



Welcome to another edition of Hort Snacks. Winter is moving along at a fair clip, which is fine by me. Today, the sky is clear and blue, the air fresh and sharp, but not so sharp that it will take your nose off. For your information, an ag-meteorologist colleague shared some interesting tidbits about changes in day length, most of which is easily observed. The days get progressively longer starting when we cross the winter solstice (December 21st), with day lengths increasing by as little as a minute or so per day in January, 3+ minutes in February, 4+ in March and April. At first, it is the evenings that last a bit longer, but once January rolls around, days get longer at both ends. Already, you can see that it isn't getting dark at 4:30 any more, which is awesome.

In this edition, you'll find a number of workshops, conferences and other events that you might consider taking in, with some specific details about some Alberta direct market production events. You'll find some thought-provoking articles (well, I hope that they are thought-provoking) and some information on pests, change and there is the early launch of the Direct Market Fruit/Veg price survey (please contribute).

Enjoy the good days of winter, and stay warm and safe on the rest of them.

Rob Spencer, Commercial Horticulture Specialist
 Alberta Ag-Info Centre, Alberta Agriculture and Forestry
 310-FARM (3276)

Featured Website

Canadian Horticultural Council – Temporary Foreign Workers videos

- <https://www.hortcouncil.ca/en/projects-and-programs/awareness-campaign-on-international-farm-workers/videos/>
- [The truth about Canada's temporary foreign worker programs](#)
- [Friends](#)

In this edition of Hort Snacks

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THINGS TO DO / THINGS TO THINK ABOUT THIS MONTH

- Plan to attend winter workshops / courses. At the same time, think about visiting another operation this summer [or attending some field day(s) or workshop(s)]
- Register for Alberta Farm Fresh School (agenda attached) – connect with fellow producers, get answers and ideas and share your own thoughts with others
- Plan field layout of fields to be planted
- Check / Clean / Maintain equipment
 - irrigation connections, nozzles, filters, pump injectors
 - sprayer nozzles, pumps, filters, lines, etc.
 - planters, seeders, etc.
 - harvesters and tractors
- Check / Update signage
- Finalise plans and dates for advertising during season
- Plan for planting equipment and labour
- Prune Saskatoon berries (as able)
- Prune or mow primocane raspberry plants to the ground (as soon as can get to)
- Continue to monitor strawberry plant winter survival. Order extra if necessary.

- Ensure memberships in organizations are up to date (inclusion in websites, guides, etc.)
- Review production record notebook
 - Fertilizer response?
 - Pesticide response/efficacy?
 - Application dates
 - Pesticide applicator license update?
- Roundtable discussion with everyone involved in your operation
 - Review errors – irrigation, fertilizer, pest management, staffing
 - Collect ideas for improvement, whether it is diversification, streamlined processes, new and interesting ways to reach customers, whatever. Pick a couple to try out and put whoever contributed the idea in charge of it.
- Inventory
 - Pesticide / fertilizer storage – What do you have? Has anything expired? Does everything have the proper labels? Is everything stored correctly?
 - Containers – picking boxes, containers, pails, bags, etc.
- Complete order of fertilizer, pesticides, picking/packing containers, etc.



Keep Alberta Dutch Elm Disease Free

- Do not bring firewood into Alberta
- Elm Pruning Ban is April 1 – September 30
- Elm trees from a DED infected province can not be shipped into Alberta

STOPDED
SOCIETY TO PREVENT DUTCH ELM DISEASE

Alberta

For more information call 310-0000 and ask for 403-782-8613
www.STOPDED.org

Elm Pruning Ban in Alberta

- Pruning and sanitation is an essential part of Dutch Elm Disease prevention
- Pruning of elm trees is legal in Alberta from October 1 to March 31
- The disease vectors (European elm bark beetles) are not active between these dates
- Proper pruning is very important – consult a professional arborist to determine the nature and extent of pruning required

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.

