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## Please Note

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.

## Did you know?

Today is the International Day of Apples! Happy apple day!

## Orchard Outlook Podcast – New Episode October 21<sup>st</sup>

### Season Two Begins, Season One Still Available

I'm back with the start of the second season of the Orchard Outlook Podcast! Thanks for listening to the 13 episodes available in season one. Especially now that many professional development opportunities have turned into virtual events, the podcast continues to be one way to bring outside expertise close to home. I hope that the guests have answered your questions, that you've learned something new, and that you feel like you're right there with us!

Did you miss any episodes in season one? Don't worry, they're still available! Listen on any podcast streaming service or click the link to listen online.

EPISODE	HYPERLINK TITLE	GUEST	PUBLISH DATE
E1, S1	<a href="#">Don't play with fire blight</a>	Dr. George Sundin, MSU	Aug 7, 2019
E2, S1	<a href="#">Apple maggot birth control</a>	Dr. Suzanne Blatt, AAFC	Aug 21, 2019
E3, S1	<a href="#">Sensing fruit maturity</a>	Dr. John DeLong, AAFC	Sept 18, 2019
E4, S1	<a href="#">Fine-tuning fertility</a>	Bernardita Sallato, WSU Tree Fruit	Oct 16, 2019
E5, S1	<a href="#">Winning at weed control</a>	Kristen Obeid, OMAFRA	Nov 20, 2019
E6, S1	<a href="#">Digging into drainage</a>	Scott Anderson, P.Eng AAFC	Dec 18, 2019
E7, S1	<a href="#">Getting to the core of breeding</a>	Dr. Amritpal Singh, AAFC	Jan 15, 2020
E8, S1	<a href="#">Save a watt</a>	Kraig Porter, Efficiency NS	Feb 26, 2020
E9, S1	<a href="#">Downloading decisions</a>	Jon Clements, UMass	March 25, 2020
E10, S1	<a href="#">Microscopic meddlers Part 1</a>	Keith Fuller, AAFC	April 29, 2020
E11, S1	<a href="#">Microscopic meddlers Part 2</a>	Dr. Tom Forge, AAFC	May 6, 2020
E12, S1	<a href="#">Dealing with diseases</a>	Dr. Kari Peter, PSU	June 24, 2020
E13, S1	<a href="#">Stop the hop</a>	Dr. Arthur Agnello, Cornell	July 22, 2020

### E1 S2: Rooting for Water Management – Guest Dr. Denise Neilsen



Dr. Denise Neilsen is a retired Research Scientist with Agriculture and Agri-Food Canada out of Summerland, British Columbia. She was the co-recipient of the IFTA Research Award in 2014 and the distinguished Carlson Lecturer.

Dr. Denise Neilsen understands root architecture and she uses that knowledge to help explain the precision management of water and nutrients. She explains the effect of drought stress and why the timing and frequency of irrigation matters. Listen on any podcast streaming service or at:

<https://anchor.fm/orchard-outlook>

## Winterizing Orchards

### Fall Herbicide Application

The most important time to limit weed growth in the herbicide strip is early in the season from May to July. Yet in the spring there are many other horticultural and pest management needs, and weed management

often falls to the bottom of the priority list. For this reason, fall can be a good time to consider residual herbicide application.

Recommendations:

- Consider the following advantages of fall herbicide application:
  - There may be more time available for herbicide application in the fall as opposed to spring
  - Weed control is off to a jumpstart in early spring
  - Weeds are less likely to grow tall – decreasing the risk of herbicide injury to trees from off-target contact sprays
- Apply a residual herbicide to a clear herbicide strip. Uniform distribution is required for uniform weed control. Dropped apples, weeds and leaves will interfere with the distribution.
- There are several registered herbicides that can be applied in the fall before the soil freezes and when air temperatures are above freezing. Perennia’s trial work in 2016/17 evaluated the fall application of pre-emergent herbicides.
  - On a clay loam soil site, Alion, Sandea, Sinbar and Casoron provided the best pre-emergent weed control. Weed control using these products was 90-95% when evaluated on July 18th of the following year.
  - On a sandy loam soil site, Chateau and Sinbar provided the best pre-emergent weed control. Weed control using these products was 94-97% when evaluated on July 18th.
  - There was no benefit of combining Alion with Chateau.
- For more information, download the [2020 Tree Fruit Weed Management Guide](#). Review herbicide labels for restrictions on tree age, soil type, and organic matter content.

