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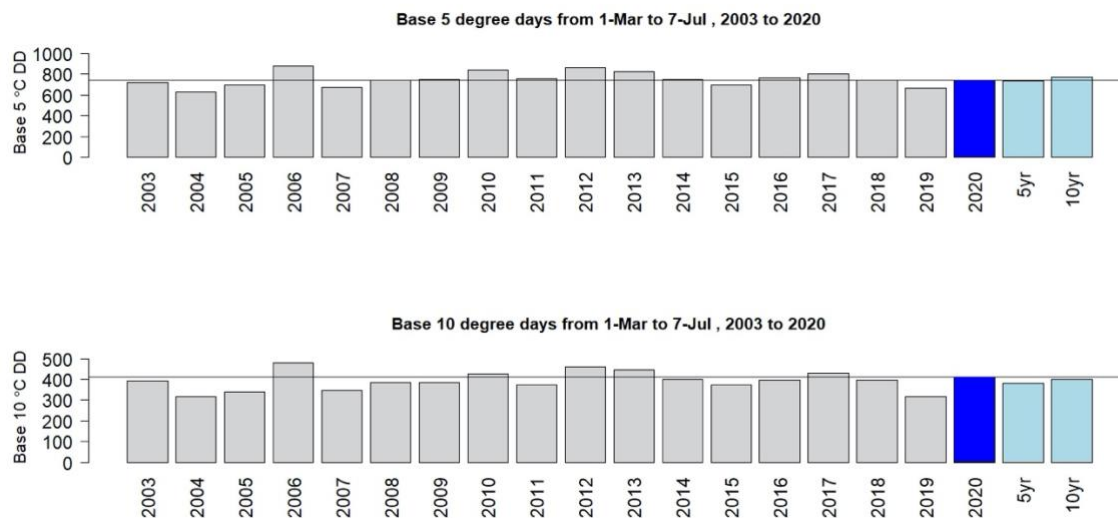
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**\*\*UPDATE: Currently I am not conducting drop-in farm or site visits due to COVID. Please contact me if you have a specific question or a concern and now I may be able to visit.\*\***

You can reach me by email at [mcortens@perennia.ca](mailto:mcortens@perennia.ca) or by mobile phone at 902-679-7908. Agriculture Specialists are beginning limited restart scenarios for on-farm visits under strict guidelines: [Learn more.](#)

## 2020 Degree Day Accumulations



**Figure 1:** Heating degree day accumulations for plant (above 5°C) and insect (above 10°C) development from March 1<sup>st</sup> to July 7<sup>th</sup> for the past 17 seasons. Provided by Jeff Franklin (AAFC).

- 1% more plant development heat units compared to the 5-year average, and 3% less compared to the 10-year average
- 12% more plant development heat units compared to 2019, and 1% more compared with 2018
- 8% more insect development heat units compared to the 5-year average, and 3% more compared to the 10-year average

## Diseases

### Apple – Scab

#### Recommendations:

- Secondary infections are ongoing during wetting events of sufficient duration. The minimum wetting required for secondary infections is 3 hours less than the wetting required for primary infections. Secondary infections will not be reported here because of scattered showers and wide variation. The Modified Mills Table can be found [here](#).
- Do not reduce fungicide spray intervals until you can identify your pressure from secondary scab lesions. Also note the risk of summer diseases if spray programs are stretched to the limit.
- The pre-harvest interval for EBDC fungicides (e.g. Manzate, Dithane, Polyram) for fruit destined for the United States is 77 days versus 45 days for the domestic market.

## Apple & Pear – Fire Blight

### Blossom Blight Management

Blossom blight symptom development continues to show up in multiple regions of the Valley.

