



Happy New Year!!!!

Welcome to the 1st edition of the 6th year of Hort Snacks. It is always fun (and a bit challenging) to come up with material each month, but hopefully you think it is worth it. We might have a short survey in the spring to assess direction and focus, but that is for another day...

In this edition, you'll find a number of different tidbits, news, information and a big list of events and conferences (not comprehensive), including a bunch of webinars and workshops over the next couple of months. There is an article on some of the interesting stuff from the Great Lakes EXPO trade show from Michigan in December and a couple of tree pests that rear their ugly heads (or puff their spores at you) from time to time.

We hope that you'll find the time to participate in a number of the events this extension season. Lots don't require any travel (webinars) and many of the web-based stuff can be accessed after the fact.

We look forward to hearing from many of you, whether by email, phone, in-person or otherwise. Stay in touch.

Rob Spencer / Dustin Morton, Commercial Horticulture Specialists
 Alberta Ag-Info Centre, Alberta Agriculture and Rural Development
 310-FARM (3276)



FEATURED WEBSITE

Innovations in Cover Crops – Decision making tool for Eastern Canada

<http://decision-tool.incovercrops.ca/>

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THINGS TO DO / THINGS TO THINK ABOUT THIS MONTH

- Register for relevant winter workshops
- Consider specific training courses for both yourself AND staff (e.g. First Aid, Advertising, Electronic bookkeeping, Record keeping, etc.) – Book it
- Are all of your licenses or certificates up to date?
- Review your insurance coverage. Do you have sufficient for your activities? Are all the things that happen on your farm covered? Has anything changed?
- Review your project to-do / wish list from the end of last season – What are some of the things that you identified?
- Start thinking about and planning your field layouts for the coming season. Does your current set up work for any new crops? Do you have sufficient space for everything you have planned (headlands, activities, parking, etc.)? Consider field orientation, irrigation systems, shelterbelts and traffic movement (foot, equipment, vehicles, etc.).
- Have you ordered the plant material that you will need for the next season? Planning and ordering in advance can save a lot of headaches in the spring.
- Are you ordering transplants? Growing your own? Cleaning up the greenhouse might also be in order.
- Update / tidy up / repaint sales sheds and signs

NEWSLETTER USE RESTRICTIONS

Please feel free to share all or portions of this newsletter with other interested parties.

If you want to use content from this newsletter in other media, please request permission before doing so.

MENTAL SNACKTIME - Anticipation

"An intense anticipation itself transforms possibility into reality; our desires being often but precursors of the things which we are capable of performing." – Samuel Smiles

"There is no terror in the bang, only in the anticipation of it." – Alfred Hitchcock

"Wisdom consists of the anticipation of consequences." – Norman Cousins

"People don't realize that now is all there ever is; there is no past or future except as memory or anticipation in your mind." – Eckhart Tolle

In the News

- [Vitamin treatment for potatoes shows promise](#) – Hermiston Herald article (from SputSmart)
- [Managing high-tunnel insect pests](#) – Kentucky Pest News
- [Seabuckthorn: A healthy opportunity](#) – Agannex article
- [Finding the ideal greenhouse environment](#) – HortiDaily article
- [Not a nation of clock-punchers](#) – Retain Canada article
- [Diversity by Design: Using Trap Crops to Control the Crucifer Flea Beetle Webinar](#) – eOrganic recorded webinar
- [Sustainable Weed Management for Small and Medium-Scale Farms](#) – ATTRA article

Q&A

Q: What events are you most looking forward to in the coming year?

A: In the winter, I look forward to a couple of conferences that provide me with lots of ideas and new information. I try and hit events that have both a production/research and a marketing component. I really enjoy heading east to take in some of the research and networks that come from that, as they at least have winter there. I take in the Great Lakes Fruit, Vegetable and Farm Market Expo in Grand Rapids, Michigan in December and I go to the Ontario Fruit and Vegetable Convention in Niagara Falls. I enjoy the North American Strawberry Growers Association summer bus tour, as it is always instructional and interesting.

