



Vol. 20, No. 8

May 6, 2020

In this Issue

2020 Degree Day Accumulations	2
Bud Development.....	2
Diseases.....	3
Apple – Scab.....	3
Apple – Fire Blight Prevention	4
Insects.....	4
European Red Mite	4
Horticulture	5
Pruning.....	5
Planting & Nursery Trees	5
Fertilizer	5
Lime.....	5
Herbicide	5
Orchard Outlook Podcast - New Episode May 6 th	5
E11 S1: Microscopic Meddlers Part 2 – Guest Tom Forge.....	5
Events & Notices	6
Provincial Weed Survey	6
Do you have Canada Fleabane Seedlings?.....	6
NSDA Soil Amendment and Leaf Tissue Testing	6
Reminder: Hurricane Dorian Survey	6
Mental Health Awareness Month.....	7
2020 Pest Management/Spray Guides	7
Hyperlinks to Tree Fruit Management Guides.....	7

Perennia has strict protocols to help lessen the spread of coronavirus, therefore I will not be conducting any farm or client site visits, apart from a limited amount of approved trial work. The newsletter this year is written in collaboration with people who are visiting farms. Please note that I am still available to respond to farm inquiries from commercial farms even though I am working from home. You can reach me by email at mcortens@perennia.ca or by mobile phone at 902-679-7908. For more information: www.perennia.ca/coronavirus

2020 Degree Day Accumulations

Jeff Franklin writes, “As you can see below, we continue to experience below seasonal temperatures. Looking at the degree-day totals, we are approximately 9 days behind the 10-year average. The current forecast has this trend continuing at least until the middle of May with Ontario experiencing exceptionally cool temperatures that could break records this weekend. Most forecast models predict that we will be affected by this pattern, but spared the worst of it.”

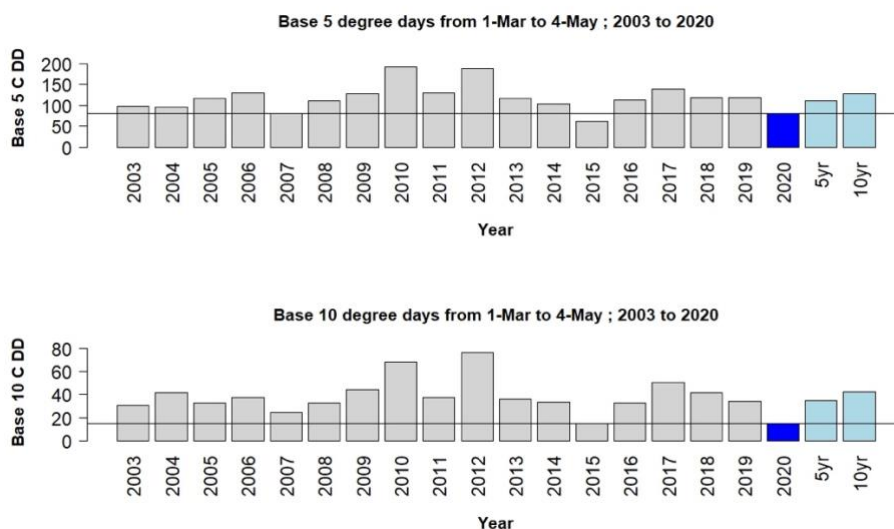


Figure 1: Heating degree day accumulations for plant (above 5°C) and insect (above 10°C) development from March 1st to May 4th for the past 17 seasons. Provided by Jeff Franklin (AAFC).

- Approximately 26% less plant development heat units compared to the 5-year average, and 36% less compared to the 10-year average.
- Approximately 31% less plant development heat units compared to 2019, and 31% less compared with 2018.
- Approximately 57% less insect development heat units compared to the 5-year average, and 65% less compared to the 10-year average.

Bud Development

Location	Variety	Current Stage
Middle Dyke Rd, Kentville	Idared	Half inch green to early tight cluster
	McIntosh	Half inch green
Kentville Research and Development Centre	Honeycrisp	Green tip to ¼ inch green
	Sweet Cherry	Swollen bud
Medford	Gravenstein	Half inch green
	Idared	Half inch green
	Northern Spy	Green tip
	Honeycrisp	Green tip
Greenwich	Gravenstein	Half inch green
	Pear	Bud burst
	Peach	Half inch green
	Plum	Green cluster
Windsor	Honeycrisp	Green tip
	McIntosh	¼ inch green
Morristown	McIntosh, high elevation	Late green tip

Information courtesy of Bill Craig, Alyson Bremner, and Michelle on May 5/6, 2020.



Figure 2: Honeycrisp at green tip to ¼ inch green at KRDC. Apple scab is eyeing up all that green tissue.

Diseases

Apple – Scab

Table 1: Apple scab infection events in Canard from April 30th to May 6th, based on the Modified Mills Table.

