



# Healthy Fruit

Volume 12, 2004

Prepared by the University of Massachusetts Fruit Team

Issue 11, June 02, 2004

## Current DD accumulations

Location	Base 32 F	Base 43 F
Belchertown, SkyBit E-Weather (01/01/04 – 06/01/04)	--	771
Belchertown, SkyBit E-Weather (04/13/04– 06/01/04)	-- (100*)	--

% mature scab spores

## [Orchard Radar for west-central Massachusetts \(Belchertown\)](#)

## [Orchard Radar for eastern Massachusetts \(Waltham\)](#)

## Upcoming meetings/events

Date	Meeting/Event	Location	Time	Information
June 15	Fruit Team Twilight Meeting	OESCO, Inc. (Orchard Equipment) Conway, MA	5:30 P.M.	Jon Clements (413) 478-7219
June 16	Fruit Team Twilight Meeting	Mann Orchard Methuen, MA	5:30 P.M.	Jon Clements (413) 478-7219
June 17	Fruit Team Twilight Meeting	Phantom Farms Cumberland, RI	5:30 P.M.	Heather Faubert (401) 874-2750
July 14	MFGA Summer Meeting	UMass Cold Spring Orchard Belchertown, MA	TBA	Jon Clements (413) 478-7219

## UConn food safety program for retail juice processors

The University of Connecticut is sponsoring a program June 11, 2004 called 'Developing a Food Safety Plan: Alternatives for the Retail Juice Industry.' This program was developed with the help of FDA Innovative Food Safety Project funds. The target audience is juice processors who do not have to comply with the Juice HACCP rule because they are selling directly to the consumer at their farm market, at a farmers market or online. Why attend the workshop? – to learn how to develop a food safety plan for your retail juice operation; to show consumers that you are making every effort to produce a safe product; and, by adopting these guidelines voluntarily, the industry may avoid mandatory regulations. The program was developed for Connecticut processors, but we believe that the information presented would be useful to any retailers processing juice and the regulators that are inspecting them. For more information,

contact Diane Wright Hirsch ([dhirsch@canr.cag.uconn.edu](mailto:dhirsch@canr.cag.uconn.edu)) or see the Program announcement and registration form on the UMass Fruit Advisor (<http://www.umass.edu/fruitadvisor/>).

## **Insects J. Clements**

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**Plum curculio** activity is variable. Cooler weather has likely kept them at bay, but not in all cases. For most orchards, some insecticide coverage – at least border row sprays – is still mandatory. It's likely the next warm weather combined with some humidity and/or showers (this week?) will bring curculio out one last time (hopefully) and one needs to be prepared.

We had it good for awhile – for at least the last couple years, **European red mite** numbers have been low. Reports from New Jersey indicate they are back there this year, and I would not be surprised if we follow suit. At least one orchard has reported a mite build-up. Bottom line, scout. Here is the heads-up from New Jersey, courtesy of Peter Shearer and the Rutgers Plant & Pest Advisory:

Mitey Mites, by Peter Shearer (from Rutgers Plant & Pest Advisory, Fruit Edition, June 1, 2004)

European red mites are back. They have been observed infesting more orchards this year than in recent years. High population levels on apples can bronze leaves, reduce tree growth and cause premature fruit drop on certain varieties. Heavy European red mite infestations on peaches have not been shown to cause harm to the tree or crop but are a known nuisance to pickers.

Mites are especially noticeable in orchards treated with pyrethroid insecticides. These insecticides often disrupt biological mite control by both killing natural enemies and stimulating the plant to make it more suitable to mite reproduction.

Growers have several miticides available for use (Table 1) and they should rotate products to help prevent resistance from developing to frequently used miticides. Rotation is important because resistance to Pyramite has been observed in a New Jersey apple orchard. If it happened there, it can happen in your orchard. Thus, do not use the same miticide twice in a row. Some miticides have special use restrictions and different pre harvest intervals so it is important to read and follow the label.