On the home front, I ALWAYS enjoy the Alberta Farm Fresh School, as it is fun to meet with growers and talk, talk, talk. – Rob Spencer (AARD)

Next Month's ? → [When do you set your product prices for the year?](#)

Upcoming Conferences / Workshops

January 2015

- Hort Snacks @ Night – Discussion of SOPs and implementation in your operation
Jan 6, 2015 – Strathcona Community Centre
- Potato Expo 2015
Jan 7-9, 2015 – Rosen Shingle Creek – Orlando, Florida, USA
www.potato-expo.com
- Saskatchewan Fruit Growers Association (SFGA) 26th Annual Conference
Jan 16-17, 2015 – Saskatoon Inn, Saskatoon, SK
www.saskfruit.com
- Hort Snacks to Go Webinar – Strawberry Field Fatigue & How It Affects Your Bottom Line
Jan 19, 2015
- Agronomy Update 2015
Jan 20-21, 2015 – Lethbridge Lodge – Lethbridge, AB
Ropin' the Web (www.agriculture.alberta.ca) – Coming Events
- Scotia Horticultural Congress 2015– “The Business of Farming”
Jan 26-27, 2015 – Old Orchard Inn Convention Centre – Greenwich, NS - <http://www.hortns.com>
- WOW! On-Farm Retail Workshop on Wheels
Jan 27, 2015 – Central Alberta – Register by Jan 20
- Manitoba Potato Production Days
Jan 26-28, 2015 – Keystone Centre – Brandon, MB
www.mbpotatodays.ca
- Greenhouse Hydroponic Workshop
Jan 28, 2015 – CDC North – Edmonton, AB
<http://agga.ca/about-agga-main/workshops-menu/151-hfp-ws-jan-2015>
- 46th Annual Northwest Agricultural Show
Jan 27-29, 2015 – Portland Expo Centre – Portland, Oregon, USA
www.nwagshow.com
- FarmTech 2015
Jan 27-29, 2015 – Northlands Expo Centre – Edmonton, AB
www.farmtechconference.com
- 17th Annual Pacific Agricultural Show
Jan 29-31, 2015 – Tradex Exhibition Centre – Abbotsford, BC
www.agricultureshow.net
- 34th Annual Guelph Organic Conference & Expo
Jan 29 – Feb 1, 2015 – Guelph University Centre, Guelph, ON
www.guelphorganicconf.ca

Hort Snacks To Go

– Horticulture Winter Webinar Series

Jan 19, 2014 – Kevin Schooley (North American Strawberry Growers Association) – *Strawberry field fatigue and how it affects your bottom line*

Feb 9, 2015 – Dr. Michele Konschuh (Alberta Agriculture) – *Aeroponic potatoes*

Mar 16, 2015 – Dr. Eric Gallandt (U of Maine) – *Weed seed ecology in field horticulture production*

Explore Local Webinars

Jan 20, 2015 – Darci LaRoque (Swirl Solutions) – *Unleash the Power of Your Smartphone*

Feb 17, 2015 – Deb Krause (Heritage Harvest Gardens) – *Using Social Media to Benefit Your Business*

Feb 24, 2015 – Dianne Finstad – *Navigating Media Routes #1*

Upcoming Conferences / Workshops

February 2015

- 2015 North American Farm Direct Marketing Association (NAFDMA) Convention
Feb 1-6, 2015 – Nashville & Knoxville, Tennessee, USA
www.farmersinspired.com/tn2015
 - 8th North American Strawberry Symposium & North American Strawberry Growers Association (NASGA) 2015 Berry Conference
Feb 3-6, 2015 – Crowne Plaza Hotel, Ventura, California, USA
www.nasga.org
 - Getting into Restaurants
Feb 9, 2015 – Leduc, AB
 - Hort Snacks to Go Webinar – Aeroponic Potatoes
Feb 8, 2015
 - Farm Direct Marketing Forum
Feb 18, 2015 – Airdrie Ag Centre – Airdrie, AB
 - Ontario Fruit & Vegetable Convention
Feb 18-19, 2015 – Scotiabank Convention Centre – Niagara Falls, ON
www.ofvc.ca
 - Alberta Farm Fresh School 2015
Feb 26-27, 2015 – Pomeroy Inn & Suites – Olds, AB
www.albertafarmfresh.com
- ### March 2015
- 2015 Manitoba Direct Farm Marketing Conference
Mar 6-7, 2015 – Brandon, MB
www.directfarmmarketing.com
 - 93rd Canadian Horticultural Council (CHC) Annual Meeting – “Healthy You”
Mar 10-12, 2015 – Fairmont Château Frontenac – Québec City, QC
www.hortcouncil.ca/
 - Canada Blooms 2015
Mar 13-22, 2015 – Direct Energy Centre – Toronto, ON
www.canadablooms.com
 - Hort Snacks to Go Webinar – Weed Seed Ecology in Field Horticulture Production
Mar 16, 2015

