

Healthy Fruit

Volume 11, 2003





Prepared by the University of Massachusetts Fruit Team

Issue 2 - April 15, 2003

Current DD Accumulations

Location	Base 43F	Base 50F
Belchertown, UMass CSO observed (01/01/03 – 04/14/03)	84	18
Belchertown, UMass CSO, SkyBit™ (01/01/03 – 04/14/03)	95	NA

Current Bud Stages

Location	McIntosh	Pear	Peach	Sweet Cherry
Belchertown UMass CSO (04/14/03)	 early Green tip	 Swollen bud	 Dormant +	 Dormant

Upcoming Meetings/Events

Date	Meeting/Event	Location	Time	Information
April 15	Fruit Team Twilight Meeting	Rice Fruit Farm 757 Main St. Wilbraham	5:30 PM	Jon Clements 413-478-7219
April 16	Fruit Team Twilight Meeting	Carlson Orchards 115 Oak Hill Rd. Harvard	5:30 PM	Jon Clements 413-478-7219
April 17	Fruit Team Twilight Meeting	Sylvia Farm 2621 County St. (Route 138) Dighton	5:30 PM	Jon Clements 413-478-7219
April 22	Hi-density Orchard Pruning	UMass Cold Spring Orchard 393 Sabin St/ Belchertown	10:00 AM	Jon Clements 413-478-7219

Copper Spray at Green-tip

Many Massachusetts orchards will be at green-tip this week in apples. At this bud stage a copper spray is recommended. A copper application serves three purposes:

1. As a micro-nutrient spray. Most leaf analysis samples returned to us from the UMass Soil and Plant Tissue Testing Laboratory (<http://www.umass.edu/plsoils/soiltest/>) are deficient in copper. Copper deficiency may result in malformed leaves and reduced flowering and fruit set. It probably pays to keep copper levels within the optimum range—10-20 ppm for apple and pear foliage.
2. As a fire blight preventive spray. A copper application will reduce the amount of bacteria present in over-wintering cankers if fire blight was present in the orchard (apple or pear) during the previous

season. Orchards or blocks with a history of fire blight should always receive a dormant to green-tip spring copper application.

3. As a scab protectant spray. Copper is a good scab fungicide. It has pre-infection activity for about seven days, so it gets you through that potentially critical first scab infection period at green-tip. (See following article.)

The only downside of a copper spray at green-tip is the possibility it may cause fruit russet. But this is unlikely if we have sufficient precipitation before petal-fall to wash most of the copper residue away. There are many copper formulations, so be sure to read the label for specific application recommendations. Note that copper is also good on peaches and sweet cherries for control/suppression of peach leaf curl (dormant application only), and bacterial canker respectively.

Is it too Early to Speak of Scab?

A recent article in Scaffolds Fruit Journal (Vol. 12, No. 3, <http://www.nysaes.cornell.edu/ent/scaffolds/>) highlights the need for good scab preventive spray programs. Apparently, at least in New York, resistance to SI fungicides has resulted in an increased emphasis on pre-infection 'protectant' scab spray strategies vs. post-infection 'kickback' spray applications using SI fungicides. Note that the latter are still useful, particularly where SI resistance is not a problem, but they need to be used judiciously and in combination with a good protectant spray program. So, for this season's scab application planning purposes, what does this mean? To quote David Rosenberger from the Scaffolds article, it means three things:

1. Start early: apply a protectant at green-tip or at least before the first scab infection period.
2. Use a protectant spray timing even when SI's (Rubigan, Nova, Procure) or strobilurin fungicides (Sovran, Flint) are included in the schedule.
3. Sovran and Flint function best as protectant fungicides and will NOT provide consistent post-infection activity of the kind that was formerly provided by SI fungicides.

Finally, Rosenberger says:

Bottom line: Because of fungicide resistance problems, we must revert to more conservative prebloom fungicide programs with particular emphasis on protecting trees from the very earliest infections.

Good scab protection fungicides at this early timing (green-tip through tight-cluster) include copper (green-tip only), Syllit, EBDC fungicides (Polyram or Dithane/Manzate/Penncozeb), Captan (do not apply within 10 days of oil), and—from half-inch green on—the strobilurin fungicides Flint/Sovran/Vanguard, which also have some post-infection activity. As always, read the label for specific application recommendations and compatibility with insecticides or oil.