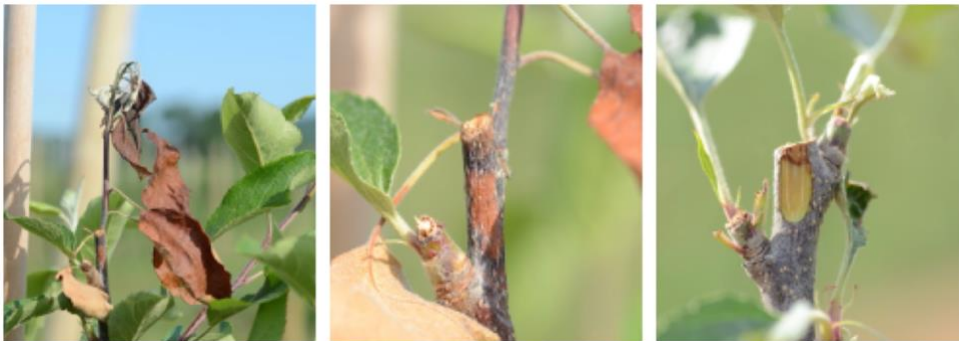
#### Recommendations:

- If blossom blight infections are extensive then past experience has shown that cutting it out can unintentionally spread the infections further. Apply Apogee and remove infections during dormant pruning.
- Focus on young trees for management of blossom blight infections. Cut out infections when a period of 2 dry days are in the forecast. Drop shoots into the laneways to let dry thoroughly. If cutting a whole tree consider letting it dry while attached to the trellis. Don't make piles that will prevent the wood from drying.
- When pruning, remove fire blight strikes at least 2-4 ft below active infections. Being aggressive at the first sign of symptoms will help prevent the re-occurrence of symptoms and the need for continuous cutting back. Disinfect tools between blocks.
- Avoid the temptation to rip off infections by hand when passing by. Ooze is present and rough removal could transfer bacteria to the new wound.
- Make absolutely sure trees are dry before cutting anything. Dew or moisture should not be present on trees.

### Other General Management Practices

#### Recommendations:

- Monitor for symptoms, including shoot blight on suckers that can infect the rootstock.
- For on-farm nurseries, consider applying a copper product at the lowest labeled rate prior to training trees and follow the labeled REI. Make cuts on only dry and sunny days.
- Be cautious when applying post-emergent herbicides to prevent injury to young trees.
- If you begin to observe fire blight infections and have not yet made any Apogee treatments to the infected and/or neighbouring blocks, you may wish to treat these areas with Apogee immediately to provide some resistance to shoot blight infection after 10-14 days.



**Figure 2:** Some infections can resemble fire blight but they are actually less-concerning fungal infections. The symptoms in this photo are nectria twig blight caused by a fungus that invaded cuts after singling the leaders. No ooze is present, the leaf veins are not blackened and when cut into the tissue the dead tissue ends at a distinct line instead of diffuse like fire blight. The pith is usually brown but the fungal infection occurs where the cambium in the outer layer is also brown. But if you're in doubt, always ask!

## Brooks Spot

### Recommendations:

- Include a product for cover sprays that is labelled for brooks spot such as Inspire Super and Aprovia Top.
- In the past this disease has made an appearance where cover sprays were reduced or eliminated during dry weather.
- The symptoms of Brooks Spot can resemble lenticel breakdown and bitter pit which are also common on Honeycrisp.

## Black Rot/Frog-Eye Leaf Spot

### Recommendations:

- Include a product for cover sprays that is labelled for black rot such as Captan, Maestro, and Pristine. Where there is a history of black rot, do not reduce rates of Captan after bloom.
- In dry weather, prune out and destroy diseased and dead wood. The black rot fungus can survive on dead tissue that is left in orchard alleyways.
- Check for nearby brush or wood piles because they serve as a major source of inoculum. Remove the brush pile to reduce the chance of infection.

## Flyspeck and Sooty Blotch

### Recommendations:

- Include a product for cover sprays that is labelled for flyspeck and sooty blotch such as Captan, Maestro, Inspire Super, Aprovia Top, Allegro, and Pristine.

## Powdery Mildew – Young Trees

### Recommendations:

- Check new terminal growth for signs of infection. On young trees, monitor for active mildew as terminal shoots continue to grow.
- On young blocks consider using sulfur, which is a group M product for powdery mildew management that will not develop resistance. However, mite flare ups may occur.
- Pay particular attention to susceptible and high-value varieties such as Honeycrisp and Gala.

## Stone Fruit – Brown Rot and Peach Scab

### Recommendations:

- Fungicide protection from brown rot should be maintained, especially during periods of warm, wet weather.
- Peaches are susceptible to peach scab infections from shuck fall to 4-6 weeks before harvest. Symptoms are visible on the bark. The shuck fall application is particularly important for disease control. Periods of wet weather will require additional applications until 4-6 weeks before harvest.