SAVE THE DATE

The *Alberta Farm Fresh School* is set for February 26-27, 2015 at the Pomeroy Inn & Suites in Olds, AB (on Olds College campus)

The agenda is developed and speakers are mostly set. At this point, we are planning 2 streams per day and an expanded trade show.

We are anticipating specific Fruit & Vegetable sessions on both days, with a marketing stream and F&V stream on the second day. Final topic streams and agendas will likely be released in January 2015. A Direct Market Livestock workshop is being developed separately for the first day, which will have crossover with the rest of the School on Day 1 and the 2nd day dovetailing into the rest of the School.

The format allows lots of time for networking and smooth, stress-free transitions between speakers. An expanded trade show and a leaner/meaner session set will be part of this year's conference. There is a full social evening (& FOOD) being planned on the first day. The AGM of the Alberta Farm Fresh Producers Association will be held at noon on Day 1. Come help celebrate 30 years of the association.

Watch www.albertafarmfresh.com for details.



Alberta Farm Fresh School

A two-day conference for producers to learn, network and build capacity in direct market fruit, vegetable and livestock production and marketing.

Day 1: Fruit and vegetable production and marketing and direct market livestock sessions

An evening of awards, networking and food; hear from the Honourable Verlyn Olson, Minister, Agriculture and Rural Development

Day 2: Fruit and vegetable production and general direct marketing sessions

One-on-one consultations with granters/lenders/experts and grower mentors

A trade show will be held both days.

Workshop Details

Dates:	February 26 and 27, 2015	
Time:	Day 1: 8:00 am - 5:30 pm (plus an evening event) Day 2: 8:00 am - 4:30 pm	
Cost:	\$175/person/2 days (AFFPA member rate) <ul style="list-style-type: none">• includes all sessions, snacks, lunches and evening session	\$225/person/2 days (non-AFFPA member rate) <ul style="list-style-type: none">• includes all sessions, snacks, lunches and evening session
Special Rates:	Farm unit discount / One-day and Student rates available	
Location:	Pomeroy Inn & Suites, Olds College Campus 4601 46th Avenue, Olds, AB	

Participants will:

- Access industry specific information and data
- Obtain resource materials
- Receive support to move forward
- Connect with peers
- Meet industry suppliers

Registration and Information:

Registration forms are available at www.albertafarmfresh.com under the *News & Information* tab

**Registration Deadline:
February 19, 2015**

Alberta Farm Fresh Producers Association
Toll Free: 1-403-558-0189
Email info@albertafarmfresh.com

