Maine Apple Newsletter
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Bud stage forecast

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<th>Sanford</th>
<th>Highmoor Farm, Monmouth</th>
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<td>Full Pink-extended</td>
<td>May 11, Wednesday</td>
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<td>King Bloom</td>
<td>May 13, Friday</td>
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<td>May 15, Sunday</td>
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<td>95% Petal Fall</td>
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Apple Scab

The apple scab infection periods until now have been relatively minor, but that will change soon. The current forecast shows May 15-16 as the year’s most important primary scab infection period in the Sanford area, accounting for 47% of the year’s total ascospore infection potential. Because bud stage and spore maturity is less advanced in the Monmouth-Highmoor Farm area, an infection on that date will not be as serious, but will still be an important infection period account for approximately 28% of the year’s total primary scab infection potential.

Those dates are too far ahead for a precise estimate of the exact values, but the point remains the same, scab preseason schedule is over and now it is time for the playoffs when it really counts. The current forecast has rain on six days in a row May 15-20, so the best situation would be to apply a full-dose protectant fungicide (i.e. captan, Syllit, mancozeb etc.) on Friday or Saturday May 13-14.
Fire blight

With rainy weather coming in, early bloom in the Sanford area looks to be too cool for fire blight bacteria to multiply. However, it is infection periods at the tail end of bloom that cause problems, so it is really too early to say anything yet. If kept cool and dry, streptomycin should last a number of years in storage, so it’s good insurance to keep some on hand in case fire blight conditions should develop. Those conditions are three days with high temperatures above 75F followed by rain. Airblast spray does not seem to provide enough wetting to wash bacteria into flower nectaries, heavy dew might. As with other diseases, inoculum level (best determined by block history) and host susceptibility (number of flowers open, cultivar, and rootstock) combined with weather conditions and timing that determine what actually does or does not happen.

Last year was not any kind of a fire blight crisis, but there was enough fire blight around to disabuse anyone of the notion that Maine is beyond the reach of this disease. If that ever was true, it isn’t anymore.
Preparing for Life Without Carbaryl

by Dr. Duane Greene, UMass Amherst

“All production of carbaryl in the United States was stopped earlier this year. Therefore, carbaryl used in the United States from now on will be imported. Further, carbaryl can no longer be used in many countries in Europe. These events are interpreted by many to mean that carbaryl may no longer be available for use in the very near future. Since you do have carbaryl still available now there is no panic. However, in anticipation of the loss of carbaryl, this may be a good time to evaluate alternatives in your own orchard so that you will be able to more comfortably and with some degree of confidence move to a thinning program that does not include carbaryl.

Bloom is approaching or has arrived, thus your first thinning spray of the years will soon be applied. Carbaryl has been the most popular petal fall thinner and most growers do depend heavily on this thinner at petal fall. I have stated previously that the petal fall treatments may be the most important thinner application since it sets the stage for subsequent thinner application(s) and it generally allows for less aggressive thinner applications later. In the absence of carbaryl, thinning at this timing may take on added and increased importance and urgency.

At petal fall fruit growth is extremely slow. Fertilization of ovules has or is taking place. Following fertilization there is a period of time when the fertilized ovule undergoes cell division and starts to produce the hormones which are largely responsible for the driving of fruit growth. Generally, this slow growth period lasts for 6 to 7 days. Since the growth of fruit is slow the demand for photosynthate by fruit is also relatively low. It is for this reason, in part, that thinning activity of thinners applied at petal fall is generally less than at the later and more traditional 10 mm timing. Higher rates of thinners can and should be used at petal fall since these higher rates will be necessary to achieve meaningful thinning at petal fall.

**Thinner Options**

**NAA**

This is a thinner that all are familiar with since it has been in common use for many years. It is less active at petal fall, so higher rates should be used. My rule-of-thumb is to apply twice the concentration of NAA at petal fall that you would consider using at the 10 mm stage. I am suggesting a base level of 10 ppm to start with. In some circumstances 15 or 20 ppm may be appropriate.

