

# Healthy Fruit



**U**Mass  
**EXTENSION**  
Agroecology  
Tree Fruit Team

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## Growth stage and Weather.

There is currently a wide range of development in apple trees in Massachusetts, with most trees falling somewhere between tight cluster and mid pink. In the cooler parts of the Berkshires, trees are just beyond half-inch green, while in the earliest parts of the Connecticut Valley trees are in early bloom. Most peaches are at bloom and most pears are at white bud.

As for weather, the monsoon continues with a prolonged wetting period from May 3 to May 5, and sundry wettings every other day. There has been about twice the amount of rain over the last month compared to the 30 year average. Maximum temperatures have been about 3.5 F less than the average maximum, while minimum temperatures have been about average.

## Where Have All the Plant Bugs Gone?

The consensus among private consultants, research personnel and growers is that this year (so far) has had some of the lowest numbers of TPB in memory. Trap captures have been minimal and growers report seeing few TPB active in trees during pruning. Many growers have chosen to omit a prebloom insecticide from their sprays this spring. It is possible that if the weather turns quite warm in the near future TPB may suddenly appear. If that is the case, growers will need to rely on a petal fall insecticide for control.

## The Trouble With Bees Is ...?

As many of you have heard by now, there is something of a bee emergency existing this spring. Basically, there are not many. There are a number of factors causing this, mainly the massive winterkill of local wild and managed bees due to varroa mites and weather, and the effects of poor weather and ill health on migratory beekeepers stocks. Those bees coming up from the south may be late and will definitely be fewer in number than we are accustomed to receiving.

All efforts should be made to minimize pesticide risks to bees and maximize the probability of pollination. No pesticides should be applied when any petals are left on the trees; growers using Agrimek should be certain that bees are out and petals are down prior to any application. Growers should remove dandelions from around trees through mowing or herbicide, particularly if weather conditions are cool and windy. Synthetic bee pheromone has been used by fruit growers on the West Coast to enhance pollination and has proven effective in up to half the cases. The value of such a product in the East however seems marginal at best, so we are not making recommendations for its use.

## Are We Having Scab Yet?

The scab situation has not changed greatly. Spores are plentiful, rain has been plentiful, and infection periods have been heavy. The infection period which started last Friday, May 3, was the most prolonged. Prior to that, we had a major infection on April 29 - 30. Any damage from these should start to show up by this coming weekend, May 11 or 12, and certainly by the end of next week, May 16. So far, I have not seen lesions on unsprayed trees.

Given the difficulty in getting a spray on, people have asked whether there is any use to spraying in a light rain, or spraying under other conditions where the fungicide might get washed off. To my knowledge, no one has looked closely at that under natural rain conditions. However, we do know that an application of captan or mancozeb will be effective for at least seven days if it did have a chance to dry. That seven days is regardless of the amount of rain, though rapid growth may shorten it up.

We do not have a good idea of how rain effects applications of a protectant fungicide which do not have time to dry. They will do some good, and depending on the conditions, may actually provide activity until the rain stops and you can actually apply something that dries. Fungicides rated as having very good retention include captan, dodine, mancozeb and

manzate. These materials will be somewhat useful if you must apply them under conditions of mist or light rain.

Rubigan, Nova and Procure won't be very effective if applied in the rain. They work primarily by being absorbed into the tissue. If the rain dilutes the fungicide solution on the leaf, or washes it off, then the amount of material absorbed by the leaf will probably be too little to stop the fungal growth. So don't apply the SIs in the rain.

In fact, don't apply any fungicides in the rain unless you know that the protection going into an infection period was less than it should be, and for one reason or another you won't be applying an SI after it stops.

## The Horticultural Pests

While it is hard to believe, I know that there are some Massachusetts growers who did not make the round of twilight meetings this week. It's a shame, because we have seen some excellent examples of high-density orchards, and had some reasonably good information exchanged.

One of those pieces of information, a concept really, bears repeating in print. For many years entomologists and plant pathologists have been dominating meetings and other Extension outlets with information on how to stop this disease or that insect with a minimum of pesticides. Pests are critical problems, and handling them in an environmentally conscientious way is difficult. But Wes Autio and our other horticultural colleagues have recently coined the concept of "the horticultural pests".

The horticultural pests are not people like Wes, or Duane Greene, or Bill Bramlage, who keep haranguing growers to improve production practices. I seriously think that right now the horticultural pests are the apple growers worst pest problems. They are sneaky, robbing profitability without the grower even really noticing. In general, horticultural pests are the horticultural practices you don't use or do correctly. For example, inadequate fruit thinning can be a horticultural pest. If '120' apples are losing money, and '96' apples are making money, it doesn't take advanced econometrics to tell a grower what to grow. Yet in many places, growers are still thinning to produce a crop of '120' apples, a perfectly sound and profitable practice 15 years ago, but one that has now become a horticultural pest. It is critical that a grower who wants to make money in today's market adopt new thinning methods to produce a crop of larger apples. Thinning recommendations for this year reflect the change in market. Pay attention to them and avoid the horticultural pest of inadequate fruit thinning.