Alberta Farm Fresh School 2015– Tentative Agenda

Thursday, February 26, 2015 – DAY 1

Fruit	Vegetables	Direct Market Livestock
8:00 – 8:05 am – Welcome & Introductions – Rob Spencer – AARD		
8:05 – 9:00 am – Rural Peace – Collaborating With Your Neighbour – Judy Kolk (Kayben Farms) & Cherie Andrews (Chinook Honey)		
9:05 – 10 am – Business Start Up & Planning – Kathy Bosse – AARD	9:05 – 10 am – Understanding Soil Biology – Dr. M. Jill Clapperton – Rhizoterra Inc.	9:05 – 10 am Understanding the Regulations in Direct Market Meat – Mark Miller – AARD
10 - 10:30 am – COFFEE BREAK & TRADE SHOW		
10:30 – 11:55 am – Strawberry Production – Grace Fedak – Serviceberry Farms	10:30 – 11:55 am – Practices for Augmenting and Enhancing Soil Biology – Dr. M. Jill Clapperton – Rhizoterra Inc.	10:30 – 11:55 am Direct Market Livestock Production – Real Life Experiences – TBA
12 noon – 1:30 pm – LUNCH & Alberta Farm Fresh Producers Association (AFFPA) Annual General Meeting		
1:30 – 1:55 pm – Growing Forward 2 (GF2) Program Options and Overview – GF2 People – AARD		
1:55 – 2:05 pm Break to reconfigure rooms		
2:05 – 3:00 pm – Organic Certification Steps – Keri Sharpe – AARD	2:05 – 3:00 pm – Using Plastic Mulch & Low Tunnels to Increase Vegetable Production – Doug Waterer – U of Saskatchewan	2:05 – 3:00 pm - Small Scale Livestock Health Management – ??? - ???
3:00 – 3:25 pm – COFFEE BREAK & TRADE SHOW		
3:30 – 4:25 pm – Saskatoon Berry Production – Marsha Gelowitz – Solstice Berry Farm	3:30 – 4:25 pm – Weed Seeds, Tools and Herbicide Families: Integrated Weed Management in Vegetable Crops – Rob Spencer – AARD	3:30 – 5:00 pm - Pasture Management – Dr. M. Jill Clapperton – Rhizoterra Inc.
4:30 – 5:25 pm – Raspberry Production – Rob Spencer – AARD	4:30 – 5:25 pm – Soil Testing & Fertility Management for Vegetables – Doug Waterer – U of Saskatchewan	

6:00 – 7:00 PM – Informal Mixer / Cash Bar / EVENING MEAL

7:00 – 7:30 PM – Awards Presentations - Alberta Farm Marketer of the Year, etc. – Honourable Verlyn Olson, Minister of Agriculture & Rural Development

7:30+ PM – Informal Mixer / Social

Friday, February 27, 2015 – DAY 2

Direct Marketing	Fruit / Vegetables
8:00 – 8:55 am – The Start to Finish Experience of Value-Adding – Marsha Gelowitz – Solstice Berry Farm	8:00 – 8:55 am – The Basics of Diagnostics – Dustin Morton – AARD
9:00 – 9:55 am – Framing the Farm – How to Work With the Media & Get Them to Work For You – Cait Wills	9:00 – 9:55 am – Setting Up a Drip Irrigation System – Kees van Beek – Southern Drip Irrigation
10 - 10:30 am – COFFEE BREAK & TRADE SHOW	
10:30 – 11:25 am – Growing Novel Products and Creating Unique Connections with Restaurants – Deb Krause – Heritage Harvest CSA	10:30 – 11:25 am – Alberta Pest Monitoring Activities – Diseases & Pests of Concern in Fruits/Vegetables – Dr. Jim Broatch / Rob Spencer – AARD
11:30 – 12:25 pm – Food Safety & CanadaGAP on your farm: First Steps and Processes for Implementation – Christine Anderson / Pramod Kumar – AARD	11:30 – 12:25 pm – Fruit to Nuts – A discussion of New Prairie Fruit Releases (Sour Cherries, Haskap, Hazelnuts, etc.) – Dr. Bob Bors – U of S
12:30 pm – 1:30 pm – LUNCH & TRADE SHOW	
1:30 – 2:25 pm – The Skinny on Productivity on Your Farm – Potential Ways for Achieving Efficiency – Jody Marshall – Sustainable Results Group	1:30 – 2:25 pm – Biological Control Options for Fruit & Vegetable Crops – Rob Spencer – AARD
2:30 – 4:25 pm – Filling Forms and Making Connections – 1-on-1 time with GF2, Banks, Lenders, etc.	2:30 – 4:25 pm – Business Idea Discussions with Industry Mentors – 1-on-1 time with growers – AFFPA growers

4:30 PM – Conference Closes



COMMERCIAL

Vegetable Production on the Prairies

A comprehensive resource and reference tool for new and experienced vegetable growers at all scales of commercial production.