Upcoming Conferences / Workshops

February 2019

- **34th Annual North American Farm Direct Marketing Association (NAFDMA) Convention**
Feb 1-7, 2019 – Indianapolis, Indiana, USA
<http://www.farmersinspired.com/Convention/>
- **9th North American Strawberry Symposium**
Feb 3-6, 2019 - Wyndham Orlando Resort – Orlando, Florida
<http://www.nasga.org/>
- **Fruit Logistica 2019**
Feb 6-8, 2019 - Berlin ExpoCenter City & CityCube Berlin – Berlin, Germany
<https://www.fruitlogistica.com/>
- **Bedding Plant Workshop (AGGA)**
Feb 7, 2019 – High Q Greenhouses – Morinville, AB
<https://agga.ca/about-agga/workshops/172-workshop-feb-2019.html>
- **2019 Manitoba Direct Farm Marketing Conference** (Joint Prairie Fruit Growers Association / Direct Farm Manitoba)
Feb 8-9, 2019 – Canad Inns Destination Centre Polo Park – Winnipeg, MB
<https://www.directfarmmanitoba.ca/news/direct-farm-marketing-conference-2019/>
- **Getting into Farmers Markets**
Feb 12, 2019 – Reynolds AB Museum – Wetaskiwin, AB
[Registration link](#)
- **Ontario Fruit & Vegetable Convention**
Feb 20-21, 2019 – Scotiabank Convention Centre – Niagara Falls, ON
<http://www.ofvc.ca/>
- **Evergro Growers Day 2019**
Feb 22, 2019 – Lacombe Best Western – Lacombe, AB
- **Pre-Conference Workshop – Introductory Berry Production**
Feb 27, 2019 – Coast Nisku Inn & Conference Centre– Nisku, AB
<http://www.leduc-chamber.com/events/details/member-hosted-event-introductory-fruit-production-workshop-5214>
- **Alberta Farm Fresh School 2019 – Farm to Market to Table Conference**
Feb 28 – Mar 1, 2019 – Coast Nisku Inn & Conference Centre– Nisku, AB
<http://www.albertafarmfresh.com>

Upcoming Conferences / Workshops

March 2019

- **2019 Canadian Horticultural Council (CHC) Annual Meeting – “Growing our Competitiveness”**
Mar 5-7, 2019 – Westin Nova Scotian – Halifax, NS
<http://www.hortcouncil.ca/>
- **Canada Blooms 2019**
Mar 8-17, 2019 – Enercare Centre – Toronto, ON
<http://www.canadablooms.com/>
- **Innovation in Greenhouse & Vertical Farming Conference**
Mar 12, 2019 – Virginia Farm Bureau – Richmond, Virginia, USA
<https://www.hort.vt.edu/sfcea/>
- **Biocontrols USA West Conference and Expo**
Mar 14-15, 2019 –Marriott Portland Downtown Waterfront – Portland, OR, USA
<https://www.biocontrolsconference.com/usa-west/>
- **Alberta Invasive Species Council 2019 Conference**
Mar 19-20, 2019 – Lacombe Memorial Centre – Lacombe, AB
To register [Eventbrite](#); Info on AISC - <https://abinvasives.ca/>

April 2019

- **Canadian Produce Marketing Association (CPMA) Conference & Trade Show**
Apr 2-4, 2019 – Palais des Congrès de Montréal – Montréal, QC
<http://convention.cpma.ca/>

In the News

- [Solution Gardening — It's Not About the Plant](#) – Greenhouse Grower article
- [How Agriculture is Growing in Age of the Connected Consumer](#) – Growing Produce article
- [A new way to lower nitrogen inputs](#) – Greenhouse Canada article
- [The amount of light plants can cope with](#) – HortiDaily article
- [Take notice: Unseen AI innovations to automate greenhouse farming](#) – Greenhouse Canada article
- [Root-to-flower eating is to be food trend of 2019, experts say](#) – The Telegraph article
- [Global warming and greenhouses](#) – HortiDaily article
- [The Best New and Updated Mobile Apps for Agriculture](#) – Growing Produce article
- [Eating out trends](#) – The Grower article
- [FCC identifies five economic trends](#) – The Grower article
- [Fresh and Clean for Spring in the Greenhouse](#) – MSU article



Introductory Fruit Production Workshop

This workshop provides new or potential direct market producers with information and resources on all aspects of fruit production (Saskatoon berries, strawberries and raspberries) in Alberta. Sessions include information on production, including varieties, establishment, maintenance and harvest, as well as economics. The workshop includes time for networking and questions throughout the day.