No.	Start of wetting	End of wetting	Infection period (hrs) ¹	Average Temp (°C)	Rainfall (mm)	Type (Primary or Secondary) ²	Ascospore maturity ³	Notes
1	Friday, May 1 at 6:00 PM	Saturday, May 2 at 5:30 PM	23.5	10.9	4.3	Primary – Moderate	3.0%	None
						<i>Light = 12 hrs, moderate = 18 hrs, heavy = 26 hrs</i>		
2	Monday, May 4 at 2 AM	Wednesday, May 6 at 9 AM	51	5.9	4.6	Primary – Heavy	3.3%	Wetting began in the dark, so ascospore release and the infection period started at 6:00 am sunrise.
						<i>Light = 21 hrs, moderate = 30 hrs, heavy = 47 hrs</i>		
Short Term Forecast ⁴				Continue to reapply fungicide protection. Rains are expected in the short-term forecast starting on May 7 th . Ascospores are expected to mature to 3.5% by May 7 th . Forecast temperatures averaging 6°C would require 21 hrs of leaf wetness for an infection event to occur.				

¹ For a high inoculum orchard, a significant number of spores can be released during darkness, so begin calculating leaf wetting regardless of the time of day when the wetting event started. An orchard is considered to have a high inoculum load if last season it had 100 or more scabby leaves observed over 600 shoots.

² The weather conditions for an apple scab infection are listed in the Modified Mills Table found in the [Supplement to the Orchard Outlook](#).

³ Assuming a green tip date of Tuesday, April 21st. Please use this as a guide because microclimates will cause conditions to vary on individual farms.

⁴ All forecasts are estimates. Observe forecasts daily for more accurate predictions.

Recommendations:

- An extended period of rainfall is forecast for the end of this week. Reapply fungicide protection on a 7-day interval, with a shorter interval after wet weather (cumulative 1-2" rain) or rapid tissue growth. Many of you put on protection last week on Thursday, which is already 6 days ago!
- The newer chemistries with post-infection activity need to dry and stick to tissue to be effective. A protectant like manzate (mancozeb) can redistribute in rains and protect some tissues that were not covered. Scala (AP, group 9) works best in cool spring temperatures and if used as a protectant spray for the next infection it provides post-infection activity for the previous infection of up to 48-72 hrs.
- Always tank mix single site fungicides with a group M for resistance management.
- Early in the season, there is no need to control powdery mildew so products with activity on powdery mildew can be saved for application at half inch green.
- If you plan to use oil for European Red Mite control, Captan should be avoided within 7-14 days of an oil application.
- Note that the new captan containing product Maestro 80 WSP has re-entry periods that differ depending on the orchard density and activity (anywhere from 2-24 days).

Apple – Fire Blight Prevention

Recommendations:

- A copper application is recommended when buds have reached green tip. A fixed copper product such as Copper Spray Fungicide (50% copper oxychloride) is recommended because it is resistant to being washed off by rain. Cumulative rainfall of 100 mm will wash away most of the product, which is why it is applied no earlier than green tip. If applied later than green tip, residues that persist on fruitlets can cause russetting. The safety window is closing in some cases.
- Copper can be applied as a tank mix with 0.5% by volume (5 L in 1000 L) dormant oil to increase adherence. Apply in a high water volume to cover plant surfaces. Do not use dormant oil within 14 days of Captan or within 48 hours of freezing temperature. A half rate of an EBDC can be included as extra protection for apple scab.

Insects

European Red Mite

Recommendations:

- To be most effective, oil application for ERM should be targeted closer to egg hatch – around tight cluster and before pink which is typically around May 10th.
- Avoid oil if freezing temperatures will occur within 48 hrs. Nighttime temperatures will again be quite low on May 7th and 9th.

Horticulture

Pruning

- Ensure that youngest blocks are pruned first to ensure growth is directed into desirable leader and terminal extension.
- Large thinning-out cuts will reduce the most bud load in the least amount of time.
- Mature blocks can be pruned later and are best when pruned prior to bloom. However, with the labour shortage this year summer pruning might be a good option to consider.

Planting & Nursery Trees

- Trees should not be planted in waterlogged soil. Newly planted trees should be pruned for tree structure and supported as early as possible after planting.
- For a high value crop like apple, always consider tile drainage. Evaluate the landscape for pooling water and poor plant growth to use the information when you arrange for tile drainage.
- Remember to document the quality of your nursery trees with pictures and notes.

Fertilizer

- Bud break to bloom is the ideal time for granular fertilizer application to maximize tree growth.

Lime

- Lime applied in spring works best when applied as soon as possible to get the product working in the top layer of soil. The provincial [limestone trucking assistance](#) program is open.

Herbicide

- Studies have shown maintaining weed free strips from bud break to 30-days after full bloom has the greatest impact on tree growth and yield. Timely herbicide application will ensure you make the most of the weed free window.
- Tips on avoiding herbicide injury on trees:
 - Take care not to apply herbicides to root suckers, foliage, bark (especially when young and green)
 - Minimize drift by applying on wind-free days
 - Refer to the recommended volume of water on the label for applying product
 - Refer to recommended rates based on tree age, weeds present, soil type, and organic matter
 - Avoid overlapping applications

Orchard Outlook Podcast - New Episode May 6th

E11 S1: Microscopic Meddlers Part 2 – Guest Tom Forge



Dr. Tom Forge is a research soil ecologist and nematologist for Agriculture and Agri-Food Canada, at the Summerland Research and Development Centre. He's captivated by the diversity of micro-animals in the soil – especially nematodes that are economically important plant parasites.