Look at:

- planning for vegetable production
- from seeding/transplanting to harvesting and storage
- getting fertility and irrigation right
- business issues, risks, management and marketing
- detailed chapters on individual vegetable crops covering production and pest information

To order the book, contact

Publications Office

call: 1-800-292-5697 (toll free in Canada)
or 780-427-0391 (Edmonton area)

e-mail: publications.office@gov.ab.ca

website: [www.agriculture.alberta.ca/
publications](http://www.agriculture.alberta.ca/publications)

\$20.00



17 Things to check out from GLEXPO Trade Show 2014

Since 2012, I've been making an annual pilgrimage to Grand Rapids, Michigan to attend the Great Lakes Fruit, Vegetable and Farm Market Expo. It is a pretty big conference, with an equally massive trade show, with booths running from 0 to over 1500, sometimes overflowing to the walls and the lobby. It can be a bit overwhelming. There are lots of massive pieces of equipment (makes some of our field ag equipment look cheap) and lots of things that are probably irrelevant to the prairies, but there are lots of neat things to consider. Here are 17 things that I came across that I thought that you might find interesting, whether to try out or just to get a new idea from.

Please note, while I am listing a number of specific products, I am not endorsing any particular company. Shop around and see if similar technology is available from elsewhere. I just liked the look or the concept of what these products offered.

1) Tripod ladders

Ladders are ladders are ladders, right? Well, take a look at these ones. With the really wide steps, three legs and a very lightweight construction, they are reputed to offer excellent stability for climbing for picking and other tasks. Apparently, they can be adjusted for a range of slope conditions. They seem like they'd be awesome for use in various locations.

www.hasegawaladders.com

2) Plastic Mulch Winder/remover

Using plastic mulch for growing a number of different crops is something that I think that most people should try. But, it can be a challenge to remove the used mulch at the end of the season, particularly if you have a significant amount of it. This machine splits the strip of plastic down the middle and winds the two halves onto spools. The operator can manipulate the angle and position of the spools to ensure that they wind at an even speed on both sides and don't snap and break.

www.cropcareequipment.com

3) Ultra-low volume applicator for use in post-harvest/seed piece treatments

Over the last few years, there have been a number of different companies starting to produce sprayers that will apply product at ultra-low volumes, which allows a smaller amount of product to be used, with application to a very specific area. In this equipment, it takes the ULV technology and applies it to post-harvest treatment scenarios. Interesting stuff.

www.mafexulv.com

Photos by Robert Spencer



Tripod Ladders



Plastic Mulch Winder / remover



ULV Liquid Applicator

4) High pressure floor cleaners / scrubbers

Storages, greenhouse floors and walls, all need to be cleaned regularly to break disease cycles and allow a smooth, problem-free transition between crops. High pressure sprayers can be effective. This equipment is used to speed up the cleaning of flat surfaces, by applying a high pressure stream of water across a wide surface. The light-weight design makes them easy to lift and handle and the parts are made of materials that don't tend to rust.



High pressure floor cleaner

January 2015

17 Things to check out from GLEXPO Trade Show 2014

5) Herbicide applicator

As I referred to above, in recent years, there have been a number of ULV sprayers that have come out. They are more typically used for smaller scale applications or for fine detail spraying. Over the past few seasons, I've seen more and more variations of these, with them modified and adapted for easier use. I liked the look of this shielded applicator, with a bike bicycle wheel on the front, making it easy to move around and use in a range of situations.

ULV Herbicide Applicator



6) Barf in a jar Salsa

This isn't a revolutionary item, but it serves to prove a point. Pretty much anyone can make a decent product for sale. But this product stood out. It had an eye-catching name, which drew you in. In this case, I saw the jar, stopped, and had to taste it and talk with the business about where the name came from. It tasted good and had a fun story. You can use this technique with anything.

7) Hydrostackers & Hydrostacker 2

I first saw hydrostackers in southern Illinois a number of years ago. It is a neat idea and has come quite some way in terms of the types of uses of them. I saw that they are being used not only for the original small crops like strawberries, but also for things like leafy greens, herbs and now for cabbage and other cole crops. The new Hydrostacker 2, which is essentially a large volume container (probably in the 8-10 gallon range), can be used for growing larger perennial crops (in softer areas, they use it for blueberries, etc.). With the increase in growing crops for short turnaround or specific markets, these might be a good option.



Hydrostackers

8) Vacuum Apple Harvester

This item is not likely something that we are EVER going to see in this part of the world, since we don't really have an apple industry or anything comparable. However, this was just SO cool, it had to be shared. Resembling the strange lovechild of Doctor Octopus and a Littau harvester, this vacuum apple harvester is paired with a self-propelled lift unit that can be driven down the rows, with the platforms moving up and in and out, depending on the need of the pickers. The baskets are strapped to the worker, allowing them to work with both hands. The tubes are a giant vacuum, taking the apples gently (I assume), back to large picking containers. Check out the videos.