Registration Information

Dates: February 27, 2019

Nisku Inn & Conference Centre, 1101 4th Street, Nisku, AB

Registration deadline: February 20, 2019

Time:

8 a.m. to 9 a.m. registration

9 a.m. to 12 noon – Starting a direct market operation / Economics & Pricing / Saskatoon berry production

12 to 1 p.m. – Lunch & Networking

1 p.m. to 4:30 p.m. – Strawberry Production / Raspberry production / Pest Resources

Cost:

\$50/person (including GST) - lunch, breaks and resource materials provided

To register online visit:

<http://www.leduc-chamber.com/events/details/member-hosted-event-introductory-fruit-production-workshop-5214>

www.albertafarmfresh.com

Alberta
Farm Fresh
Producers Association

Participants
should also
consider
registering for:



FARM to MARKET to TABLE



Introductory Fruit Production Workshop

Tentative Agenda

8-9am REGISTRATION

9-10am Starting a New Direct Market Operation

10-10:30am COFFEE AND NETWORKING

10:30-11am Economics and Pricing

11am-12noon Saskatoon berry production

12-12:15pm Open Questions

12:15-1pm LUNCH AND NETWORKING

1-2:30pm Strawberry Production – June Bearing and Day Neutrals

2:30-2:45pm COFFEE BREAK AND NETWORKING

2:45-3:45pm Raspberry Production

3:45-4pm Pest Resources

4-4:30 Open Questions



FARM to MARKET to TABLE

A conference for

Farm direct marketers

Farmers' market vendors

Farmers' market managers

Agri-tourism and Local Foodies

February 28 – March 1, 2019

Nisku Inn & Conference Centre

Nisku, Alberta

For more information including topics

Visit www.albertafarmfresh.com or

www.albertafarmersmarket.com

Eat, Drink, Play, Shop Local



AFFPA / AFMA presents ... "From Farm to Market 2019" – Draft Agenda v8

| Thursday, February 28, 2019 – Day 1 | | | |
|---|--|--|---|
| Ballroom 1 | Ballroom 2 | Ballroom 3 | Nisku Room |
| 8:00 – 8:30 am REGISTRATION and TRADESHOW | | | |
| 8:30 – 9:00 am Welcome & Opening Remarks – acknowledgement of sponsors / Intro by Leduc County; Welcome from AFFPA, AFMA, and Leduc Regional Chamber | | | |
| 9:05 – 10 am PLENARY – A Farm to Table Story – North 49 Fruit Corporation – Kreg Alde – Broken Tine Orchard | | | |
| 10 - 10:30 am – COFFEE BREAK & TRADE SHOW | | | |
| 10:30 – 11:55 am | | | |
| Improvements in Fruit Production Potential, Prairie Research Forrest Scharf, Provincial Fruit Specialist, Saskatchewan Agriculture | Distributors' Forum – Getting your products to expanded markets TBA | A Farmer-Owned & Operated Licensed Abattoir 1. Jeff Senger – Sangudo Custom Meats 2. Brett Kikkel-Pigeon Lake Poultry Processing | Waste Free Dreams for Your Farmers Market Lise Richard Esquimalt Farmers' Market |
| 12 noon – 12:30 pm – LUNCH | | 12:30 – 1:30 pm – Annual General Meetings AFFPA | |
| 1:30 – 2:25 pm | | | |
| Dealing with Severe Weather: A Cool Head in the Aftermath Rob Spencer, AF | 1. The Chef's Collective Banff/Lake Louise David Matys – Banff Lake Louise Tourism 2. AFFPA Website Marketplace – Conny Kappler - AFFPA | Revitalizing Your Pasture Jill Burkhart – Crooked Lake Farm/Ag More than Ever | Creative Ways to finance your Business – ATB Small Business Coach |
| 2:30 – 3:25 pm | | | |
| Farm Safety Plans/OH&S -Requirements and Regulation Maria Champagne - AgSafe Alberta Society | A CSA Story: Cropping Plans & Strategies to Keep Customers Coming Back Andrea and Denis Forstbauer Grey Arrow Farm | Livestock Health for Small Farms Dr. Julia Keenlside AF | Innovative Ways to Include Children in the Market Panel Speakers |
| 3:30 – 4:00 pm – COFFEE BREAK & TRADE SHOW | | | |
| 4:00 – 4:55 pm | | | |
| CAP Programming What's in it for the Farmer? Mike Hittinger, AF | A Taste of the Farm- Bridging the Rural Urban Agricultural Knowledge Gap Melissa & Matthew Schur – The Old Red Barn | Herbicides used for Fruit and Vegetable Production- Andrea Sawatzky PMRA | How to Answer Your Customers' Socially Conscious Questions Jill Burkhart – Crooked Lake Farm/Ag More Than Ever |
| 5:00 – 5:30 pm | | Networking and Tradeshow | |