## Insects

### Apple Insects

#### Recommendations:

- Monitor for white apple leafhopper. Sevin XLR applications on mature blocks will control leafhopper but monitor non-bearing plants for leafhopper. If treatment is required, a neonicotinoid, Sivanto Prime, or Exirel would control leafhopper and also pick up aphids.
- Monitor for rosy apple aphid and green aphid. In young trees the aphids can disrupt shoot growth. Monitor nursery plantings as well. Now that leaves are curling high water volumes are needed for effectiveness. Be cognisant of REIs if installing trellis.
- Obliquebanded leafroller adults have taken flight to lay eggs for the second generation. Monitor or check scouting reports for larval populations soon.

### Potato Leafhopper

The potato leafhopper feeds on the young leaves of terminal shoots leading to yellowing at leaf edges, and cupping that will eventually turn brown. Adults are pale yellow-green and walk sideways whereas the white apple leafhopper is white and moves forward and back.

#### Recommendations:

- Potato leafhoppers do not overwinter in Nova Scotia but they are carried to us each year on warm wind currents. Few potato leafhoppers have been found so far, but I recommend staying on the lookout. Their preferred host is alfalfa so after hay is cut the leafhoppers migrate to apples.
- Potato leafhoppers can transmit fire blight. Their presence in young plantings and nurseries is concerning, especially in areas of active fire blight infections.
- Insecticides labelled for leafhoppers include Admire/Alias, Assail, Calypso, Clutch, and Sivanto Prime.

### Mites

#### Recommendations:

- Scout your orchards or check your scouting reports to see if there is a treatable population.
- Rust mites are showing up early this year.
- Both European red mite and two-spotted spider mite are controlled by the products Acramite, Apollo, Kanemite, and Nealta.
- All three mite species are controlled by Nexter and Envidor.
- Mites have many generations per year and therefore have a high potential to develop resistance. For resistance management, it is critical to rotate miticide classes. The use of dormant oil applications will also help to delay resistance selection for European Red Mite.

## Apple Maggot

### Recommendations:

- If monitoring your own traps they can be hung in the orchard. The economic threshold is 1 maggot fly per orchard on a yellow sticky board. Apply a treatment 7-10 days after the first fly is captured on a yellow sticky board or immediately after a female is captured on a red sphere.
- Dr. Suzanne Blatt reported their first catch in Kentville on Tuesday, July 7<sup>th</sup> in a block that was not sprayed for codling moth. In many situations that are still spraying for codling moth the control is extended to early maggot flies. Most maggot traps are going up next week.

## Codling Moth

### Recommendations:

- In general, treatable populations were high this year. If treatable populations were high and a second codling moth spray was applied a few days before the rain on Saturday then expect product wash off.

## Pear Insects

### Recommendations:

- **Pear psylla:** Refer to the [management guide](#) for product options.
- **Pear rust mite:** Can go unnoticed until heavy russetting extending from the base to the top of the fruit. Growers that apply Agri-mek for pear psylla control would also obtain pear rust mite control. Nexter or Envidor would be other options for pear rust mite control.

## Stone Fruit Insects

### Recommendations:

- Monitor mite and aphid populations. Prolonged feeding especially in early- to mid-summer can affect next year's fruit set.

## Horticulture

### Fertilizer

- If granular fertilizer is applied now, the risk is that any dry weather in July will slow the release. Late release will prevent trees from hardening off before the winter. Be especially careful not to add more fertilizer if no rain has occurred since the last granular was applied.

### Calcium Nutrition

- The goal of Ca sprays is to increase the concentration of Ca in the fruit and reduce bitter bit incidence. Regular calcium chloride applied at two-week intervals is better than occasional, high-rate applications.
- The recommended rate is 4 to 14 pounds of elemental calcium per acre in a season spread over six to eight cover sprays. The percentage of elemental calcium will be listed on the label.
- Ca has very low movement within the tree and needs to be applied directly to the fruit surface to be absorbed. Therefore, thorough coverage is important to cover developing fruit.

