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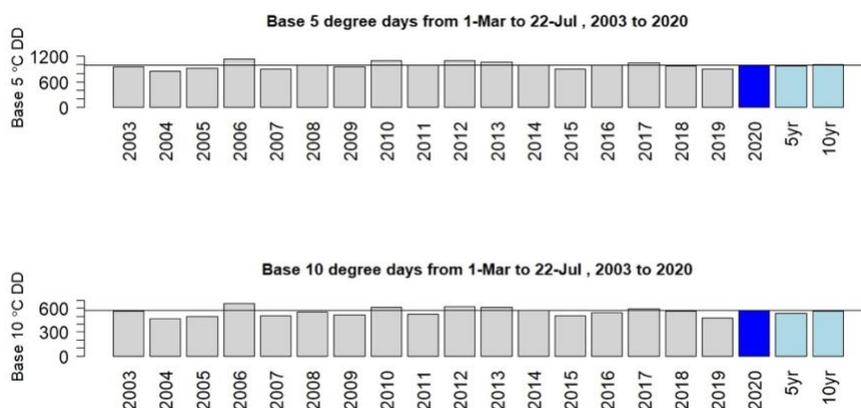
## In this Issue

Diseases.....	2
Insects.....	2
Potato Leafhopper .....	2
Apple Maggot.....	3
Orchard Outlook Podcast - New Episode July 22 <sup>nd</sup> .....	3
E13 S1: Stop the Hop – Guest Dr. Arthur Agnello .....	3
Horticulture .....	3
Rootstock Observations .....	3
Leaf Tissue Sampling for Nutrient Analysis .....	4
Soil Sampling for Nutrient Analysis .....	5
Events and Notices .....	5
NSFGA Summer Tour Video Series – Sneak Peek .....	5
2020 Pest Management/Spray Guides .....	5
Hyperlinks to Tree Fruit Management Guides.....	5

**\*\*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 I can visit.\*\***

The Orchard Outlook Committee met last week for the final time this season, and the newsletter will soon wrap up as we approach harvest. Also, at this time of year the newsletter becomes lengthy with the repetition of recommendations for ongoing insect and disease pressures. Please consider this newsletter as a supplement to last week's [July 15th Orchard Outlook](#). Refer to last week's newsletter for ongoing pest pressures but consider the new notes in the current newsletter.

## 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 22<sup>nd</sup> for the past 17 seasons. Provided by Jeff Franklin (AAFC).

- 2% more plant development heat units compared to the 5-year average, and 2% less compared to the 10-year average
- 9% more plant development heat units compared to 2019, and the same as 2018
- 7% more insect development heat units compared to the 5-year average, and 2% more compared to the 10-year average

## Diseases

Refer to the [July 15th Orchard Outlook](#) for information about apple scab, fire blight management, summer diseases, powdery mildew, and stone fruit brown rot and peach scab.

## Insects

Insect management programs should be based on grower monitoring and/or scouting reports. Refer to the [July 15th Orchard Outlook](#) for information regarding white apple leafhopper, aphids, obliquebanded leafroller, mites, pear psylla, and pear rust mite.

## 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. For more information, listen to this month's podcast with [Dr. Arthur Agnello called, 'Stop the Hop.'](#)

### Recommendations:

- Potato leafhoppers do not overwinter in Nova Scotia but they are carried to us each year on warm wind currents. Their preferred host is alfalfa so after hay is cut the leafhoppers migrate to apples.
- Potato leafhoppers could 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.

## Apple Maggot

For a refresher about apple maggot, listen to the podcast recorded with Dr. Suzanne Blatt last year. [Click here to listen to E2 S1: Apple maggot birth control.](#)

### Recommendations:

- 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. Apply a treatment immediately after a female is captured on a red sphere. Monitor your own trap captures for treatment timing.
- Significant rainfall will wash off insecticide residues that are needed to ward off apple maggot flies. Re-treatment is required after 10-14 days or cumulative rainfall of 12.5-25 mm (0.5-1 inch). Insecticide residue should generally be maintained through to the end of August.
- In organic orchards, Surround can be used to deter egg laying and GF 120 fruit fly bait can be used for suppression of adult flies. Both Surround and GF 120 should begin to be applied as soon as flies are present in the orchard.
- Apple maggot inspections are beginning the first week of August. Owners of relevant blocks will be contacted.