TRADESHOW
NEW VENTURE CONSULTATIONS

Evening Program: 5:30 – 11:00 PM Dinner, Awards, Evening Speaker & Sips of Alberta (Cash bar available)

5:30 – 6:00 SIPS/Cocktails

6:00 – 7:00 Dinner

7:00 – 7:30 Awards

7:30 – 8:00 Speaker: The Gruger Family Fungi Story– Carleton Gruger

8:00 – 11:00 SIPS of Alberta continues

AFFPA / AFMA presents ... "From Farm to Market 2019" – Draft Agenda v8

| Friday March 1, 2019 – Day 2 | | | | | |
|---|--|--|---|--|--|
| Ballroom 1 | Ballroom 2 | Ballroom 3 | Nisku Room | | |
| 8:00 – 8:30 am REGISTRATION AND TRADESHOW | | | | | |
| 8:00 – 9:00 am Plenary "Farm to Flask" – Our Story and the Farmers we Depend on - Geoff Stewart – Rig Hand Distillery | | | | | |
| 9:00 – 10:00 am | | | | | |
| Fruit Grower Stories 1. Keeping Weeds at Bay in our Strawberries Kerry Stevens Stevens Strawberries 2. Winning the War on Critters in Our Orchard Andy Camps High Country Berries | Using High Tunnels in the Prairies: What They Can Do For You – If They Don't Blow Away Dr. Jazeem Wahab AAFC | From Concept to Commercialization TBA | Social Media 101 : How to make the best use of Instagram, Facebook, and Twitter Beverley Theresa Poong, Social Media Consultant | | |
| 10:00 – 10:30 am – COFFEE BREAK & TRADE SHOW | | | | | |
| 10:30 am – 12:00 pm | | | | | |
| Equipment for Market Gardens 1. Ron Erdmann – Erdmann's Gardens & Greenhouses 2. Blaine Staples- The Jungle Farm | Getting the Most From Your Soil Fertility Inputs Tom Jensen IPNI | Tour of Rig Hand Distillery Pre-registration required | Tips on Setting Prices at the Market - from Horticulture to Food to Crafts Marissa Brewer, AF | | |
| 12:00 – 1:30 pm – LUNCH | | 12:30 – 1:30 pm – Annual General Meeting – AFMA | | | |
| 1:30 – 2:25 pm | | | | | |
| Plant Health Problems of 2018 Rob Spencer, AF | Cover Crops for the Prairies Tom Jensen IPNI | Farm Energy and Agri-Processing Program (FEAP) and On-Farm Solar Photovoltaics Program Amber Kenyon – Gateway Research Organization (GRO) | Excellent Practices in Market Management – Market Managers meetup | | |
| 2:30 – 3:30 pm | | | | | |
| Packaging Options – Decreasing the Impact of Single Use Plastics TBA | Post-Harvest Handling & Storage of Horticulture Crops Rob Spencer, AF | Anti-microbial Legislation Changes for Livestock in Canada Dr. Phil Buote - Alberta Veterinary Medical Association | Software for Your Farmers' Market Christopher Quinlan - Marketwurks | | |
| 3:30 – Conference Ends | | | | | |
| Safe Travels | | | | | |

TRADESHOW
NEW VENTURE CONSULTATIONS



You may have heard rumours of a new indoor, multi-day, year-round farmers market opening soon – and the rumours are true!

We are excited to announce that Bountiful Farmers' Market will be opening in Edmonton May/June 2019.

Located in central south Edmonton (3696 -97 St. NW) Bountiful Farmers Market is a public market, where 80% are local vendors who make it, grow it or bake it. With 46,000 sq feet of indoor space, our market is a unique market concept that is not currently offered in Edmonton. Check out the booklet on our website to learn more about what sets Bountiful Market up for success.