### Fall Soil pH Adjustments

Soils in the valley are naturally acidic, and nitrogen fertilizers will slowly acidify soils over time. As soils acidify, nutrients such as calcium, potassium and phosphorus are less available for uptake by fruit trees. Other nutrients such as manganese and aluminum become more available and uptake by fruit trees can become excessive.

The pH of orchard soil should be between 5.5 and 6.6 (target 6.0) because nutrient availability is best within this range. Fall is the ideal time to make soil pH adjustments because it gives time for limestone to neutralize the acidity before the next growing season. Also in the fall, the dust from limestone applications will not interfere with growth or bloom.

Recommendations:

- The results of a soil test will give a lime requirement based on your soil type and pH.
- Apply calcitic limestone unless magnesium is needed from dolomitic limestone.
- A surface application of no more than 3 tonnes/ha of limestone in any one year is recommended because higher volumes could be washed away and are ineffective.
- If the lime is being worked into soil then you can follow the recommended rate on your soil report. Incorporating lime into soil will show benefits sooner than a surface application.

## Orchard Rodent Control

Rodents feed on tree bark in the fall and winter when other food supplies are scarce.

### Recommendations:

- Mow ground cover to expose mice to predators.
- Clean up drop apples from the tree row and alleyways to remove attractive food sources.
- Be aware that using straw mulch can harbour mice.
- If rodent activity is observed (mouse tunnels, droppings and chewed apples), consider the use of rodenticide. Bait stations manage the risk of poisoning other species and the control is long-lasting.
- Bait stations placed on the perimeter of the orchard target mice moving into the orchard from bordering fields, fence lines or ditches. Pay particular attention to orchard blocks that neighbour corn and soybean fields.
- Install tree guards, if feasible, on young trees. Remove after snow melt in spring to avoid fungal problems at the base of the trunks.

## Diseases

### Reducing the Risk of Apple Scab

Scab spore inoculum can be reduced for the next growing season by accelerating the decay of infected leaves in the fall of the current season. The benefit is less disease pressure next spring that can help to reduce the risk of primary scab infections.

### Recommendations:

- Flail chopping all plant matter on the orchard floor in November can reduce the number of scab spores by as much as 85%. Flail chopping in only the alleyway can reduce scab spores by as much as 50%.
- Spraying urea (46-0-0) onto leaves on the ground can reduce spores by about 66%. The recommended rate is 50 kg/ha in 1000 L/ha of water. Alternatively, apply the solution to full trees as leaf fall begins. Urea should be dissolved in warm water before putting it in the tank. The 50 kg/ha rate will supply approximately 23 kg/ha of nitrogen to the ground, so nitrogen application next spring should be adjusted accordingly.
- Using both shredding and urea applications can produce the best results.

### Peach Leaf Curl

Peach leaf curl is a fungal disease of peaches and nectarines that is usually well-controlled by a fungicide application in spring or late fall. Infections occur in the spring at bud swell when overwintering spores are washed from the surfaces of the bark. Therefore, a fungicide application prior to bud swell in the spring is preferred. However, occasionally early warm temperatures combined with extended snow cover can make spring applications challenging.

Recommendations:

- The spores overwinter on the bark, so fall applications for peach leaf curl should be tailored to provide complete coverage of trunks and branches. Fall application should be made after 75-100% of leaf drop has occurred and when the temperature is above freezing.
- Unusually wet winter weather with heavy rain can wash off a protectant fungicide applied in fall. If residues are washed off, re-treatment in spring before buds swell is recommended.
- Chlorothalonil (Bravo) has been the most effective fungicide in Nova Scotia. Only 1 spray of Bravo may be applied per year, meaning it cannot be applied in both spring and fall. Other products registered for control include Ferbam, fixed copper products and lime sulphur.

