

scaffolds

Update on Pest Management
and Crop Development

F R U I T J O U R N A L

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Geneva, NY

AND
PRAY FOR
MAY

WE'LL REMEMBER
APRIL

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would be doubly distressing to withhold all insect sprays because of no perceived need, only to find out later that there are in fact a sufficient number of fruits worth salvaging, except that they were left unprotected from early season insect attack.

❖❖ The continuous series of frost and freeze events across the region over the past several weeks has left most growers with dismal prospects for any type of normal fruit crop this season, or at best, a pronounced uncertainty over what actually does remain in the orchards that can carry on growing into something worth harvesting this fall. We already knew that the first frosts following our premature warm-up were highly site-specific, leaving some blocks with severe fruit bud damage while others seemed to be untouched. Unfortunately, the succession of repeated cold snaps steadily chipped away at whatever viable buds remained, adding to our lack of confidence in predicting what will actually happen once we start to see more normal growth temperatures.

The good news, if I'm permitted to take the high ground here, is that most insect activity has been essentially eliminated so far – a few oriental fruit moths have been captured here and there, pear psylla were out laying eggs back in March, and it's possible that a few European red mites managed to hatch out. Almost all insect populations are lagging considerably behind their normal tree phenology correlations, so it really makes no sense to use those to predict what should be going on at this point, at least not until we've had more than a week's worth of temperatures above about 50°F, something that may begin today.

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For most growers, the main priority will be to do what is necessary to preserve the health of the trees for next season even if they can't count on a crop this year. This may involve trying to offset the effects of damaging frosts using the boron or zinc applications discussed in the April 16 Scaffolds in varieties that have not yet bloomed, like Romes or Golden Delicious, or merely maintaining some protective fungicide coverage to forestall the establishment of an entrenched fungal infection that could impair foliar growth all summer. I realize that the last thing anyone wants to do is spend good money on an insecticide spray to protect fruits that may never appear. However, it

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UPCOMING PEST EVENTS

The one insect of concern that probably has not been inconvenienced much by this month's cold temperatures is the plum curculio, which likely moved into the trees during whatever stretch of warmish weather managed to get through, and has been waiting around, inactive, for the real spring to begin so that it can search for newly set fruitlets in which to oviposit. So, for those blocks where the buds were either not exposed to too much cold or were not at too advanced a stage of development, and where there is cautious optimism about a harvestable portion of a crop, I would suggest considering a curculio spray when the trees get to petal fall, possibly electing a lower-cost material, at least until we get a bit further down the road to knowing just what the trees are capable of doing this year. If it ultimately turns out to be advisable to concentrate on the regular moth pests, there will be no substitute for directed trap monitoring in individual sites to determine the activity of those species, and the recommended timing for responding to it. ❖❖

DOWN,
BUT
NOT
OUT

DISEASE MANAGEMENT
SUGGESTIONS FOR
FROST-DAMAGED
ORCHARDS

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❖❖ Most of us in New York are still uncertain about the final impact of freeze injury that occurred during the past five days. In the Hudson Valley, initial assessments suggest that injury varies tremendously depending on geographic location, orchard elevation, slope, cultivar, and rootstock, with effects from cultivar and rootstock mostly related to the way those factors impacted the stages of flowering and fruit set that were present when the frosts occurred. The situation is further complicated in orchards where weak spurs or flowers on one-year wood are just now opening, because it is too early to tell if any of those flowers will set fruit that might provide at least a partial crop.

Unfortunately, apple, pear, and some stone fruit trees are still at risk for most of our spring diseases and therefore must be protected with fungicides, even if there is little hope for harvesting a crop this year. Failure to maintain disease control for at least a few more weeks could result in trees with so much foliar disease that they defoliate early, fail to develop fruit buds for next year, are more prone to winter damage next fall, and/or have so much inoculum as to make disease control very difficult during the 2013 season. Here is a quick look at options for various crops.