We want to invite you to become a Bountiful Farmers Market Vendor and join us in setting the new standard for Edmonton farmers markets!

Please fill out the application that you can find on our website and submit it by email, mail or in person by appointment only.

office@bountifulmarkets.com
3696 97 St NW Edmonton AB, T6E 5N2

Priority will be given to vendors who Make it, Grow it or Bake it and are looking to sell their products 3 days a week. All applications will be reviewed by a Vendor Selection Committee and are subject to a final farm/commercial kitchen inspection prior to approval. Vendors will be approved upon ideal market mix based and on a first-come, first-served basis. Only successful applicants will be notified.

If you would like more information about the Bountiful Farmers Market and the advantages we offers to our vendors, please feel free to contact us.

Tours of the market are available by appointment only. Please call us at 780-818-3878 or e-mail to set up a time.

We look forward to working with you as a vendor in Edmonton's newest, multi-day, year-round market!

Natalia Igumnova
General Manager

www.bountifulmarkets.com



Time for an upgrade? – Recognizing and implementing change

I'm not a big fan of change. In fact, I'd lay even money that there has been a decent amount of breeding and selection going on in my family over generations, pulling each generation further and further away from the central comfort area of accepting change. Despite that preference, I can safely say that I have not had a change-free life. Who has? No-one.

Somewhere in the dusty library of my mind, it seems to me that there is a quote that says "...change is inevitable..." I'm not sure who said it (if anyone did), but the fact is, things change. They just do. We age. We learn. We fail. We succeed. We experience. It is the nature of life that we are constantly in a state of change and flux, although the amount of change we experience at any one point or another will certainly vary. Change is important. We can't progress if we don't change. We can't improve. The earlier that we accept that, the better. Maya Angelou said *"If you don't like something, change it. If you can't change it, change your attitude."*

In order to make the most of change, we need to look at it not as a loss of something good, but the creation of something great. Imagine that with each change that comes (whether it is thrust upon you, or you actively choose it), that you are a tree. A tree doesn't lament the addition of a new growth ring. The previous years' growth aren't lost. Rather, a new layer is built upon something good.

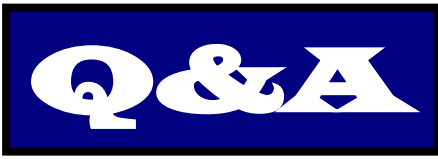


Change can be good. It can be energizing and exciting. The cool thing about change, particularly where we are upgrading, is that there will almost always be something that remains from before. Something familiar and tried and true and tested. Something to build upon.

It is easy enough to be critical and point out needed changes. However, I'd say that there is a bit of an art to recognizing things that can (and should) be fixed and also HOW to fix them. There are some people who have a gift for being able to observe a process or see something, and then recognize both the need for a change, but also some way that it might be accomplished. That sort of skill can be honed and developed over time.

How do we start? Develop the habit (through conscientious implementation and practice) of looking over things. What is working? Does that "thing" seem as smooth or efficient as it might be? Is there something that could be added to the whole (as an add-on, not a replacement part)? Over time, you'll not only start to do it unconsciously, but it'll be easier. If you recognize that you aren't great at doing this, then find someone that is. Bring in an outsider and get them to watch or provide feedback.

Jimmy Dean said *"I can't change the direction of the wind, but I can adjust my sails to always reach my destination."* Barack Obama put it about right when he said *"Change will not come if we wait for some other person or some other time. We are the ones we've been waiting for. We are the change that we seek."*



Q: What is something that you identified as needing a change or an update last year, which you are planning on implementing in 2019?

A: Labour efficiencies. Costs are getting too high

A: We are going to get an insect netting for Cole crop; no more spraying like organic

A: My irrigation system was not applying enough water to my Sour Cherry planting but over applying on the strawberries and veggies. I will be installing drip irrigation for the Cherry planting.

A: We need a better irrigation system.

A: Provincial and federal governments

A: Recirculating crop water management

A: It is time to start phasing into retirement by beginning to decrease workload in the upcoming year.

A: We started our seedlings too early, banking on enough moisture in the ground for plants to jump / survive until any moisture from the sky...