[Phil Brown Welding - 2014 Vacuum Apple Harvester](#)
[Latest Revisions in Vacuum Apple Harvester](#)

Interesting and eye-catching salsa product creates a talking point



Picking platform & vacuum tubes for apples



Basket for picking apples into



January 2015

17 Things to check out from GLEXPO Trade Show 2014

9) Feather Flags

Sometimes you just need to catch the customer's eye, whether it be to draw attention to a location, a product, or some sort of activity. I'm a big fan of banners, as they can add colour, share info or a message and can be changed out as needed. They are also a bit more flexible than signs, in some situations. I liked the look of these "feather flags" which were flexible in height, colour and design.

www.producepromotions.com

Feather Flags



10) Picking Bucket

Picking berries can be a bit of a challenge at times, especially when you have to do it quickly. If you have the right equipment, it can be more efficient and effective. These picking baskets have sturdy straps and are shaped to hug your body. It is likely that you could use a bag or some other type of insert in them, as well.

Picking baskets



11) Pedalcart, three-wheeler and towed-trailers

I've seen a number of different designs of pedal kart before, and they are a great feature for using on an agritourism operation, if that is what you want to run. I liked the colours and the different shape and "model" options of these carts.

The "three-wheeler" model was a nice look and they looked really stable.

A neat option was the 2 seat trailer, which can be attached onto and towed by the cart with a simple hitch. That would be good for family units.

www.Mlskelters.com
www.bergtoys.usa.com



Pedal karts of various shapes and sizes



12) Crazy Corn Maze Stuff

Corn mazes are reasonably popular across North America, with the size and complexity of them varying significantly. For those that don't want to do all of the design and planning work, there are lots of choices out there to support your farm. This particular outfit claims to be able to provide some pretty intricate designs, as evidenced by the photo. Worth a look, I guess.

www.precisionmazes.com



Intricate maze design

17 Things to check out from GLEXPO Trade Show 2014

13) Maze signs

It is rare that you find a corn maze on its own. Usually, there are a number of associated or fringe activities that enhance the overall experience of customers, whether it be quizzes, treasure hunts, or whatever. This company does maze design but also interesting custom signs (e.g. an overall map of the operation) or program-type signs that link to one of their activity programs (e.g. Farm Scene Investigation). I've seen some of their activities at corn mazes in Canada and the USA. Something worth checking out.

www.mazeplay.com

Fancy corn maze (and other use) maps and activity/educational program signage



14) pH/EC metre

Not everyone needs to measure their water or growing medium pH and electrical conductivity (EC) but for those that grow bedding plants or some other greenhouse crop, a good pH/EC meter is a critical tool. This "Edge" meter from Hanna is a nice unit. You can plug in the different probes, as required and run the analysis on the tidy touchscreen.

www.hannainst.com

15) Mulch/Row Cover Applicator

There are lots of things that you can do on a farm which require a specialty piece of equipment. Lots of them require a single pass (or more than one) for each task. Sometimes you can find a piece of equipment that can do a number of things at once, which is likely more efficient. I like how this unit lays mulch and low tunnels at the same time. It should reduce soil compaction and issues with accuracy, as you do everything all at once, without having to go back over things again and again.

16) Can-duit seeder

This is another unit for the smaller operator that just needs to increase their efficiency a tiny bit. This seeder allows you to quickly seed plug trays (for small trays quantities) for a range of crops (different seed sizes). Worth a look.

www.blackmoreco.com

pH/EC metre



Can-Duit seeder

17) Automatic weeders

There is always that piece of equipment that seems too good to be true, and outside the budget of most operations. But it is too cool not to share. The Kress Habicht / Autopilot weeder features a series of little cultivator plates that are on tines linked to a camera guidance system. These move in and around crops fairly quickly, automatically weeding the crop. Awesome. And pricey. But awesome!

www.kress-landtechnik.de

Mulch/tunnel application equipment



Large Aspen Tortrix

Choristoneura conflictana

Crops Affected: trembling aspen, occasionally willow and balsam poplar

Life Cycle:

- One generation per season
- Adults are a light grey moth, with a couple of darker patches on the forewings and grey hind wings that have a fringe of hair on the lower edge
 - Moths are about 27-35 mm (1-1.5) inches wide, with females slightly larger than the males
 - Adults emerge after pupation in mid-late June to early July
- Adults lay eggs in clusters on the upper surface of leaves, if available
- New larvae emerge within 2 weeks
 - Young larvae have yellow-green bodies and black heads, with their bodies becoming darker as they continue to mature and molt
 - Larvae range in colour from yellow-green (young) to dark green to almost black (late instars)
 - They have 4 distinct spots on each body segment
 - Larvae are 15-21 mm long (0.5-1 inch)
 - Larvae go through 5 instars
- Overwintered larvae emerge in spring feed on buds and new leaves
- Later stage larval stages (and some early stages) use webs to stick together leaves, where they feed on the epidermis of the leaves and within the confines of the folded leaves
 - Young instars (newly hatched and newly emerged larvae) can do heavy feeding damage, leading to skeletonization
 - The last 3 instars of larvae spend their entire time in the rolled leaves until pupation
- Larvae feed until mid-August and then find overwintering sites in or under bark or moss, where they spin an overwintering shelter for themselves
- This pest tends to be very cyclic in nature, with outbreaks lasting 2-3 years
 - Natural cycles (food, weather, pests/predation) keep populations in check

Symptoms:

- Feeding by larvae causing defoliation, resulting in trees with a sparse appearance
 - Severe feeding can result in severe defoliation, stunting, and some potential branch dieback
- Rolled/webbed together leaves can be conspicuous
 - Opening folded leaves will reveal larvae or pupae
- In severe situations, large amounts of silk can be visible

Rolled leaf by Large Aspen Tortrix

Steven Katovich, USDA Forest Service, Bugwood.org



Monitoring:

- Population activity can be monitored through surveillance on a large scale (aerial, etc.) during late June

Management:

- A number of natural factors (spring frosts, etc.) can have significant impact on larval survival and high wind and rain can delay or prevent egg laying
- Direct control using pesticides is generally not recommended or required, as natural control agents keep outbreaks to a short term
- Applications of Bt sprays can be effective
- The use of sticky strips around the trunk 1 m (3 feet) from the ground can disrupt larvae from moving to feeding or overwintering sites
- Ensure good plant health to prevent stress and minimize impact of feeding

Large Aspen Tortrix larva

K.B. Jamieson, Canadian Forest Service, Bugwood.org



DISEASE OF THE MONTH

Marssonina Leaf Spot

Causal Organism: *Marssonina populi*

Crops Affected: trembling aspen, cottonwood and other poplar species

Disease Cycle:

- Fungal disease
- Overwinters on fallen infected leaves and twig branches
- Spores are produced in spring and early summer, as weather becomes warmer and wetter
- Spores are moved by wind and rain to infect emerging leaves and petioles
- This disease is generally not serious, but repeated heaving infections can result in gradual degradation of tree health, resulting in weakened growth and potential for plant death

Symptoms:

- Leaf lesions (spots) are small, dark brown/black and circular, occasionally with yellow borders
- Spots may have a light centre
- Lesions may fuse together to form large black patches as the season progresses
- Spots may develop on petioles and new shoots
- Depending on the severity of the infection and weather conditions, the disease can range from minor leaf spots to heavier spotting and premature leaf drop
- Some stunting or shoot dieback is possible

Conditions Favouring Disease Development:

- Warm, moist conditions in spring and summer
- Rainfall

Management:

- In small setting, it may be possible to reduce inoculum levels by removing fallen leaves
 - Pruning out infected twigs and branches is also an option
- Ensure trees are properly pruned to maximize airflow in the canopy
- Avoid overhead sprinkler irrigation
- Fungicide treatments are not an option
- Some types of the host species are more resistant to Marssonina leaf spot than others



Infected aspen leaf – Marssonina leaf spot
Fred Baker, Utah State University, Bugwood.org



Marssonina leaf spot
www.ext.colostate.edu

[Pest Management
Regulatory Agency
\(PMRA\) –
Electronic Label Search
Engine](#)
Search the database for
electronic labels