Apples: It is important to maintain fungicide coverage through at least second cover so as to control scab, mildew, and rust diseases and prevent severe leaf damage and defoliation. However, one can afford to take a few more chances on "marginal" fungicide programs in blocks where there is little hope for having a harvestable crop. Where DMI fungicides are still working, they probably provide the best control option for the full disease complex. If combined with a mancozeb fungicide application at 3 lb/A, two more DMI applications at 10–14-day intervals may suffice where orchards are already at or near petal fall. Alternatively, applications of

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mancozeb alone at 3 lb/A or Captan-80 alone at 2 lb/A on a 10-day interval may suffice to keep scab in check. Add sulfur at 3–5 lb/A to the mancozeb, or alternate captan and sulfur (with sulfur 10–20 lb/A) in blocks where mildew is a problem. Sulfur alone at 10–20 lb/A can be used to control scab and mildew if the sulfur sprays are applied often enough. However, sulfur will not control rust diseases, and sulfur is very prone to wash-off during rains. Copper, as described below, has much better residual activity than sulfur.

I suggest that apple growers avoid using Flint, Sovran, Cabrio, or Pristine in orchards where there is no crop and where spray intervals will therefore be extended. Many orchards already have a scab population that is already shifted toward stroby resistance, and using any of these stroby fungicides on an extended interval may push the scab population into full-blown stroby resistance. We really need to preserve activity of the strobies as long as possible, so it will be safer to focus on other chemistries (DMIs, mancozeb, captan, ziram, sulfur, or copper) for disease management in frozen-out blocks.

Where there is an absolute certainty that the crop is totally lost, copper fungicides that are labeled for scab control could be used at 10–14-day intervals, with shorter intervals during periods of rapid shoot growth. Copper applied at petal fall and first cover will almost certainly damage fruit, so do not consider applying copper if there is any chance that a harvestable crop may still develop on frost-damaged trees. The copper fungicides may prove less expensive than either mancozeb or captan, and copper should suppress all of the major diseases. However, copper will act only as a protectant, so the fungicide must be present ahead of infection periods. Copper will cause the least amount of phytotoxicity to fruit and foliage if it is applied under rapid drying conditions and with relatively low volumes of water per acre (i.e., less than 50% of the water per acre that would constitute a full dilute application).

Unfortunately, labels for copper products vary tremendously in their listing of when the product can

be applied and the diseases for which the product is labeled. For example, the Kocide labels specify low-rate copper applications for scab and fire blight can be made only between green tip and first cover. The Cuprofix Ultra40 label specifies that sprays for summer diseases should not be initiated before third cover. Some other products make no allowances for sprays after bloom. Where copper is applied to control scab, be certain that the rate applied is the lower rate that is specified for in-season sprays, because the high rates that are used for delayed dormant sprays may cause a lot of leaf burn.

Where Apogee is available, applying Apogee ASAP on trees that have lost their crop will help to keep trees from outgrowing their spaces while also shortening the period of peak susceptibility to those fungal diseases and insects that require new leaves for their continued development.

Pears: Where *Fabraea* leaf spot has been a problem in the past, a full program of fungicides will be needed to keep trees from defoliating in midsummer. If *Fabraea* is allowed to get started, it is almost impossible to arrest the epidemic. Thus, weekly applications of mancozeb should be continued until the season maximum of mancozeb has been applied. Alternatively, mancozeb sprays can be applied just ahead of predicted rains, thereby preserving some mancozeb applications for later in summer on trees that have no crop.

Stone fruits: Plum trees and tart cherry trees are still near peak susceptibility for black knot, and cherry trees will need continued protection against cherry leaf spot. Normally, chlorothalonil (Bravo and generics) cannot be used after shuck split, but the label limitations become fuzzy for trees that have no fruit (and therefore no shuck split). Bravo has better retention/redistribution characteristics than any of the other brown rot fungicides, so this product is by far the best choice for stone fruit orchards that have not yet passed shuck split. Note that even on non-cropping trees, label limits on the total number of

continued...

applications per year and/or amount of product per acre per year will still apply. Indar is the only other product that has provided reasonable suppression of black knot. Except for those growers who are experienced in using low rates of copper during summer to suppress bacterial spot, copper should not be applied to peaches because it can cause severe shot-holing and leaf drop. Cherries and other stone fruits can also be damaged by copper, although tart cherries are more tolerant than most other stone fruits.