A: Our farm has recognized that there is a huge movement to "Knowing where your Food comes from" and/or "Know your Farmer". In 2019, we are making plans to work with other farms in growing this awareness.

A: Our farm is strongly considering getting out of the wholesale produce marketing and going back to our roots of farm direct. Far too much food waste and you're always at the mercy of the buyers and the inspectors. Way to stressful and they don't care about the effort or what it took to grow the food you are delivering to them. As a start, we will be looking where we can increase sales and volumes in other areas for this farm to be able to sustain everyone involved.

A: Weed control. I am determined to do a stale seedbed and cover crops as part as weed control strategy

A: I am a brand new grower, so please take this with a grain of salt! I will improve my signage inside (bench cards) and outside (signs at more intersections); Greater volume of early season advertising; and introduce "collections" of plants.

Next Month's ? → [What's one skill or trait that you think is critical to be successful as a horticulture producer?](#)

Google Groups – HORT SNACKS FORUM

Google has all sorts of different features and tools. One that I ran across a number of years ago is [Google Groups](#).

You can essentially create and join common interest groups or discussion forums and share information and ideas back and forth. You can alter the settings to get forum updates all the time, daily, weekly or whatever.

Several years ago, we created a **HortSnacks Forum**, tied to this newsletter. Anyone can submit posts (questions, comments, etc.) via Google or via email. To submit a question (or post), either log into the group using a Google account or simply send an email to <mailto:hortsnaacks-forum@googlegroups.com> and it'll send it to all members.

You can reply from email or from Google.

To subscribe to the group, send an email from your email account to <mailto:subscribe+hotsnaacks-forum@googlegroups.com>

Try it out today!

MENTAL SNACKTIME – Update/Updating

- "Critical thinking is not something you do once with an issue and then drop it. It requires that we update our knowledge as new information comes in. Time spent evaluating claims is not just time well spent. It should be considered part of an implicit bargain we've all made." – Daniel Levitin
- "It's never too late - in fiction or in life - to revise." – Nancy Thayer
- "You have to stay updated on trends, social things and pop culture, you need to stay with the times and keep evolving." – Corey Feldman
- "You make decisions, take actions, affect the world, receive feedback from the world, incorporate it into yourself, then the updated 'you' makes more decisions, and so forth, 'round and 'round." – Douglas Hofstadter
- "I always entertain the notion that I'm wrong, or that I'll have to revise my opinion. Most of the time that feels good; sometimes it really hurts and is embarrassing." – Anthony Bourdain
- "Every time we revise our history, we also revise the mythology of our history." – Laura Anne Gilman
- "We need quiet time to examine our lives openly and honestly - spending quiet time alone gives your mind an opportunity to renew itself and create order." – Susan L. Taylor

Direct Market Berry & Vegetable Price Survey – Head's up!

Having price information is valuable for people of all experience levels, to use as a reference against your own pricing and to compare against when calculating your cost of production and setting your prices.

Each year, I put a call out to producers, asking them to share what they were charging for their fruit and vegetable crops the past season (both u-pick and pre-pick for FM), as well as any price changes that they anticipate for the coming season. From that, I assemble average prices (as well as the range) to share with the industry. I'm doing it a bit earlier this year, for several reasons, but regardless, experience has shown that earlier is better for everyone involved.

I am including a list of the type of information that I am looking for (below), as well as the blank forms that you can fill out if you would like to use them. You can scan/email, fax or mail them back, or just give me a call for a chat.

Robert Spencer – Alberta Agriculture & Forestry, Postal Bag 600 – 4705-49th Ave, Stettler, AB T0C 2L0
Fax 403-742-7527 Phone 310-FARM (3276)

The following is an outline of the type of information I need.

| Crop | U-pick price | Pre-pick price | Farmers Market Price | Unit of measure for each market (e.g. per pound; per head/bunch) |
|--------------------------|--|----------------|----------------------|--|
| Examples of Crops wanted | Fruit – strawberries, raspberries, Saskatoon berries, black currant, dwarf sour cherries, Haskap, chokecherries, other fruit; Vegetables – beets, carrots, radishes, rutabagas/turnips, corn, cabbage, broccoli, cauliflower, Brussels sprouts, kohlrabi, kale, spinach, lettuce (head and/or leaf), cucumbers (pickling, slicing), potatoes (baby, regular), rhubarb, peas, snap peas, snow peas, beans, tomatoes, onions, garlic, Swiss chard, winter squash, zucchini, pumpkins, etc. | | | |

OR (NEW THIS YEAR)

Beat the system and enter and submit your information electronically in this convenient E-SURVEY.

