



Healthy Fruit

Volume 10, 2002

Prepared by the University of Massachusetts Fruit Team

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Upcoming Meetings/Events

Date	Meeting/Event	Location	Time	Information
July 10	Summer Meeting Mass. Fruit Growers Assoc.	UMass Cold Spring Orchard 393 Sabin St. Belchertown, MA	10:00 AM	Jon Clements 413-323-4208

Pinch Apple Shoots to Control Growth

Jon Clements, Extension Fruit Specialist
Win Cowgill, Area Fruit Agent

Pinching shoots is a young tree training technique used on mostly first-, and second -leaf apple trees to promote fruiting and manage growth in the top of the trees of vertical-axis, slender-spindle, or super-spindle orchards. Rapidly growing shoots that are six to eight inches long, that are in the top one-fourth of the tree, and that originate from the leader, are candidates for pinching. Pinch-back the shoot two inches using your thumb and finger(s) or pruners. See picture at end, or to view a short web video of the technique, go to the UMass Fruit Advisor:

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

Pinching will do two things: weaken the growth of the developing shoot so it is not as likely to compete with the leader; and promote the development of a fruit bud in the vicinity of the pinch if done now into early July. This technique will also prevent the tree from becoming top-heavy, which would eventually mandate a less desirable dormant pruning cut.

Don't Starve Those Peaches

Now is a good time to give peaches a second shot of nitrogen fertilizer if you have not already done so. As a rule of thumb, bearing peach trees require one-half to one ounce of actual nitrogen (N) per year of tree age. (Trees with a light crop will need less N fertilizer.) Thus, fourth-leaf trees need two to four ounces (depending on soil vigor) N. If using urea, which is app. 50% actual N, this would equate to a seasonal application of four to eight ounces urea per tree. Ideally, it should be applied in a split-application — the first having been applied already, and the second application being spread now. Peaches are heavy nitrogen feeders — they use nitrogen to grow new hanger wood, which will ultimately hang next years crop. So don't starve em!

Increasing Return Bloom after the Thinning Season

Frequently there are situations where the orchardist feels that the potential for return bloom is less than desirable and the time has passed where thinning can be done effectively. An orchardist has two choices for enhancing flower bud formation.

NAA: Application of NAA should begin soon after the thinning window of opportunity has passed, which in most cases is 35 to 40 days after bloom when fruit size approaches 1 inch in diameter. There is no unanimity of opinion in the industry about the concentration to use, time of application, and number of applications that will be necessary to assure return bloom. We suggest using 2 to 4 applications of NAA at 3 to 5 ppm (based on dilute TRV) spaced 7 days apart, (or close to this when a cover or other spray goes on in this relative time period). In some years, especially when it is dry, NAA may have a limited influence on increasing flowering.

Ethrel: This is the most effective plant growth regulator available to increase flower bud formation. This product is not used universally to enhance flower bud formation for two reasons. First, it has the potential to thin, even when fruit is as large as 1 inch in diameter. Second, it can advance fruit ripening, reduce fruit firmness at harvest and following storage, and increase preharvest drop. Some varieties, especially McIntosh, are more sensitive to Ethrel than others. Ethrel at 3/4 pint/100 gal at the end of June drop can advance ripening. If you have not used Ethrel at this time of year we suggest that you take a conservative approach. An entry point would be starting now to make 2 to 3 applications of Ethrel at the 1/4 to 1/3 pint/100 gal rate (based on dilute TRV), spaced 7 to 10 days apart. It would be a good idea to check starch levels in fruit near harvest to determine if ripening was advanced by Ethrel.

Curculio

This is the time when diligent monitoring of perimeter rows is of great importance in controlling possible late incursions of curculio. In Ron Prokopy's monitored orchards, half had no curculio activity in the past week, and half had an

additional 2% injury in border rows from the past week. Most areas of the state either have reached, or very soon will reach, the threshold of 340 degree days, at which point an orchard which has any current insecticide cover at all, should be able to stop covering. Individual situations vary greatly, however, and there's no substitute for careful monitoring, and spot treatment if necessary. Look for fresh injury-crescent-shaped cuts which have not yet begun to cork over. Whole-orchard insecticides are not necessary at this time - border or hot-spot treatments should do very well.

Leafminer

While most orchards are comfortably below threshold for leaf mines, in a few orchards, it is extremely difficult to assess mine levels and make a treatment decision for summer-generation mines. Mines from early in the season tend to be clumped - out of a sample of five clusters per tree, four clusters may have no mines and the fifth have 4 or 5 mines; the tree next to it may have a similar situation, or may have no mines at all. In addition, it appears that there was a later flight of leafminer moths that occurred too late to be accurately assessed on the red visual traps. As a result, while most mines on fruit cluster leaves are tissue-feeding or pupating, there are also mid-sap-feeding mines on terminal and fruit shoot leaves. It seems unlikely that these could be early mines of the summer generation, since that would necessitate moths having emerged several weeks ago: it seems more likely that these are very late spring-generation mines.

What to do? It is unlikely that a grower in this situation would be able to completely control leafminer populations. But bear in mind that ongoing research has convincingly showed that we can tolerate more mines per leaf than previously thought - as many as 4 mines per leaf in the summer generation. Thus, partial control may be sufficient to keep summer generation mines under control, and also keep the fall generation mines from going through the roof. One strategy would be to wait until a sufficient number of summer generation mines has appeared - say, one mine per leaf - and go out with a split application of Provado, SpinTor or Aza-Direct with a 10-day interval. While this strategy may allow some of the more advanced visible mines to escape control, it should give excellent control of most of the visible mines, plus controlling the hatching larvae for the next 2 or 3 weeks. Careful monitoring of summer-generation mines is of utmost importance - once those mines have become tissue-feeders, the battle is essentially lost. New mines of the summer generation should be appearing in the next week or so.

Aphids

Green aphids have begun showing up on terminals, along with their predators - syrphid and cecidomyid fly larvae, ladybugs, lacewings, etc. In general, most orchards in this area do not require a treatment for aphids, but do keep an eye on younger trees, which may experience rapid aphid population buildup in advance of the predators. Woolly aphids are also showing up in leaf axils and pruning cuts, but have not generally reached levels of concern.

Summer Diseases

The amount of flyspeck fungus in the hedgerows and woods in Massachusetts apple orchards appears to be considerably lower than last year. Surveys of flyspeck inoculum density have been conducted in these border areas at 18 research sites so far. The dry weather last summer, fall, and winter has certainly lowered the survival and development of the fungus. This week and next should be the end of the dispersal phase for this "reduced" generation of ascospores, the sexual stage of the fungus. Most fungicides, other than the SIs, that were used at the end of primary scab season, would have knocked back the beginning growth of this phase. In research sites, low risk blocks will not be treated again for 28 days. High risk blocks can probably go 21 days. Flint, Sovran, or captan are the leading materials. If the summer continues to be rainy, these spray intervals will be reduced. If the season is dry, this may be a good year to experiment with a reduced fungicide program, especially with early_ripening cultivars.

