UMASS EXTENSION

Healthy Fruit

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Prepared by the University of Massachusetts Fruit Team

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Leaf Analysis Time

From now until mid-August is the time to collect leaf samples for nutrient analysis. All blocks of apples, peaches, and cherries should be sampled every three years, or more often when deficiency symptoms, poor tree performance, or fruit quality problem show up. The University of Massachusetts Soil and Plant Tissue Testing Laboratory http://www.umass.edu/plsoils/soiltest/) has a plant tissue testing service. The cost is $18.00 per sample, including nitrogen. Detailed information on how to collect and submit a leaf analysis sample is available on their website.

Foliar Calcium Sprays

A reminder: foliar calcium sprays should be ongoing. All fresh McIntosh, Cortland, or Empire going into storage should be getting frequent (every 10 days) calcium sprays. Bitter pit prone varieties, such as Honeycrisp, Northern Spy, Cortland, Jonagold, and Braeburn should be getting calcium sprays whether sold immediately or stored. Foliar calcium options include calcium chloride, calcium nitrate, or formulated products such as Sett or Stop-It. If using calcium chloride or calcium nitrate, the suggested rate at this time of the year is 3 or 5 lbs., respectively. (In 100 gallons dilute.) For more information, see F-119R 'Foliar Calcium Sprays for Apples' on the Umass Fruit Advisor (http://www.umass.edu/fruitadvisor/).

Mid-Summer Horticulture Tips

- Remove clothespins that were placed to establish wide crotch angles on young apple trees. Clip onto shoot tip to help weigh young shoots down. Add additional clothes pins if necessary.
- Re-pinch the shoot tips out of upper scaffolds in young apples in Vertical Ax systems. In freestanding young apples, use rubber bands on young scaffold shoots in the upper part of the tree to train down.
- Leader management in young apples: rip-out upright, competing one and two year old shoots in the tops of young apple trees – no need to use pruners, just 'rip-em out' with a fast, downward motion. It's fast and effective for maintaining dominance of the leader and keeping the top of tree calm. (As opposed to a more invigorating, dormant pruning cut.) Use Max-Tapener to keep the leader tied to the stake – leaders flopping in the wind will produce ethylene ands will stop growing.
- Prune sweet cherries immediately after harvest. This will help prevent the development of bacterial canker (*Pseudomanas sp.)*, which actively spreads to pruning cuts made during the winter or early spring. For more information, see 'Bacterial Canker of Sweet Cherry,' OMAFRA Fact Sheet 88-0886, http://www.gov.on.ca/OMAFRA/english/crops/facts/88-086.htm
- Sweet cherry – use 'stub' cuts and prune the leader now, which is effective at minimizing re-growth in the top of cherries.
- Lighten up those peaches. Literally. Summer pruning vigorous, upright shoots in the interior of the tree – especially in young trees – will create a better light environment inside the tree, and promote growth of more vigorous, fruitful shoots. Also, shading causes twig die-back, hence a source of disease infection down the road. Prune all the way to the scaffold, do not leave stubs and do not make heading cuts. Summer pruning of peaches should be completed 2 weeks before anticipated harvest. Do not summer prune after August 20.

- Apple - continue foliar calcium sprays. Calcium chloride is the cheapest form of calcium. Apply at a rate of 2.5 to 3 lbs. per 100 gallons dilute. Avoid concentrate spraying and application during very hot weather, as foliar injury is more likely. Do not mix with Solubor.
- Scout blocks of young apple trees on dwarf rootstocks for dogwood borer injury. Look for frass or gooey exudate at the base of trees, particularly in burr-knots. Macoun and Honeycrisp on M.26 or M.9 seem to be particularly attractive to borers. If infested, a Lorsban trunk (only) spray is indicated.

Reprinted from Rutgers Cooperative Extension Plant & Pest Advisory, Fruit Edition, July 22, 2003.

Summer Pruning

From now until August 15 is a good time to summer prune varieties such as McIntosh, Cortland, Gala and Jonagold strains (and Golden Delicious) to improve fruit color. Color pigments are
being accumulated in the fruit skin but waiting for cooler weather to develop into the red color characteristic of fall apples. But the fruit must be exposed to light for the pigment to be stored and expressed, hence the value of summer pruning now to remove shading in the tree canopy.
Vigorous, upright, current season's shoot growth ('suckers' or 'water sprouts') are prime candidates for removal by summer pruning. Also, undesirable uprights just above fruiting clusters can be headed-back to the cluster, and upturned branches can be thinned to a weak lateral branch. Summer pruning now may also help improve the calcium content of fruit. (But don't rely on it, keep that calcium foliar spray program going). Keep in mind summer pruning on apple can negatively impact fruit size, can result in sunburn if hot, sunny weather follows, and, when done too close to harvest (less than three weeks), it can result in premature fruit drop. But usually the benefits of summer pruning in improving fruit quality outweigh the potential drawbacks.