**Article: Trees don't sneeze but they can still spread plant disease**

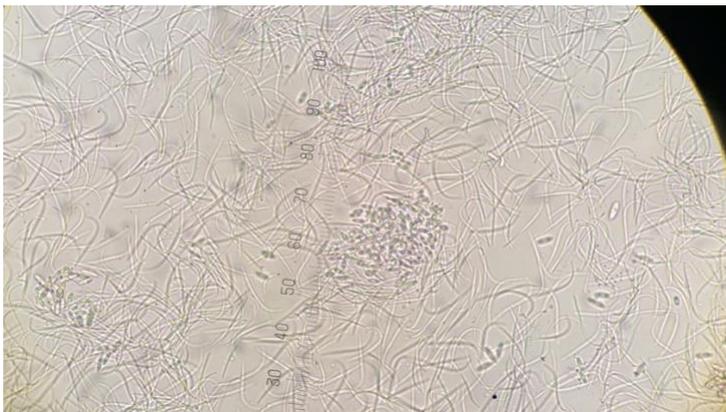
In this month's issue of the Atlantic Farm Focus, I contributed an article that offers plant health lessons from the season. The following excerpt is the main lesson that I'd like to share:

"This year, I visited a site that had used the common practice of dipping roots in a solution. Widespread infections affected the planting stock that were dipped in the same batch of solution. It seems that a few infected trees contaminated the water, which spread to other Ambrosia and Honeycrisp trees on different rootstocks from several origins. The original problem was amplified.

Plants don't sneeze. Instead, microscopic organisms that cause plant diseases spread freely in water. I watched a video sent to me by Perennia's pathologist Dr. Sajid Rehman taken from the viewfinder of his microscope. He put a sample of an active fungal infection in water to reveal thousands of oval spores with overlapping tendrils that looked as densely populated as a plate of spaghetti and meatballs. Each spore was the potential source of a new infection. Water is the perfect means to spread disease to previously unaffected trees.

Yes, we usually get away with root dipping unscathed, but not always. Last winter, a guest presentation by a nursery grower advised against root dipping because the practice is not worth the risk. I saw the outcome first-hand. A root dip is a high-risk practice that can spread disease from one source to many."

To read more, [visit the article on the Farm Focus website.](#)



**Figure 1:** Under the viewfinder of Dr. Sajid Rehman microscope are many spores with tendrils that are each a potential source of a new infection. Pathogens are spread easily through water like that used for root dipping.

## Events and Notices

### Mark These Events in Your Calendar

Although virtual events can't replace the in-person experience, the fact that these events are now virtual makes them accessible and might open up opportunities to participate! Check out the following dates:

DATE	EVENT	LOCATION
November 19-21, 2020	<b>Interpoma</b> <a href="https://www.fierabolzano.it/en/interpoma/home">https://www.fierabolzano.it/en/interpoma/home</a>	Virtual
December 8-10, 2020	<b>Great Lakes Fruit, Vegetable and Farm Market Expo</b> <a href="http://www.glexpo.com">www.glexpo.com</a>	Virtual
January 27, 2021	<b>NSFGA Annual Convention</b> <a href="http://www.nsfga.com/">http://www.nsfga.com/</a>	Virtual, TBA
Week of February 8 <sup>th</sup> , 2021	<b>Mid-Atlantic Fruit and Vegetable Convention</b> <a href="http://www.mafvc.org/">http://www.mafvc.org/</a>	Virtual
February 22-24, 2021	<b>International Fruit Tree Association</b> <a href="https://www.ifruittree.org/">https://www.ifruittree.org/</a>	Virtual
Cancelled 2021	<b>Ontario Fruit &amp; Vegetable Convention</b> <a href="http://www.ofvc.ca/">http://www.ofvc.ca/</a>	None

## 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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