In fact, successful growers will be controlling many horticultural pests over the next few years. In

many cases, the increased return from doing one part of sound horticultural management can return far more than reducing damage from a pest from 3% to 2%. The market is demanding large, attractive, crisp and flavorful fruit. Pest management will continue to be a key component in producing that fruit, but the framework of growing apples will always be good horticulture. It's essential for, well, healthy fruit, healthy orchards and healthy growers.

## Leafminers A Mixed Bag

During the past week we have seen an increase in the number of LM captures on red sticky trunk traps. Most orchards are still well below threshold levels. In a handful of locations captures have exceeded 50 LM per trap, but these locations are few and far between.

Under windy conditions, LM adults are likely to remain in the ground cover rather than moving into tree canopies. It is possible that the recent weather has encouraged this lack of movement and could conceivably give false impressions (based on trunk traps) as to the extent of emerging LM populations. However, most LM egg-laying is likely to occur from late afternoon to dusk on days with warm, still weather. So far this spring favorable egg-laying conditions have been absent, suggesting that even if LM adults have been present in the groundcover, relatively low levels of egg-laying have occurred. We therefore feel that growers using trunk traps as a guide to LM activity who have captures below threshold through pink would do well to omit a petal fall application of Provado or Agrimek directed at LM. Instead, they should make counts of first generation mines to determine whether LM levels suggest a need for control measures. If mine threshold levels are reached, Lannate can be used against developing mines or Provado, Agrimek, Vydate or Thiodan can be used against second generation adults and eggs. Growers who are not using trunk traps for monitoring can only guess as to the need for a petal fall spray, and would be better off postponing control measures until sampling can determine the extent of infestation.

## Watch the Mites!

Mite egg hatch has been observed in eastern, central and western areas of the state. Most locations are currently past tight cluster and no longer have the option of using Apollo. Dormant oil is only effective against unhatched eggs; while it may still have some use in the western hills, in most locations it has passed its period of efficacy. Other options available include Savey or Morestan by pink or Agrimek or a combination of Vendex and oil at petal fall. Given the low levels of LM currently showing up in most orchards, we think it is questionable whether it is economically wise to use Agrimek solely for the purpose of mite control at petal fall. It is believed, although we have

no experiences to refer to, that Agrimek can provide reasonably effective mite control when applied in mid to late June. This is also the optimal time to control second generation LM adults and eggs. Growers thinking about using Agrimek might therefore want to wait and base their decision on LM and mite sampling results in June.

Due to the loss of Omite and the high expense of the new miticides, growers planning effective and economic chemical control of mites must carefully monitor their orchards on a weekly basis beginning now. Our recommended spring mite sampling procedure is detailed in the May 1 issue of Healthy Fruit. We do not recommend any mite control plan which does not include regular monitoring.

## Timing a Spray for European Apple Sawfly

EAS adults have already been observed in high abundance on trees at full pink in Wilbraham. This area traditionally has high EAS activity, so we are not yet sure whether this is indicative of a statewide EAS trend or merely one unique to the Wilbraham area. We recommend that growers who have traditionally had difficulties with EAS in their orchards put up white sticky rectangle traps immediately. These should be hung at head height on the south side of the tree and should be clear of any waving branches. Growers experiencing any above normal trap captures by late pink may want to consider a late pink insecticide application. If the weather continues on its current track, we expect that bloom will be a lengthy process this year. It will therefore be very difficult to control EAS with a petal fall spray in areas containing mixed early and late cultivars.

## Indar Error

In the last issue, I said that Indar was limited to blossom blight control of brown rot. Upon further review, prompted by an alert reader, I saw that Indar may be used blossom blight and the fruit rot phase of brown rot.

## Soaked Soils and Disease

With all the recent rain, and the snow melt, the ground has been saturated with water over the past few weeks. This is a situation which encourages the development of crown rot, collar rot and root rot caused by *Phytophthora*. Based on the depth of tractor ruts and other signs, it is easy to tell those parts of the orchard which are wetter than others. At the HRC, there are areas where there is only a slight dip in the ground level, but trees grow poorly or die because at some times there is too much water.

Too much water in and of itself may lead to root damage, but it will also encourage the development of crown and root rot. Above-ground symptoms of root damage are generally similar, and trees grow slowly or not at all, sections of the tree may die, and leaves yellow or redden. Bark color may be slightly reddish. In crown rot, symptoms appear on the underground part of the trunk and at the base of primary roots. Root rot is just that. Collar rot is less common and occurs on the trunk above the rootstock/scion junction. Generally in all of these diseases there is a distinct line between diseased wood and healthy wood.

When conditions are wet, as they are now, then Ridomil or Aliette may be used to treat these diseases. Ridomil may be used on bearing trees but only before growth starts or after harvest. Aliette may be applied up to 14 days to harvest. Ridomil is applied as a drench, at rates which vary with trunk diameter. Aliette is sprayed on the foliage, and transports to the roots. A single application on trees which are in wet sites may save them from stress or worse. In the long run, drainage or some other solution is needed to solve the problem. But right now, either of these fungicides may prevent disease development.