Apple Scab Ascospore Maturity and Infection Periods

Apple leaves from abandoned trees were collected from sites in Amherst, MA on April 15. Squash mounts showed that approximately 20% of the ascospores were mature, but none of them had been released yet. Although it is possible that orchards along the Connecticut border had a few releases of ascospores with the last rainfall, there was very little if any susceptible apple tissue exposed at that time. The recent and predicted warm weather will speed apple tissue growth quite a bit and the next significant rainfall will very likely trigger scab spore release in all but the highest and most northern orchards. Growers would be wise to be ready with a spray application before or immediately after the next significant rain, especially in blocks that had scab last year or are close to inoculum sources.

Got Trees?

If you are planting bare-root apple trees this spring, here are a few IMPORTANT things to keep in mind:

1. Plant early – as soon as you can get them in the ground. This will result in a longer growing season, and more root and scion growth.
2. Space wisely – too wide, and your orchard is doomed to low profitability for life. Too close, and you will always be fighting the trees. Use the on-line apple tree spacing calculator at: http://www.hrt.msu.edu/departement/Perry/Spacing_Fruit/misspacingPC.htm Of course you must also take your equipment into consideration, but otherwise, this calculator will take the guesswork out of planting distance.
3. Irrigate – a must for dwarf rootstocks. Irrigation will make a HUGE difference in 1st and 2nd leaf tree performance.
4. Prune promptly – whips should always be headed (waist height) at planting. Trees with one or two feathers? -- they should be removed, and the tree headed. Trees with three or more good feathers? – clip back the feathers by no more than 25% and head the tree app. 18-24” above the highest feather. These pruning rules apply to all central leader/slender-spindle/vertical-axis training systems.
5. Support – the trees with a stake or trellis. Trees will grow more if supported in the 1st leaf because they don’t have to put energy into building wood to support them.
6. Fertilize – as soon as the trees break bud, using calcium nitrate at 4 oz. per tree. Don’t use urea or ammonium nitrate as you run the risk of burning the roots. Another shot of calcium nitrate in June is a good idea. At planting, a little phosphorous (mon-ammonium phosphate, MAP) in the planting hole couldn’t hurt.

Not Too Late to Start Monitoring

Although recent cooler weather slowed tree development somewhat, particularly in later developing parts of the state much warmer weather today will tend to push things—including insect development—along.

Tarnished plant bugs (TPB) and leafminers (LM) are examples of two insects that are sometimes a problem and sometimes not, and therefore, lend themselves very well to monitoring to determine need to treat. Now is the time to put out the white sticky rectangle traps for TPB and the red trunk traps for LM. There is no effective way to predict whether blocks that experienced a problem with these pests will do so again. We can speculate that the heavy snowfall may have afforded some protection to overwintering TPB adults or LM pupae. Although in the latter case, moist, unfrozen ground may have allowed infested leaves to decomposed more readily, and there could also have been predation by mice and other critters that work the soil surface under the snow.

In any case, we are still a ways from needing to think about sprays for either LM or TPB. See below for some options should treatment be needed.

Oil

It’s definitely NOT too late to be planning to get on good oil coverage against overwintering mite eggs and scale adults. Remember that oil applied with or just after copper increase the prospect of phytotoxicity. Also avoid oil application before cold or freezing temperatures.

Oil can also be combined with Lorsban (Pre -Bloom) where San Jose scale has been a problem. Regardless of the target pest, thorough coverage is essential, so use lots of water and apply during periods with low wind.

Newly Registered Compounds

As noted in the *2003 March Message*, a number of new compounds are available to use this season.

Assail (acetamiprid). A nicotinoid labeled for apples and pears against leafminers, leafhoppers and pear psylla as well as codling moth and oriental fruit moth. Although relatively safe on beneficial predators and parasites, Assail is highly toxic to bees.

Distance (pyriproxyfen). This insect growth regulator has the same active ingredient as Esteem, and is registered on NON-BEARING apples and pears to be used against San Jose scale, aphids and leafminers.

Entrust (spinosad). This OMRI-approved material has the same active ingredient as SpinTor, and is labeled

for use on apples, pears, and stone fruit against leafminers, codling moth, oriental fruit moth and leafrollers.