Table 1: Miticides available for managing mites on apple and peach trees

Apple Product	Peach Product
Acramite 50WS	Acramite 50WS
Agrimek 0.15EC	Apollo SC
Apollo SC	Nexter
Kelthane 50WP	Savey 50WP
Nexter	Vendex 50WP
Savey 50WP	
Vendex 50WP	
Vydate 2L	

But in New York, according to an article in this week's Scaffolds Fruit Journal (Volume 13, No. 11, June 1, 2004, <http://www.nysaes.cornell.edu/ent/scaffolds/>) mites have been a relative no-show. Still, they bear watching and their advice on using summer oils to suppress mites is worth reprinting here:

#### Summer Oil for European Red Mite, by Art Agnello

Mite populations have been slow to build so far this season, but adults have been noted in some orchards, which means that they'll be laying summer eggs that will hatch into potential problems before long. In situations where European red mite pressure or the crop's sensitivity to them haven't necessarily justified an early season treatment with Agri-Mek, Apollo or Savey (or if you didn't get a chance to spray during the brief prebloom window), this is the time of year when a summer oil program might be considered as an alternative preventive approach, particularly considering this species' slow start from our cool spring weather. Field research trials conducted in commercial and experimental apple orchards in western N.Y. have shown the effectiveness of using a highly refined oil in a seasonal program to control mites throughout the summer. Some examples of these products are PureSpray Spray Oil 10E (Petro Canada), Sunspray Ultra Fine Spray Oil (Sun Refining & Marketing, Philadelphia), Stylet-Oil (JMS Flower Farms), and Omni Supreme (an ExxonMobil product formulated using Orchex 796 and distributed in our area by Helena); others are labeled, although we haven't tested all brands.

Our approach is to make three applications, on a preventive schedule, immediately after the bloom period, before mite populations have a chance to build. The first application can be any time from petal fall to 1-2 weeks later, followed by two additional sprays at 10-14-day intervals. The oil is not concentrated in the tank, but rather mixed on the basis of a rate per 100 gallons of finish spray solution; in most cases, we recommend 100 gal. per acre. A rate of 1-2 gal/100 should maintain control of most moderate populations. Don't apply without leaving at least a 10-14-day interval before or after a captan spray.

#### **Diseases: Don't Pick Scabby Apples** *D. Cooley*

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The world of apple scab management is shifting. For years, we fruit pathologists have said that the SI fungicides would, sooner or later, become less and less effective, until the scab fungus eventually developed complete resistance to them. It appears that we are seeing the results of that now.

While everyone isn't experiencing the problem, reports from a number of orchards indicate scab at higher levels than we have seen for many years. In addition to the resistance problem with Rubigan, Nova and other SI's, there has been a build-up of inoculum over the past couple of years, thanks to bursts of wet weather in past falls and the decreasing effectiveness of the SI fungicides. For the decade or more before this, when there was an early-season mistake, or when coverage wasn't quite what it should be, then we could depend on an SI to clean up the mess. That's no longer a reliable bet.

At the same time, materials of choice in the early season usually have been an EBDC, often mancozeb products (Dithane, Manzate, Penncozeb). People would often mix 3 lb./A mancozeb with an SI. If the SI is no longer carrying the load, then 3 lb/A isn't enough to do the whole job.

But wait, the label says either 6 lbs/acre or 1.5 lbs. per 100 gal. Recently, some northeast pathologists discussed this problem. If you have 200 gal/A trees (semi-dwarf, well-pruned blocks), then applying 3 lbs/A should do the job. Obviously, 3 lbs/A is a lot less than 6 lbs/A. In my opinion, the lower rate assumes everything is going right. Anything below that rate will probably be inadequate. And with concentrate spraying, small mistakes are magnified. So, a grower needs to be very sure about what they're doing to use the 3 lb/A rate. First, you in fact have small, well-pruned trees, and the wind isn't blowing, your tractor speed is right, the nozzles are correct, the scale in the spray shed wasn't stuck...you get the picture. We've harangued about making sure to use adequate rates for years. It's a lot safer to build in a margin for error, and use 2 lbs/100 gal. dilute minimum.

When the SI fungicides were working 100%, then this wasn't a big deal. But, when they aren't, or when they aren't being used, AND the inoculum levels have built up, as they have in many places, then spraying at the lower rates can get risky. For those of you who may be saying, "Before the SI fungicides, I could spray with a half rate of Dithane and it worked fine!", remember that the old full rate was 8 lbs/A! After re-registration in the early 90's, it dropped to 6 lbs/A.

So that may explain why we're seeing more scab than has been the case in many years. Now, what do we do about it? At this point, the object is to keep scab from moving from leaves to fruit. The good news is that as we move into the summer, the trees and fruit themselves will become more resistant to new infections. The bad news is that the fungicides available to stop scab now are very limited. Captan applied at 2 lb/100 gal., applied in as dilute a spray as is manageable, in warm to hot weather, will do as well as anything. The strobilurines work as good anti-sporulants. (they stop the scab fungus from making new spores and causing new infections). BUT using them to stop a scab outbreak greatly increases the odds that scab will become resistant to these materials. Topsin-M may still be used, but there can be resistance issues where it or Benlate have been used extensively in the past.

As the scene in scab fungicides changes, we'll probably be adapting on the fly for the next few years. Probably it's best to pay attention to things that can be controlled, such as making sure the rates are adequate and the fungicide is getting where it needs to go.

### **Horticulture** *W. Autio, J. Clements, and D. Greene*

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As usual, weather has played a role in fruit thinning. It has been unusually cool and cloudy (particularly in eastern counties) and previously applied thinning sprays may have had variable effects. If you are thinking you'd still like to get some more thinning, it is not too late to apply carbaryl, NAA, or BA. Let's put it this way – it probably can't hurt, and it is likely to help remove fruit, particularly if the warmer weather predicted this week actually materializes. Carbaryl (Sevin XLR Plus) and BA (Maxcel) are best choices at this time -- NAA can cause some fruit size problems when applied this late. A full rate of Sevin XLR (up to 1 quart/100 gallons dilute) or Maxcel at 100 ppm (or a combination of) applied to blocks where fruit set still looks heavy is recommended.

### **Lightning Safety**

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Interesting weather the last few weeks, thunder and lightning! It's our turn: lightning strikes the earth about 8 million times a day. But it is nothing to mess with: lightning is the leading cause of weather related deaths, causing more deaths and injuries than hurricanes, tornadoes and floods. Here are a few reminders about lightning safety.

***Plan ahead!***

- If thunderstorms are predicted in your area, don't be caught where you can't take shelter on short notice.
- Watch for signs of rapid thunderstorm growth. Cut clouds don't have to be directly overhead for lightning to strike, it can arc out from the thunderstorm.
- If it will take a while to reach shelter – give yourself time to reach the safe place before lightning is an immediate threat.

***Don't be the tallest object!***

- Don't stand in an open area such as a crop field or golf course.
- Don't ride in open vehicles (such as ATVs, open tractors, etc.) or on horseback.
- If caught outdoors, don't lie flat on the ground. If you feel your hair stand on end, lightning may be about to strike; crouch on the balls of your feet with your head down (create as little surface area as possible).

***Avoid dangerous lightning situations!***

- Stay away from trees, poles, and other isolated tall objects
- Avoid operating agricultural equipment, especially tillage implements.
- Stay in your car or tractor cab. Cars and enclosed tractor cabs are excellent lightning shelters as long as you don't touch the metal frame. Lightning will flash around the vehicle; it is a myth that rubber tires have anything to do with the safety of a vehicle.
- Go inside a sturdy building or in the enclosed cab of a vehicle that has a solid metal top. The building should be non-conducting (not metal). Do not be in contact with any metal on the building or vehicle.
- Don't touch anything that could conduct electricity. Stay off the telephone and out of the bathtub/shower (electricity can travel through wires and plumbing). Stay away from wire fences and water (these can transmit current from a distant lightning strike)

***How far away is it?***

To determine the number of miles between your location and a lightning strike, count the number of seconds between the lightning flash and the sound of thunder and divide by five (sound travels one mile in five seconds). For example: you hear thunder 10 seconds after you see lightning, divide 10 by 5 to determine that the lightning strike was 2 miles from your location. Keep in mind, though, that the average distance from one flash to the next in the same storm may be two or three miles – 10 to 15 seconds flash-to-bang.

*Adapted from* Nebraska Cooperative Extension NF266 by *S. Meyer and R. Grisso*  
<http://ianrpubs.unl.edu/safety/nf266.htm>

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