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Where's Michelle? Touring Orchards!

I'm away from the office this week at the International Fruit Tree Association (IFTA) summer tour in the Norfolk and Georgian Bay areas of Ontario. I was not able to visit Nova Scotia orchards this week, and that has limited the content in this issue of the newsletter. But on the plus side, I've been listening to new insights from outside our region to stay up to date with industry practices.



Figure 1: A highlight of four stops during day one and two of the International Fruit Tree Association Summer Tour. A) Dr. Jason Deveau demonstrated 'crop adapted spraying', which is adjusting the sprayer to deliver the threshold pesticide equally over the tree architecture. Water sensitive spray paper is recommended to determine spray coverage and reduce waste. B) A superstructure built from cement posts and complete with hail netting was incredible to see but is ultimately very costly. C) Allowing light to filter through trees exposes the shaded side of the row and improves fruit colour. D) A common comment is that regions around the Great Lakes had a cold and wet start to the season as well, and are running a few days behind. Hand thinning is well underway in Ontario and Gala fruit size is increasing quickly as you can see in the photo. Tom Ferri uses the precision fruitset model to measure fruitlet diameter during the thinning window to inform his chemical thinning practices and says the model is surprisingly accurate.

We have local orchards to showcase in Nova Scotia as well! I'm looking forward to seeing you all at the NSFGA Summer Tour on August 1st. Please bring your burning questions to add to our discussion.

2019 Degree Day Accumulations

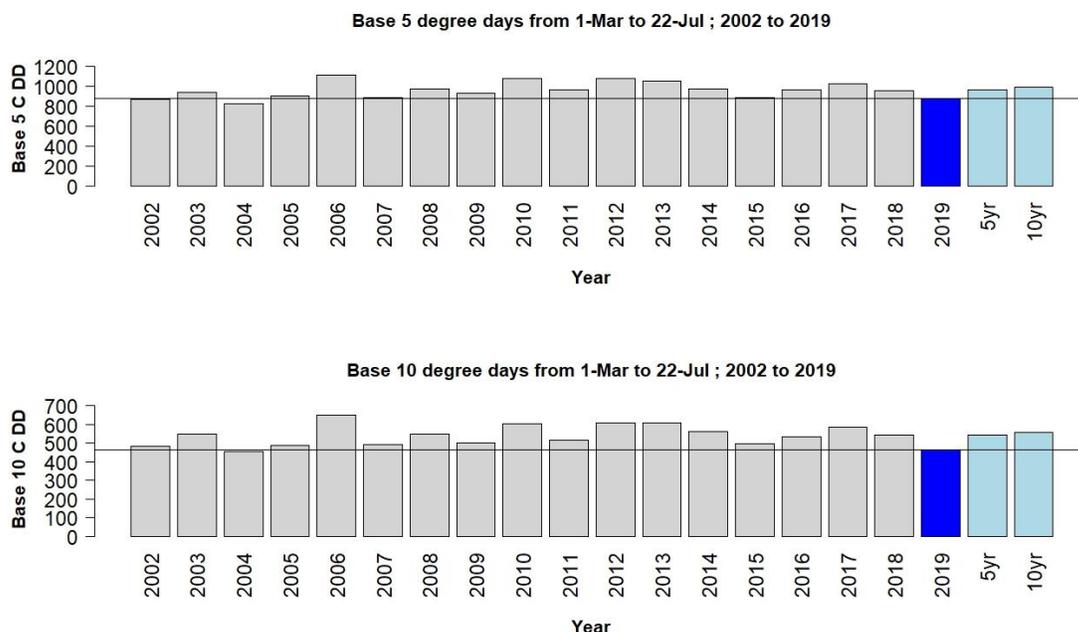


Figure 2: Heating degree day accumulations for plant (above 5°C) and insect (above 10°C) development from March 1st to July 22nd for the past 17 seasons. Provided by Jeff Franklin (AAFC).

Heating degree day accumulation from March 1st through July 22nd:

- Approximately 9% less plant development heat units compared to the 5-year average, and 11% less compared to the 10-year average.
- Approximately 8% less plant development heat units compared to 2018, and 14% less compared with 2017.
- Approximately 15% less insect development heat units compared to the 5-year average, and 17% less compared to the 10-year average.

Diseases

Refer to the [July 17th Orchard Outlook](#) for information about apple scab, powdery mildew, fire blight shoot blight and nursery management, summer diseases, and stone fruit brown rot and peach scab. Currently I do not have access to the Kentville weather station data, and I will wait until next week’s newsletter to report apple scab secondary infection events.

Insects

Insect management programs should be based on grower monitoring and/or scouting reports. Refer to the [July 17th Orchard Outlook](#) for more information regarding green apple aphid, mites, and potato leafhopper.

Apple Maggot

Recommendations:

- Dr. Suzanne Blatt reported catches in Kentville starting on July 18th.
- 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.
- 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.
- Calypso can control three common pests when applied at this stage – it is registered for the control of apple maggot, codling moth, and aphids.
- 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.
- Yellow sticky traps should be cleaned out after application to determine the additional emergence of adult flies. Additional captures when the residual life of the insecticide is complete (14 days depending on rainfall with Imidan) will indicate a second spray is required.

Obliquebanded Leafroller

Recommendations:

- Scout your orchards or check scouting reports to see if there is a treatable population.
- Refer to the [Pome Fruit Management Guide](#) for a list of products.

Horticulture

Refer to the [July 17th Orchard Outlook](#) for information about thinning, fertilizer, calcium nutrition, tree and rootstock training, site preparation, weed control, and mowing.

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 & Notices

AGENDA for the NSFGA Summer Orchard Tour

The double-decker winery bus will again be offering transportation for tour participants. Growers won't want to miss this learning opportunity! [Visit the NSFGA 2019 Summer Orchard Tour program.](#)

2019 Pest Management/Spray Guides

Hyperlinks to Tree Fruit Management Guides

- [Orchard Outlook Supplement 2019](#)
- [Pome Fruit](#)
- [Stone Fruit](#)
- [Organic Apple](#)
- [Thinning and Growth Regulation](#)

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