**Amid-Thin**

Amid-Thin is no longer routinely used. In the New England Tree Fruit Management Guide it is recommended for use only as a petal fall spray on Early McIntosh, Lodi, Quinte and Yellow Transparent. It is time to resurrect this thinner, at least on a trial basis. Amid-Thin was evaluated as a thinner with NAA in the 1950s. When compared with NAA at the 10 mm timing it was less effective, so NAA became the product of choice. Amid-Thin also produces pygmy fruit on some varieties (Delicious) especially when applied at the 10 mm stage. It was evaluated as a petal fall spray during development and it was found to be quite effective. Since thinning was generally done only once during that fruit growing era, and greater thinning was achieved with a 10 mm application, the use of Amid-Thin was
relegated to use as a petal fall spray on early varieties and Macoun. Petal fall application of thinners did not come into general use until recently and Amid-Thin was long-forgotten by then. I am suggesting that you may want to consider evaluation of Amid-Thin as a petal fall spray in lieu of carbaryl. The suggested rates would be 25 to 50 ppm.

**Promalin**

This is used in some circumstances as a thinner at bloom especially at the 2 pt./100 gal. rate with a surfactant on Delicious. This is also commonly used on Gala in Chile and Washington. The thinning action is generally not strong and higher rates with the surfactant may increase thinning activity but it may also reduce return bloom.

**MaxCel**

MaxCel is generally not recommend for use at petal fall because if does not thin nearly as well or effectively at this time. Where increased fruit size is desired, a spit application may be useful, but this is infrequently done.

**Ethrel**

While the use of this compound is generally reserved to those who are not faint-hearted, it is an effective bloom/petal fall thinner. Ethrel differs from other thinners in that it thins at bloom/petal fall and at the 20 mm stage but is less effective at the 10 mm stage.”

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**Orchard Radar**

The Orchard Radar site has been completely rebuilt, more details later. The list of sites running this year is at [http://pronewengland.org/AllModels/DecisionModels.htm](http://pronewengland.org/AllModels/DecisionModels.htm). The Monmouth and Sanford sites are updated every day at around 4:05am, 5:10am (not much different than the 4am update), and again in the afternoon at 3:30pm. If there are any remaining glitches, I’ve gone snow-blind and can’t see them anymore. The whole point is to help growers make orchard management decisions, so don’t hesitate to:

- a) point out anything that looks like it might be wrong, confusing; or
- b) make suggestions for what else would be useful, either in content or presentation.

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**Other Stuff**

UMass Extension is evaluating a tunnel sprayer at their Belchertown MA research orchard. While not compatible with most of the current orchard architecture in Maine, they do seem to be gaining traction as the future of orchard spraying in orchards with narrow canopy planting systems. There is a website with a diary of observations and a video of the sprayer in action at [http://masscon.blogspot.com/](http://masscon.blogspot.com/)

A bill that seems likely to become state law will eventually require anyone applying pesticide to a crop for which sales exceed $1,000 to have a pesticide applicator license, though the law would not take full effect for a couple of years. But even if you don’t absolutely have to have a license, it is well worth doing so. The training materials are excellent and affordably priced. For information on how to obtain a license see [http://www.maine.gov/agriculture/pesticides/cert/applicator.htm](http://www.maine.gov/agriculture/pesticides/cert/applicator.htm)
Whether you have a license or not, anyone applying pesticide with powered air carrier equipment must check the 2011 Maine Pesticide Notification Registry for Aerial and Air-Carrier Pesticide Applications at http://www.thinkfirstspraylast.org. When prompted for a username and password, enter “thinkfirst” and “spraylast”. You will then be able to download either an Excel spreadsheet or a PDF file of the complete list of people who have requested notification before pesticide applications made using air carrier equipment within 500 feet of their property line. Another bill that seems likely to make it through the Maine Legislature will change the notification requirements in ways that will reduce the number of people that growers will be required to notify.

The Cornell IPM program has produced a wonderful set of crop-specific pesticide recordkeeping applications that run in Microsoft Excel. A license for TracApple software costs $60. Each version comes preloaded pull-down lists of all (except for materials not registered in NY) the pesticide names and formulations you would need to enter, including their restricted entry and preharvest intervals, and also includes forms for safety notices and GAP requirements. http://www.cctec.cornell.edu/express%20licensing/software/tracsoftware/

Closing Words

"Hofstadter's Law: It always takes longer than you expect, even when you take into account Hofstadter's Law."
Douglas Hofstadter

"A hero is one who knows how to hang on one minute longer."
Novalis

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