Brown rot should not be an issue for trees with no viable flowers or fruitlets, but maintain brown rot coverage if there is any possibility that part of the crop will survive. In southeastern NY, growers should also be applying a fungicide that will control peach scab on peaches, apricots, and plums if trees have a viable crop. Peach cultivars that are

susceptible to rusty spot must also be protected with a mildewcide for several weeks after shuck split. In orchards where no fruit will be harvested, no fungicide should be needed on peaches for the rest of the season with the exception of a leaf curl spray next fall.

Oxytetracycline sprays (Fire Line or Mycoshield) should be initiated at shuck split on peaches and nectarines where bacterial spot is a concern and where trees still have a crop. Our mild winter favored survival of this pathogen in regions where colder winters may have limited its survival in the past, so I anticipate that bacterial spot could be more severe this year than in the recent past. It is difficult if not impossible to arrest bacterial spot later in the season if the shuck split and first cover sprays have been omitted. ❖❖

PHENOLOGIES

Geneva:

Apple (McIntosh): bloom
 Apple (Red Delicious): 90% bloom
 Apple (Empire): bloom
 Pear: fruit set
 Peach: fruit set, shucks on
 Sweet cherry: 90% petal fall – fruit set
 Plum: fruit set

5/7 Predicted:

petal fall — fruit set
 petal fall — fruit set
 fruit set

 shuck split
 fruit set

Highland:

Apple(Golden Delicious, Red Delicious): petal fall
 Apple(Empire, Ginger Gold, McIntosh): fruit set
 Pear (Bartlett, Bosc): fruit set
 Apricot (early): petal fall, shucks off
 Sweet cherry(early, mid): fruit set
 Sweet cherry(late): petal fall
 Peach (early, late): fruit set, shucks off
 Plum (Stanley): fruit set

PEST FOCUS

Hudson Valley (Milton):
1st **codling moth** and **lesser appleworm**
trap catch today. 1st **European apple**
sawfly observed.



UPCOMING PEST EVENTS

	43°F	50°F
Current DD accumulations (Geneva 1/1–4/30/12):	400	209
(Geneva 1/1–4/30/2011):	240	112
(Geneva "Normal"):	260	123
(Geneva 1/1–5/7 predicted):	540	304
(Highland 1/1–4/30/12):	543	279
(Highland 1/1–4/30/11):	311	149

<u>Coming Events:</u>	<u>Ranges (Normal ±StDev):</u>	
Green fruitworm flight subsides	247–451	111–239
European red mite egg hatch complete	368–470	182–280
European red mite 1st summer eggs	447–555	237–309
Oriental fruit moth 1st flight peak	352–550	178–294
Comstock mealybug crawlers in pear buds	215–441	80–254
Rose leafhopper nymphs on multiflora rose	239–397	96–198
Spotted tentiform leafminer 1st flight peak	266–402	123–207
Spotted tentiform leafminer sap-feeders present	343–601	165–317
Lesser appleworm 1st flight peak	355–773	174–440
American plum borer 1st catch	391–493	194–266
Codling moth 1st catch	400–578	201–313
Mullein bug 50% hatch	429–473	208–262
Mullein bug 90% hatch	472–610	247–323
Lesser peachtree borer 1st catch	482–684	251–379
Plum curculio oviposition scars present	485–589	256–310
Pear psylla hardshell present	493–643	271–361
San Jose scale 1st catch	432–618	215–339
McIntosh petal fall	445–525	229–281
McIntosh fruit set	510–600	266–326

NOTE: Every effort has been made to provide correct, complete and up-to-date pesticide recommendations. Nevertheless, changes in pesticide regulations occur constantly, and human errors are possible. These recommendations are not a substitute for pesticide labelling. Please read the label before applying any pesticide.

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