Tom shares insights from his research program that is focused on replant management for perennial fruit crops and the ecology and management of plant-parasitic nematodes. Tom explains exactly who is taking microscopic munches out of your root systems and feeding on productivity. You can listen on any podcast streaming service or at: <https://anchor.fm/orchard-outlook>

Events & Notices

Provincial Weed Survey

The Nova Scotia Department of Agriculture will again be conducting the rotating annual weed survey. This year, the survey will focus on apple orchards and pasture fields. Staff will be reaching out to a random sample of growers to identify pasture fields or orchard blocks which will be surveyed to identify what weeds are present. The annual weed survey will help establish a baseline of weed populations by crop throughout the province, identify any noxious/new weed introductions, and help identify development of herbicide resistance. By conducting surveys in subsequent years, the department will be able to use the information gathered from the surveys to assess management practices and determine changes in species composition and densities. This can prove to be important in identifying research needs and developing weed management recommendations for extension personnel. If you have any questions regarding the survey please feel free to contact Angela Gourd, Plant Protection Coordinator, at 902-956-0981 or by email Angela.Gourd@novascotia.ca

Do you have Canada Fleabane Seedlings?

Sonny Murray is looking for samples of Canada Fleabane. Glyphosate resistance is widespread in this weed in Ontario and parts of Quebec. The weed population appears to be increasing but we do not know if it is resistant. Please mark the location of the weed on your property using a pin on Google maps and email the pin to Sonny at smurray@perennia.ca.



NSDA Soil Amendment and Leaf Tissue Testing

In addition to soil testing, the Department of Agriculture Animal and Plant Lab will be providing soil amendment and tissue testing to Registered Farms. During these critical times moving into the 2020 growing season, this will help to ensure quality crop yields and environmental protection. This decision was made with the current COVID-19 (<https://novascotia.ca/coronavirus/>) orders and the health and safety of our clients and staff in mind. Please Note: In order to follow Public Health orders to promote social distancing and minimize the number of people in our buildings, all samples must be submitted to the lab using a courier service. In addition, we will continue to work with a minimal number of staff members on-site and for this reason, sample turnaround times will be delayed. Soil amendment and plant tissue testing is scheduled to begin the week of May 4, 2020. The continuation of this testing is subject to the COVID-19 orders so can change at any time. We will update you with any changes to laboratory services as soon as they become available. Please contact the laboratory with any questions by Email: LabServices@novascotia.ca or Phone: 902-893-6565.

Reminder: Hurricane Dorian Survey

On April 9, 2020 the Nova Scotia Department of Agriculture sent out an invitation to Nova Scotia agricultural producers to fill out a survey: Hurricane Dorian Impact on Nova Scotia Agriculture on September 7-8, 2019. This is to notify you that the survey deadline will be extended until May 11, allowing one additional week to complete the survey. The purpose of the survey is to examine the crop loss and extraordinary costs incurred as a direct result of Hurricane Dorian to Nova Scotia farms. It is important that *only* Hurricane Dorian related information is included in this survey. The intended respondents for this survey are Nova Scotia agricultural producers. If you have questions, please contact prm@novascotia.ca. The survey will take approximately 15-20

minutes to complete and can be filled out via the attached fillable PDF, or online at: <http://surveys.gov.ns.ca/TakeSurvey.aspx?SurveyID=882M5690>

Mental Health Awareness Month

Lesley Kelly, mental health advocate and farmer, shares a heartfelt message with farmers. “Agriculture, our industry, is built on perseverance, strength and adversity and it’s amazing – and it’s also built on community. And that community has gotten us through some really hard times. [...] Our people matter and our farmers matter. Check in on each other, be there for each other, talk to each other, and listen to each other.” Watch the short video message here: <https://www.youtube.com/watch?v=1SU9MkTnVcl>

During this time, please remember that the **Farm Family Support Center**, provided by Farm Safety NS, has confidential and immediate support available 24/7/365 to registered farm families. Farmers and their families have access to up to 3 hours of service at no cost. Caring professionals can help you access support related to mental health, relationships, finances, legal, and much more. Toll free line: 1-844-880-9142, <https://farmsafetyns.ca/farm-family-support-center/>

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 Schedule](#)
- Download the [2020 Organic Apple Schedule](#)
- Download the [2020 Stone Fruit Schedule](#)
- Download the [2020 Thinners and Growth Regulators Schedule](#)

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, Charlie Embree, Jeff Franklin, Joan Hebb, Dale Hebb and Sajid Rehman.

Edited by Michelle Cortens, Tree Fruit Specialist
Perennia Food and Agriculture Inc. Email: mcortens@perennia.ca