## Orchard Outlook Podcast - New Episode July 22<sup>nd</sup>

### E13 S1: Stop the Hop – Guest Dr. Arthur Agnello



Dr. Arthur Agnello is the Tree Fruit Extension Entomologist at Cornell AgriTech in Geneva, New York – and you might recognize him as the editor of the Scaffolds newsletter. His interest in insects led him to his longstanding role in research and extension.

Dr. Agnello joins us at a time when orchards full of tender young leaves are susceptible to damage by potato leafhopper. He brings an entomology lens to the issue and isn't fooled by hopperburn. Listen on any podcast streaming service or at: <https://anchor.fm/orchard-outlook>

## Horticulture

Refer to the [July 15th Orchard Outlook](#) for information about thinning, fertilizer, calcium nutrition, irrigating young plantings and nurseries, young plantings, nursery trees, herbicide, and mowing. Please note a correction that calcium chloride flake was presented as 77% calcium but should have read 77% calcium chloride, meaning approximately 27% calcium.

## Rootstock Observations

- With the release of many new rootstocks in recent years we continue to learn how they perform in commercial plantings. The rootstock G.202 in particular is underperforming in our region and likely it does not come as a surprise because it has been a subject of local discussion.
- Field issues observed for Honeycrisp on G.202 include small leaves, profuse suckering, overall weak growth, and blind wood that makes it look spindly. Also, in several cases there is necking just above the graft union, but not always.

## Leaf Tissue Sampling for Nutrient Analysis

Nutrient levels in leaf tissues change throughout the growing season. The nutrient analysis for apple tree leaves has historically been done after terminal buds set and recommendations are based on that specific timing (late July to early August in Nova Scotia). Collecting samples prior to or after the specified period may give inaccurate nutrient level readings. Annual fertilizer applications should be based on tissue analysis reports and other factors such as pruning, vegetative growth and anticipated crop load.

### Recommendations:

- Collect leaves for nutrient analysis after terminal buds set on this season's extension growth. Complete sampling by mid-August.
- **The protocol:**
  - A sample usually represents a block of orchard 1 to 2 hectares in size.
  - Sample 10 apple leaves from each of 10 representative trees of the same variety for a total sample size of 100 leaves. Sample from the same trees every year to limit the variation between years. Try marking the tree with spray paint.
  - Collect leaves from the mid-point of the current year's growth from all sides of the tree.
  - Place the leaf samples in a **paper** bag.
  - If there are problem areas within the orchard, then sample trees in this area separately.
  - The leaf sample needs to be submitted as soon as possible after collection in order to obtain an accurate nutrient analysis. If the sample cannot be submitted right away, refrigerate until it can be submitted.
  - Always label samples with the grower or farm name, mailing address, phone number, farm registration number, orchard block name, variety and sample number.
- Take an accurate sample by reviewing some guidelines:
  - [How to take a plant tissue test](#)
- For fees, contact the lab or your choice.

## Soil Sampling for Nutrient Analysis

A leaf nutrient test tells you whether a nutrient has been absorbed. A soil analysis, on the other hand, shows what levels are available. If a tree cannot uptake nutrients from adequate soil levels then perhaps your limiting factor is not related to nutrient availability and is more likely related to compaction, nematodes or pathogens affecting the root system. Or more simply, a soil nutrient test could determine a soil nutrient deficiency.

### Recommendations:

- Soil samples do not need to be collected on an annual basis but should be collected at least once every three years.
- Two to four soil cores should be taken at the drip line from each of 10 trees. The soil cores should be mixed and a representative sample placed in a soil box for analysis. Soil boxes can be obtained from the NSDA office in Kentville.
- Early August is a good time to sample orchard soil unless the soil is unusually dry or recently leached by heavy rains. If the soil is too dry it is very difficult to extract full 0-15 cm (0-6") soil samples and a better sample will be obtained by waiting until light rain has moistened the topsoil.

## Events and Notices

### NSFGA Summer Tour Video Series – Sneak Peek

Here's a sneak peek into the Nova Scotia Fruit Growers' Association's most innovative tour yet. Grab a front row seat with your host Michelle Cortens, Tree Fruit Specialist at Perennia. This year the tour will be on the east side of the Valley. Stay tuned for a series of videos in early August 2020 to see the results of local research on rootstock trials, replant disease, fruit thinning and more. View the sneak peek on YouTube at: <https://youtu.be/AJ0b-a4shU>

## 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](#)

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