- Calcium chloride flake (77% Ca) is the most economical Ca material to use but also the highest risk for foliar burn. Apply calcium chloride flake at no more than 4.5 kg per 1000 L of spray solution. The risk of leaf or fruit damage from calcium is highest in hot and dry weather. Susceptible varieties can develop lenticel spotting if damaged.
- Risk of leaf injury may be enhanced by Captan. Incompatibility has been observed with Epsom salts, and liquid or emulsifiable pesticide formulations in some cases. Do not apply calcium with apogee.

### Irrigating Young Plantings and Nurseries

- If capable, it is advisable to water young trees and nurseries that have underdeveloped root systems before they show signs of water stress. Trees planted before the heat wave are most susceptible.
- Watering can be a significant investment in time so ensure that enough water gets down to the roots where it will be accessible long-term.
- The purpose of drip irrigation is to prevent rather than relieve moisture stress. Typically, 1 inch (25 mm) of water is applied each week unless indicated otherwise through soil moisture monitoring.
- The frequency of irrigation depends on the soil type. In clay soils that will hold water the application can be supplied twice per week whereas for sandy soils the water is applied more frequently about every other day.

### Young Plantings

- **Young plantings that are competing with weeds are very disadvantaged in these prevailing dry conditions. Weeds will use plenty of moisture so weed control at this time is important.**
- Remove root suckers. Suckers compete with the main tree for water and nutrients. They harbour pests, and they are an entry point for fire blight. Pull or break off suckers because otherwise cutting them would let them rebound.
- Ensure that deer fencing is installed as soon as possible to protect new growth on young trees.
- Newly planted trees should be pruned for tree structure and supported as early as possible after planting. Tie leaders to trellis before the weight of some fruit or high winds break the new growth.

### Nursery Trees

- Scion leaders will need support. Staking late could increase the chance of breaking the leader.
- Aim is registered for nurseries but it is a hot product and caution is recommended around green tissue.
- Monitor for aphids, leafhoppers, and tarnished plant bug.

### Herbicide

- Weeds compete for moisture. Weed control becomes especially important when moisture is a limiting factor. Refer to the [2020 Tree Fruit Weed Management Guide](#) for options.
- If weeds are becoming an issue, consider a treatment of burndown herbicide. A clean floor is needed in the case of any residuals. Note that 2,4-D has an 80-day PHI.
- Prevent herbicide drift by avoiding sprays during wind gusts, periods of dead calm, wind speeds above 16 km/hr, and temperatures above 25°C.

### Mowing

- **As grass becomes long the extra surface area increases transpiration. Keep grass mowed to conserve moisture.**
- Keeping the orchard floor cover mowed will minimize dandelion flowers that attract bees, which increases the safety of insecticide applications.

### Stone Fruit – Hand Thinning

- Hand thin peaches to 6-7 inches apart.

## Events and Notices

### **Mandatory Isolation Support for Temporary Foreign Workers Program**

The application deadline for the Mandatory Isolation Support for Temporary Foreign Workers Program has been extended until August 31, 2020. [Click here to learn more.](#)

### **NSDA Animal and Plant Lab**

Effective July 6, the NSDA Animal and Plant Laboratory will be resuming all normal testing operations. In order to follow Public Health orders to promote social distancing and minimize the number of people in buildings, you are encouraged to courier your samples or drop off is available at the Truro office only. For more information: [www.novascotia.ca/agriculture-labs](http://www.novascotia.ca/agriculture-labs)

## 2020 Pest Management/Spray Guides

### **Hyperlinks to Tree Fruit Management Guides**

All changes new to the 2020 guides are in red text to make it clear to you what changes have been made. If you do not wish to have the red text in your copy, please print it in black and white.

- Download the [2020 Pome Fruit Guide](#)
- Download the [2020 Organic Apple Guide](#)
- Download the [2020 Stone Fruit Guide](#)
- Download the [2020 Thinners and Growth Regulators Guide](#)
- Download the [2020 Tree Fruit Weed Management Guide](#)

**This Orchard Outlook has been published with the input of the Orchard Outlook Committee including Shawkat Ali, Erika Bent, Suzanne Blatt, Bill Craig, Danny Davison, Jeff Franklin, Keith Fuller, Joan Hebb, Larry Lutz, and Sajid Rehman.**

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