[CLICK HERE TO PROVIDE THE INFORMATION ELECTRONICALLY](#)

The e-survey is organized similarly to the form (as you can see in the image below), but allows you to enter the information that you have, in crop groups, selecting and entering market type, unit type, etc. for each crop. There are 3 Fruit Crop Groups (Bush fruit, Berries, and Other fruit) and 9 Vegetable Crop Groups (Bulb Veg, Cole Crops, Cucurbits, Fruiting Veg, Leafy Veg, Potatoes, Root Veg, Succulent Legumes, and Other Veg).

Please complete the survey ASAP (preferably by mid-April, at the latest), and it will be published in early spring. Thanks.

| <input type="checkbox"/> | I don't grow any of these crops | | | |
|---------------------------------|---------------------------------|----------------------|------------|-----------------------------|
| CROP | MARKET TYPE | UNIT TYPE | PRICE (\$) | COMMENTS |
| E.g. Haskap / blue honeysuckles | U-pick | Per pound | 5.00 | 6.00/lb for newer varieties |
| Select a bush fruit crop ▼ | Select a market type ▼ | Select a unit type ▼ | | |
| Select a bush fruit crop ▼ | Select a market type ▼ | Select a unit type ▼ | | |
| Select a bush fruit crop ▼ | Select a market type ▼ | Select a unit type ▼ | | |
| Select a bush fruit crop ▼ | Select a market type ▼ | Select a unit type ▼ | | |

Click this link to [complete this survey electronically](#)

Fill out form and return by fax to 403-742-7527 (Attn Robert Spencer) or by emailing to Robert.spencer@gov.ab.ca

Potatoes

| | | | | | | | | |
|-----------------|--|--|--|--|--|--|--|--|
| Mature Potatoes | | | | | | | | |
| Baby Potatoes | | | | | | | | |

Root Vegetables

| | | | | | | | | |
|-----------|--|--|--|--|--|--|--|--|
| Beets | | | | | | | | |
| Carrots | | | | | | | | |
| Parsnips | | | | | | | | |
| Radishes | | | | | | | | |
| Rutabagas | | | | | | | | |
| Turnips | | | | | | | | |
| | | | | | | | | |

Succulent Legumes

| | | | | | | | | |
|-----------|--|--|--|--|--|--|--|--|
| Beans | | | | | | | | |
| Peas | | | | | | | | |
| Snap Peas | | | | | | | | |
| Other veg | | | | | | | | |

Other Vegetables

| | | | | | | | | |
|---------------|--|--|--|--|--|--|--|--|
| Asparagus | | | | | | | | |
| Artichokes | | | | | | | | |
| Celery | | | | | | | | |
| Sweet Corn | | | | | | | | |
| Other Veggies | | | | | | | | |

Scale Insects

INSECT OF THE MONTH

Diaspididae family (armored scales) or *Coccidae* family (soft scales); there are other scale families

Crops Affected: wide range of plants, including trees, shrubs and perennial plants, both deciduous and coniferous

Life Cycle:

- Small sucking insects, which may also inject toxins during feeding
- The majority of stages and types of scales are small, oval to circular in shape, flattened, lack wings and a separate heads or any easily recognizable body part
 - Most scales that are seen are female
- Adult males are rarely observed; differ in appearance from females – size, shape, wings, antennae
 - Not all species have males
- Life stages include adults, eggs, and typically at least 2 nymphal instars/growth stages
- Mature adult females produce 50-200 eggs that may be hidden under their bodies or secreted externally under a protective cottony or waxy cover
- Eggs hatch (within 1-3 weeks) into the first nymphal stage, referred to as Crawlers, as they are mobile
 - Crawlers are typically yellow to orange in colour
 - Crawlers walk over the plant, are moved on the wind or transported by carriers (people, birds, etc.)
 - Settle down and begin feeding within a couple of days
- Settled nymphs do not typically move for the rest of their life cycle as they mature
 - Some species will move slightly or will move later in the season
- Scales tend to be 1/8 to 1/4 of an inch in diameter
- Scales can be found on lower leaf surfaces, stems, branches, bark, etc.

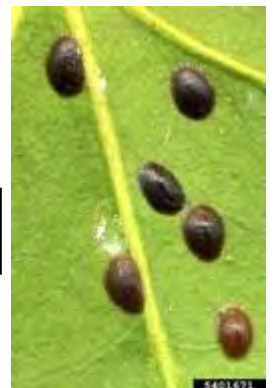


San Jose scale

Photo: United States National Collection of Scale Insects
Photograph, USDA Agricultural Research Service, Bugwood.org

Soft Scales (e.g. brown soft scale, European fruit lecanium, etc.)

- Considered tropical and would be more of a concern in a greenhouse
- Secrete honeydew, generally
- Typically overwinter as second stage nymphs
- May have tiny legs and antennae (all barely visible) and may move very, very slowly after settling
- Typically 1/4 inch in diameter
- Don't produce a protective shield that can be separated from the insect body



Brown soft scale

Photo: Lesley Ingram, Bugwood.org

Armored scales (e.g. San Jose scale, oystershell scale, etc.)

- Have a hard, waxy shield
 - Shield may have a slight bulge/bump/lump/knob and visible concentric rings
- Perhaps more of an issue in interior plantings (cooler than greenhouses)
- Do not generally secrete honeydew
- Typically overwinter as adult females and first stage nymphs – this is only the case in mild regions or protected areas
- Most stages lack obvious appendages and spend their entire lives in one location
 - Crawler stages and adult males may have appendages and move somewhat

Symptoms:

- In situations with a very abundant population of scales, some plants may appear weakened and slow growing
- Plants may appear stressed, with yellowed leaves and premature leaf drop
- Some plant dieback may occur
- Dead leaves may stay on dead branches
- Sticky honeydew can be observed, as well as association visible symptoms, such as black sooty mould and the presence of colonies of ants

Monitoring:

- Check plants for scales or their symptoms (honeydew, sooty mold, ants)
- The use of tape traps or other methods can be used to determine populations and presence of crawlers in spring
- Confirm type of scale and whether scales are actually alive prior to considering controls

Management:

- Typically not required for most plants that are healthy – even with heavy populations of scale, plants may not be unduly affected
 - Ensure plants are healthy and have sufficient moisture, fertilizer, etc.
- Physically remove (and destroy) infestations; wash off crawlers and honeydew
- Natural predators and controls can keep populations in check; introduced predators and parasites can be effective biological controls
- Chemical controls must be applied at the correct time (prior to scales settling) and/or must be systemic
 - Horticultural oils applied in the dormant season can be effective

DISEASE OF THE MONTH

Edema

Causal Organism: *N/A*

Crops Affected: potatoes, cruciferous vegetables (cabbage, etc.) greenhouse vegetables, etc.

Disease Cycle:

- Caused by differences between daytime soil temperature and moisture levels and night-time temperature and moisture levels
 - Days with warm, wet soil followed by cool and saturated night-time air
- Water uptake by the roots is rapid and exceeds the rate of transpiration
 - Cells under the surface of the leaves are stimulated to enlarge and divide, creating enough pressure to rupture the surface layers of leaf tissue
 - Injury to the epidermal layers by blowing sand or feeding insects (e.g. thrips) can increase the problem
- In greenhouse situations, poor ventilation can slow transpiration while root pressure remains high

Symptoms:

- On cabbage, small, wart-like growths or bumps that develop in varying densities on the either interior or exterior surfaces of several of the outer leaf layers of cabbage
 - May grow together – irregularly shaped elevated areas
 - Growths may split and turn whitish – creates a crystalline appearance (initially)
 - Turn brown and corky
- In greenhouse crops (tomato), leaf tissues may become waterlogged, resulting in raised, blister-like growths on upper or lower leaf surfaces; fruit may also develop edema

Management:

- Avoid over-irrigation when day and night temperatures differ greatly
- Ventilate greenhouses properly and regulate watering in situations when humidity may build up



Edema on greenhouse cucumber

Photo by Richard Nemeth