



# Healthy Fruit

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Prepared by the University of Massachusetts Fruit Program

## Healthy Fruit, Issue 12, June 20, 2006

<http://www.umass.edu/fruitadvisor/>

### Current DD accumulations

Location	Base 43F	Base 50F
Belchertown, UMass CSO observed (01/01/06 – 06/19/06)	1125	639
Belchertown, UMass CSO SkyBit (01/01/06 – 06/19/06)	1130	

### Upcoming meetings/events

Date	Meeting/ event	Location	Time	Information
July 14	Summer Meeting - Mass. Fruit Growers' Assoc.	UMass Cold Spring Orchard 391 Sabin Street Belchertown, MA	TBA	Duane Greene 413-545-5219

### **The way I see it -- J Clements**

What an interesting start to the season. Reports indicate the lack of sun and poor pollination weather have taken their toll in some orchards depending on local conditions. Macs have generally faired best, but later blooming cultivars like Macoun and Gala are on the light side. The stone fruit crop looks good, although heavy June drop of cherries has been observed. The rain has flushed a lot of nitrogen out of the soil, so some trees are looking a little nitrogen-deficient. Now is probably a good time to give them a little nitrogen boost, particularly peaches and young trees. Although weather is always a challenge -- and this year has been a little more challenging than usual to date -- I have not doubt we will be looking at a moderate, if not a little on the light side, apple crop in the state.

### **Timing for oblique-banded leafroller spray approaching -- J Clements**

In apple orchards where oblique-banded leafroller (OBLR) is a know problem, i.e. with a history of injury, the timing for an insecticide spray targeting first generation larvae is approaching. (Likely sometime next week.) SpinTor, Entrust, and Intrepid are good insecticide options for controlling this pest at this time.

### **Leafhoppers poised to make an appearance -- J Clements**

If you don't already have them, you probably will very soon. White apple leafhoppers (WALH) have already been found in apples, and potato leafhoppers (PLH) are likely not far

behind. Remember, WALH are residents while PLH are migrants. And WALH are more of a nuisance (although they can be a big one!) while PLH are more damaging to young trees. Scouting should just be watching for their presence -- WALH adults and nymphs are whitish/cream-colored and are often present at the same time and fly or crawl (in a straight line) on and about the foliage when disturbed. PLH's are more green in color and characteristically move diagonally or sideways on the leaf surface. Flying PLH are often more difficult to detect than WALH. WALH cause stippling of leaves, while PLH results in marginal discoloration and stunting of leaves, hence their significance on young trees.

Fortunately both are easy to control -- Provado (at the low rate of 4 oz/acre), Actara, Assail, and Calypso are excellent insecticides for both pests. Guthion or Imidan are also indicated for PLH. PLH populations will build rapidly if not controlled, and can result in significant "hopperburn" on young trees. Do not let them get out-of-hand.

### **Foliar calcium benefits in apple -- W Cowgill and J Compton**

*Note: this article appeared in the June 13, 2006 issue of the New Jersey Plant & Pest Advisory, Fruit Edition, Rutgers Cooperative Extension.*

It is time to consider adding foliar calcium to your apple cover sprays in fruiting blocks. With the light apple crop in many blocks, remaining fruit is more susceptible to calcium deficiencies. Calcium-related disorders such as **cork**, **bitter pit** and **senescent (internal) breakdown** are common in New Jersey. These disorders cut into grower returns by making the affected fruit unsaleable. Some cultivars, such as Jonagold, Cortland, Enterprise (and Honeycrisp) and most early season varieties can be highly sensitive to calcium deficiencies in the fruit.

Correction of calcium deficiencies begins with maintaining adequate soil calcium levels through regular liming with high calcium lime only. However soil applied calcium does not easily translocate within the tree, and many factors, such as nutrient imbalance, soil moisture, pH, crop load and pruning may all effect how well the tree utilizes the calcium that is available in the soil. The quickest and most effective short-term corrective treatment for the control of these calcium-related disorders is the implementation of a foliar calcium spray program.

Calcium sprays have been a hot research topic over the past three decades. And although major advancements have been made in the reduction of calcium related disorders, no universal "cure" has been found. The most important aspect of a foliar calcium program is the total amount of calcium that ends up in the orchard. Pennsylvania recommends 4 to 14 pounds of total calcium per acre per season, while Massachusetts recommends their growers apply between 21 and 22.5 pounds of actual calcium per season, with up to 10 lb/spray of calcium chloride (CaCl<sub>2</sub>) later in the season.

The cooler climate of the New England states allows them to apply such an intensive spray schedule without any significant leaf burn. In work conducted at the Snyder Research Farm over the past 7 years on Enterprise, we have sprayed over 11 pounds of actual calcium per acre per season without any significant leaf burn. Our standard recommendations in New Jersey are to apply 2-3 lb/100 of CaCl<sub>2</sub> per spray before August 1st and 3-5 lb/100 of CaCl<sub>2</sub> per spray after August 1st.

This will allow for sufficient absorption of calcium by the fruit with minimal leaf burn on most cultivars. Research has shown that late season foliar applications of calcium are more effective in reducing calcium related disorders than early season sprays, but total applied calcium by harvest is the most significant factor. Reduced rates of CaCl<sub>2</sub> should be applied if there was no rain between applications, or if we are experiencing hot and humid conditions.

Care should be taken when applications are occurring in temperatures above 80 F. Since foliar applications of calcium do not translocate through the leaves readily, it is

important to get thorough spray coverage to allow for calcium to contact the fruit directly. Increased water volume or the addition of a surfactant may provide better coverage and increased absorption while reducing the chance of any leaf injury.

### **Form of Calcium for Foliar Sprays**

There are many calcium products promoted by industry as substitutes for Calcium Chloride (CaCl<sub>2</sub>). However extensive research and comparison of these products has yet to show an advantage over Calcium Chloride because it is one of the richest forms of calcium at the cheapest price. Calcium nitrate (CaNO<sub>3</sub>) can be substituted for CaCl<sub>2</sub> but only on trees that do not contain low nitrogen levels as measured by leaf analysis. Vigorous trees should not receive Calcium nitrate. Growers opting to use CaNO<sub>3</sub> as their calcium source should be aware that CaNO<sub>3</sub> does not contain as much available calcium as CaCl<sub>2</sub>, so they should adjust their rates accordingly.

### **Healthy Fruit disease elements -- J Clements**

**Summer diseases, not quite yet** -- according to the wetting hours model which runs from petal-fall, we have not accumulated enough wet hours (kind of hard to believe?) to have to start worrying about fungicide applications for summer disease (flyspeck and sooty blotch) control. Based on forecasts, it will likely be in about a week. As soon as we hit the threshold, we will report it here. (Or, you can check the UMass Cold Spring Orchard Weather Data website, <http://www.umass.edu/fruitadvisor/hrcweather/>)

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