



Welcome to another edition of Hort Snacks, the last one of 2015.

Winter appears to be here. While I appreciated the lack of snow and the good driving conditions associated with it, it was a bit weird to look out on a sea of brown with December and Christmas looming. However, the foot of snow in an afternoon wasn't overly welcome. But now that we have those first few days of bad driving/drivers out of the way, I suppose that we can settle down and enjoy our cold winters rest.

In this edition, you will find a Christmas wish list to help you help others shop for presents for you, as well as a lengthy article from the archives. You'll find loads of extension events to choose from, as well as the standard bits and pieces of information to get your mental juices flowing.

Planning is well underway for the 2016 editions, based on current events, past experience, some wild speculation and the thoughts and input of those who have completed the recently-sent-out reader survey (hint, hint – complete the survey if you haven't done so already). As always, if you have newsletter content or ideas for content that you would like to share or contribute, feel free to send them.

I hope that you'll find time to recharge your batteries and recapture the energy that you need for carrying on into another, successful year. Enjoy your family and friends and the things that matter most.

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

FEATURED WEBSITE

Biocontrol-based Integrated Pest Management (IPM) – Applied knowledge for greenhouse pest control

<http://greenhouseipm.org/>

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THINGS TO DO / THINGS TO THINK ABOUT THIS MONTH

- Take this “slower time” opportunity to visit fellow producers
- Reflect on how the past season went
 - What worked?
 - What didn't?
 - What could have been done?
 - How will you improve next year?
 - What is one thing that you will add next year?
 - What is one thing that you will drop next year?
- Reflection sets the course for the future. Take the time to reflect on those who've assisted in making your business what it is today (e.g. family, suppliers, advertisers, customers, etc.) → CALL THEM / EMAIL THEM / Let them know
- Ensure your plant / seed orders are in
- Renew your annual association memberships

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.



In the News

- [What to consider when growing vegetables under cover](#) – Greenhouse Grower article
- [Are GMOs to blame for the loss of nutrients in our fruits and vegetables?](#) – Genetic Literacy Project article
- [Weather changes alter pest populations, plant pathogens](#) – Growing Produce article
- [Building a business takes more than buzzwords](#) – Growing Producer article
- [How garden retailers can help kids get into nature](#) – Greenhouse grower article
- [New Automated Irrigation Technology Could Help Nurseries Save Water And Money](#) – Greenhouse grower article
- [Pest Diagnostic Centers Are Easier To Set Up Than You Might Think](#) – Greenhouse Grower article
- [There's a market for misshapen veggies](#) – Greenhouse Canada article
- [Adding Value To Your Vegetable Crop Can Help Counter Costs](#) – Growing Produce article
- [Reduced tillage in small scale organic vegetable production](#) – eOrganic YouTube video

Q: What creative solutions do you utilize to deal with labour challenges?

A: Ultimately, the solutions that you choose will relate to where you are located, the type of operation that you are running and what sort of challenge that you are facing. In some cases, automation or mechanization can be good options for improving productivity. Gadgets or tools can be great ways of solving labour issues, but they can take time to build, and not everyone is capable of building things.

Some stuff just has to be done by hand (or a human). At that point, it comes down to skill requirements. What do you need? – Rob Spencer (AAF)

Next Month's ? → [What sorts of things do you do to stay connected with your customer during the off-season?](#)

Upcoming Conferences / Workshops

December 2015

- **Great Lakes EXPO Farm Market Bus Tour**
Dec 7, 2015 – Grand Rapids, Michigan
<http://bustour.greatamericanmediaservices.com/>
- **Great Lakes Fruit, Vegetable and Farm Market Expo**
Dec 8-10, 2015 – DeVos Place Convention Centre – Grand Rapids, MI
www.glexpo.com
- **Explore Local Webinar - Explore Local Business Growth (Case Story) – Arber Greenhouses**
Dec 8, 2015
- **Hort Snacks To Go Webinar – Interactive greenhouse bedding plant and issues diagnostics**
Dec 14, 2015

January 2016

- **North American Strawberry Growers Association (NASGA) 2016 Berry Conference**
Jan 7-9, 2016 – Savannah International Trade & Convention Center, Savannah, Georgia
www.nasga.org
- **Explore Local Webinar – The Bumble Beets Way**
Jan 12, 2016
- **Hort Snacks @ Night – Human Resources**
Jan 12, 13, 20, 2016 – Okotoks/Wetaskiwin/Grande Prairie
To register – 1-800-387-6030 – See [Coming Events](#)
- **Pricing for Wholesale & Retail**
Jan 12, 14, 2016 – Leduc / Airdrie, AB
To register – 1-800-387-6030 – See [Coming Events](#)
- **Potato Expo 2016**
Jan 12-14, 2016 – Mirage Hotel & Casino – Las Vegas, Nevada, USA
www.potato-expo.com
- **Saskatchewan Fruit Growers Association (SFGA) 27th Annual Conference**
Jan 15-16, 2016 – Saskatoon Inn, Saskatoon, SK
www.saskfruit.com
- **Hort Snacks-to-Go Webinar – Customer Service**
Jan 18, 2016
- **Agronomy Update 2016**
Jan 19-20, 2016 – Sheraton Red Deer – Red Deer, AB
Ropin' the Web (www.agriculture.alberta.ca) – Coming Events
- **Irrigated Crop Production Update 2016**
Jan 19-20, 2016 – Lethbridge Lodge – Lethbridge, AB
Ropin' the Web (www.agriculture.alberta.ca) – Coming Events
- **Water & Fertility Workshop for Greenhouses**
Jan 20, 2016 – CDC North – Edmonton, AB
Contact the AGGA (www.agga.ca) for detailed and to register
Register by Jan 15, 2016
- **Marketing Made Easy workshop**
Jan 20, 2016 – Fort Saskatchewan, AB
To register – 1-800-387-6030 – See [Coming Events](#)
- **Farm Direct Marketing Forum**
Jan 21, 2016 – Stony Plain, AB

Upcoming Conferences / Workshops

January 2016 continued

- **Scotia Horticultural Congress 2016– “Partnering for Farm Success”**
Jan 25-26, 2016 – Old Orchard Inn Convention Centre – Greenwich, NS - <http://www.horticulurens.ca/scotia-horticultural-congress/>
- **Manitoba Potato Production Days**
Jan 26-28, 2016 – Keystone Centre – Brandon, MB
www.mbpotatodays.ca
- **47th Annual Northwest Agricultural Show**
Jan 26-28, 2016 – Portland Expo Centre – Portland, Oregon, USA
www.nwagshow.com
- **FarmTech 2016**
Jan 26-28, 2016 – Northlands Expo Centre – Edmonton, AB
www.farmtechconference.com
- **18th Annual Pacific Agricultural Show**
Jan 28-30, 2016 – Tradex Exhibition Centre – Abbotsford, BC
www.agricultureshow.net
- **35th Annual Guelph Organic Conference & Expo**
Jan 28-31, 2016 – