UMassAmherst EXTENSION

Healthy Fruit

Volume 13, 2005

Prepared by the University of Massachusetts Fruit Team

Issue 9, June 01, 2005

Current DD Accumulations

Location	Base 32F	Base 43F	Base 50F
Belchertown, UMass CSO observed (01/01/05 – 05/31/05)	--	597	285
Belchertown, SkyBit E-Weather (01/01/05 – 05/31/05)	--	552	--
Belchertown, UMass CSO observed (04/15/05 – 05/31/05)	955 (99*)	--	--
Belchertown, SkyBit E-Weather (04/15/05 – 05/31/05)	(97*)	--	--

- % mature spores

Upcoming Meetings/Events

Date	Meeting/Event	Location	Time	Information
June 14	Fruit Team Twilight Meeting	UMass Cold Spring Orchard 391 Sabin Street Belchertown, MA	5:30 PM	Jon Clements 413-478-7219
June 15	Fruit Team Twilight Meeting (with UNH Extension)	High Hopes Orchard 582 Glebe Road Keene, NH	5:30 PM	Jon Clements 413-478-7219 George Hamilton 603-641-6060
June 16	Fruit Team Twilight Meeting (with URI Extension)	Sweet Berry Farm 19 Third Beach Road Middletown, RI	5:30 PM	Jon Clements 413-478-7219 Heather Faubert 401-874-2750
July 18	Massachusetts Fruit Growers' Association Summer Meeting	Nicewicz Farm 116 Sawyer Road Bolton, MA	TBA	Jon Clements 413-478-7219

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The way I see it

Finally, the weather has warmed up. With it come many decisions related to protecting and thinning this year's apple crop. Watch fruit growth closely to monitor the need for thinning. All signs point to 'moderate' thinning need, so be forewarned. We have yet to experience the first post-bloom influx of curculio, but based on the forecast, that will happen this week. Fertilizer application should have been made by now, but it is not too late if you missed it. Including a little urea or calcium nitrate in cover sprays is always good advice, as well as the inclusion of a calcium product of your choice. J. Clements

Entomology

Curculio should be on everybody's mind this week considering the arrival of warm weather and fruit size approaching 7-10 mm. At this size, fruit becomes more attractive to curculio, and warm, more humid weather predicted for the weekend favors their activity. Needless to say, orchards should be covered with an effective curculio insecticide (see table below) for the next 7-10 days at least.

Recommended plum curculio insecticides, rates, efficacy, and REI's

Insecticide	Rate/acre	Efficacy	Re-Entry Interval (hrs)
Diazinon 50 WP	4 lb	good	24
Guthion 50 WP	2 lb	excellent	14 days
Imidan 70 WP	3 lb	excellent	24
Sevin 80 WS	1.25 – 3.75 lb	Fair-good	12
Sevin XLR Plus 4EC	1.5 – 3 qt	Fair-good	12
Danitol 2.4 EC	16 - 21.3 fl oz	good	24
Asana XL 0.66 EC*	8 – 14.5 fl oz	good	12
Surround WP	25 – 50 lb	fair-good	4
Avaunt 30 WG	5 – 6 oz	good-excellent	12
Actara 25 WG	4.5 – 5.5 oz	good-excellent	12
Assail 70 WP	2.5 – 3.4 oz	good-excellent	12
Calypso 480 SC	4 – 8 oz	good-excellent	12
Warrior 1 CS*	3.4 – 5.1 oz	good	24

*pyrethroids increase the chance of mite flare-ups

Tarnished plant bug is still an issue in apples and particularly peaches and nectarines. If relying on Imidan to control this pest, higher rates (3 lb/acre) should be employed. Pyrethroids – Asana, Ambush, Pounce, Warrior – are very effective, however, may cause mite flare-ups. The best tarnished plant bug control is to reduce/eliminate broad-leaf weeds within and near peach orchards.

Horticulture

Fruit are now growing in response to the arrival of warmer temperatures. We are entering or are in the **primary chemical thinning season** when fruit are most vulnerable to thinners. Fruit size in Belchertown ranges between 6 to 10 mm depending on the variety. Any effects of frost on fruit set can be assessed at this time.

The bloom period was long and cool resulting in the possibility of having fruit within a cluster varying in size due to pollination and fertilization occurring at different times during the

protracted bloom period. In blocks that received a petal fall spray of carbaryl differential fruit size in the cluster may be even more evident.

Weather favorable for thinning is forecast for the next 5 days. (See Orchard Radar models, http://pronewengland.org/Content/PROInfoDecisionModels.htm, and graph on page 4.) If fruit in a cluster are of different sizes it seems that a moderate rate of the thinner(s) you select is appropriate. If spurs have thinned down to or just have one fruit per cluster slightly more aggressive thinning may be necessary to defruit some spurs. It is always a good idea to cut a few fruit open to get a good idea about the number of viable seeds that are present in developing fruit. The larger the number of seeds in a young fruit, the more difficult it will be to thin them. All thinners are effective at the 7 to 12 mm fruit size stage.

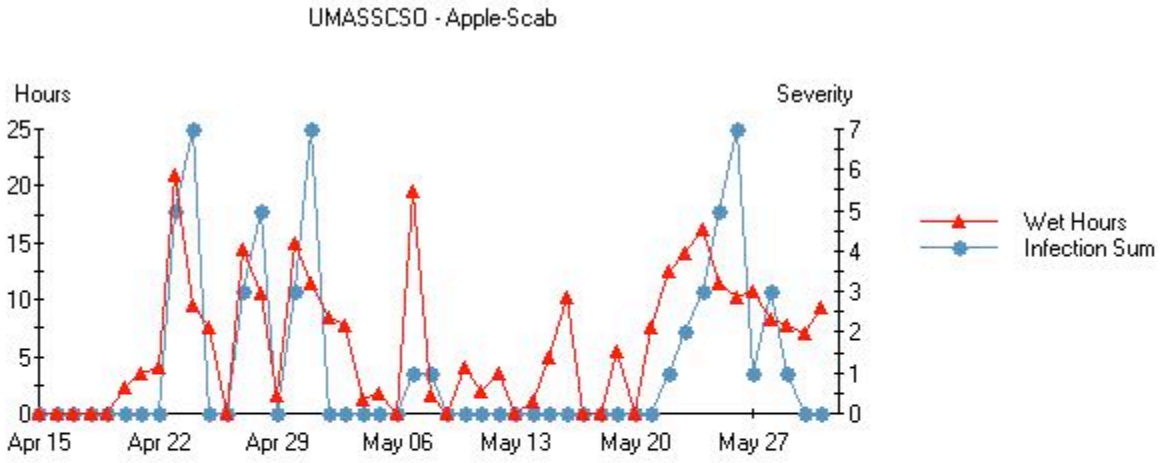
The 7 to 15 mm stage is the most effective physiological stage of development to use MaxCel. It can thin when used by itself, however, when combined with carbaryl, it is a much more potent thinner. MaxCel increases fruit size by reducing fruit competition among fruit, as do all chemical thinners. It also can increase fruit size independently by increased cell division in the fruit. For those interested in increasing fruit size without causing much thinning it is suggested that MaxCel should be applied alone. In this case some may wish to delay MaxCel application until fruit set is clearer (12 to 15 mm) before applying MaxCel and deciding what concentration to use.

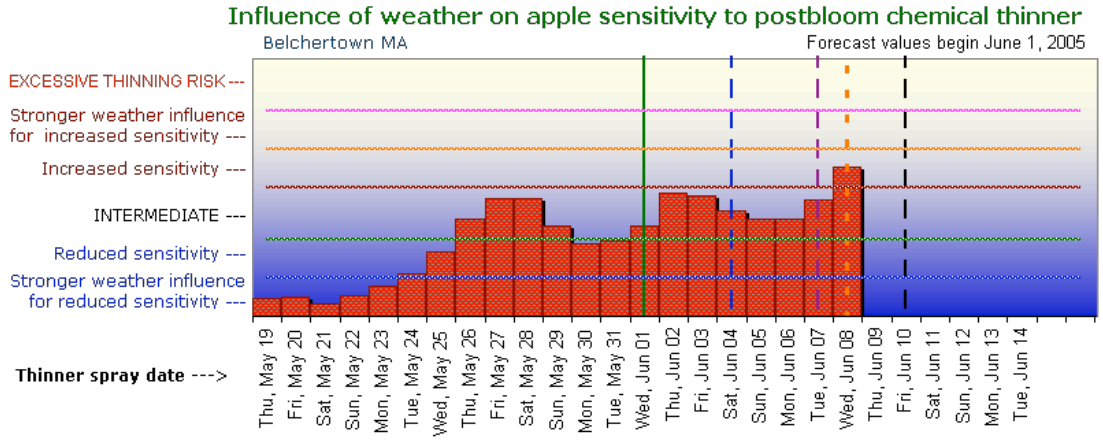
We have had several questions on what to do about **thinning young Honeycrisp** trees this year with a snowball bloom, the concern being lack of return bloom next year? (Young Honeycrisp are vulnerable to biennial bearing, as was witnessed last year, when many young Massachusetts blocks of Honeycrisp were 'off' and this year they are 'on.') Our advice has been: first, thin to the crop load you think these trees should have, which will depend on tree age, but typically, 3rd or 4th leaf trees should have 15 – 35 fruit (app. ¼ to 1/3 bushel) per tree; second, ethephon (Ethrel) to enhance return bloom (see label for rates and timing); and third, relax a bit, Honecyrisp is notoriously biennial early in it's life, however, has a tendency to settle down and become more regular as it ages. D. Greene and J. Clements

Diseases

According to the degree-day model, we are at the end of primary **apple scab** season. But, the cool weather/prolonged season has us nervous about declaring 'the end' yet – there is still time for primary scab lesions to show up on foliage for another 7-10 days on average. So, our advice is to maintain some fungicide coverage for the next week or two, particularly in cultivars that are most susceptible to scab. A little more patience and one more spary may pay big dividends so hat later you can officially declare scab season 'over.'

Apple scab infection period(s) at UMass Cold Spring Orchard, Belchertown





*** Red columns show thinning sensitivity rating for apples up to 12mm diameter on unstressed trees treated with thinning agent on morning of date listed. Rating for each day reflects influence of weather for 2 days prior to, and three days after, the date of chemical thinner application.

Horizontal lines mark transition levels between sensitivity categories. "Good thinning" for trees with average sensitivity from other factors is associated with ratings in the "Increased Sensitivity" categories.

Vertical lines for key dates can overlap. Vertical solid green line = today's date and start of forecast values..

Vertical blue dashed line marks estimated McIntosh fruit diameter exceeding 12mm, causing decline in sensitivity below rated value.

Vertical purple dashed line marks estimated McIntosh fruit diameter exceeding 15mm, causing decline in sensitivity substantially below rated value, and rapid decline in efficacy of NAA and Accel.

Vertical black dashed line marks estimated McIntosh fruit diameter exceeding 18mm, bringing an end to the thinning window for carbaryl. Ratings for dates beyond the McIntosh 18mm date are for later cultivars that still have fruit smaller than 18mm diameter.

Vertical orange dotted line marks date when fruit have reduced sensitivity after 2 or more days of temperatures > 75F.

from http://pronewengland.org/content/AllModels/mamodel/ma-Belchertown-ThinChart.htm