On super-spindle apple plantings it is always time to remove heavy wood with the 2-to-1 rule and keep the leader singled out.

On peach, the last summer pruning on one- and two-year-old peach trees to shape them, should be completed within the next week to ten days. On bearing peach trees, removing the upright vigorous sucker growth in the center of the tree will enhance color, but must be completed two weeks prior to harvest to prevent reduction in soluble solids.

Note: summer pruning of apple and peach should be completed August 20. Pruning after this date can predispose the trees to winter injury.

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Early Season Peach Varieties

Jerry Frecon, Rutgers Cooperative Extension Agricultural Agent, has published an interesting article in the New Jersey Plant & Pest Advisory, Fruit Edition (July 22, 2003) on his favorite 'Early Season Peach Varieties.' Included in his list are:

- Sentry – he describes as "probably the standard in this season."
- Sweet Scarlet – the most "beautiful" peach in this season, but susceptible to bacterial spot.
- Flamin' Fury PF-7 – an attractive peach with good color and flavor, however, crops heavily so size can be a problem unless thinned hard.
- Summer Serenade – an all-round good early peach of which he says "I have been surprised not more acres have been planted."
- Harrow Dawn – an "attractive peach that has very good size as well as flavor."
- Glenglo – he touts as "maybe a replacement for Sentry because it crops better and produces consistently good sized fruit."
- Rising Star – part of the Stellar series of peaches from Michigan, however, Frecon states "It doesn't have the class of later Stellar varieties. But, the flavor is good and firmness acceptable."

It seems there is room for more good early peach variety plantings in Massachusetts as the retail demand now can be strong. Maybe this list will prompt you to plant a block of early peaches. For more information, see the entire article on the Plant & Pest Advisory web site, http://www.rce.rutgers.edu/pubs/plantandpestadvisory/. (Or contact me for a copy, J. Clements.)

Don't Forget About Calcium !

In a season of high rainfall, fruit size may be large. This is generally a positive matter. However, the down side of larger fruit is that they will tend to be lower in calcium concentration that smaller fruit will be. In susceptible varieties, this translates into more bitter pit on the tree and to increased fruit softening and breakdown in storage as well as to bitter pit and cork spot developing in storage. The most effective way to increase fruit calcium is with foliar sprays. Postharvest dips cannot get rid of bitter pit which developed on the tree and postharvest dips require wetting fruit and the addition of fungicide. Foliar calcium application should begin (have begun) three weeks after petal fall and continue at two-week intervals until harvest. Calcium chloride is the most economical form of calcium to use. Two concerns growers have cited regarding foliar calcium chloride use are potential foliar injury and corrosion of spray equipment. Corrosion of equipment is reduced by thorough rinsing (a good policy, anyway). Foliar injury is not often severe in our climate, and is reduced by accurate sprayer calibration, avoiding spraying in (or just ahead of) excessive heat, and using more dilute application. Various calcium containing products are on the market, in addition to calcium chloride. They will work just as well as calcium chloride if the same amount of calcium is applied and will likely be less corrosive to spray equipment. Be aware, however, that label rates of commercial products may not supply as much calcium as is recommended. Fact Sheet F-119R put out by UMass Extension gives detailed recommendations. General recommendations from the Fact Sheet follow:

RECOMMENDATIONS

Applications should begin three weeks after petal fall and continue at two-week intervals until harvest.

	Pounds per 100 gallons dilute	
Calcium source	Until mid-July	After mid-July
Actual calcium	**0.6 to 0.8**	**0.8 to 1.0**
Calcium chloride (29% calcium)*	**2.0 to 2.7**	**2.7 to 3.3**
Calcium nitrate (19% calcium)	**3.2 to 4.3**	**4.3 to 5.3**

* Add 2/3 ounce vinegar per pound $CaCl_2$.
Use of a surfactant in $CaCl_2$ sprays may reduce the potential for foliar injury.
Leaf injury may be greater when captan or guthion is mixed with $CaCl_2$.
Do not mix $CaCl_2$ with Solubor™.

Apple Maggot Fly

AMF are out and about but in relatively low numbers so far in monitored blocks. Continue to check red sphere traps and apply insecticides if one or more AMF are captured on unbaited red spheres. Remember that you can safely discount captures that occur within 7-10 days of a recent insecticide spray unless heavy rain has fallen in the interim. Also note that low rates of many insecticides are effective in killing AMF. Growers wishing to reduce use of OP 's for AMF may wish to consider Avaunt, which is effective, although substantially more expensive than Imidan or Guthion.

Leafhoppers

Both the native rose leafhopper and immigrant potato leafhopper can be found in many monitored orchards. Refer to the New England Apple Pest Management Guide for a number of optional materials against high populations of leafhoppers. Don't forget to look at blocks of young trees which can sustain significant foliar damage particularly from potato leafhopper.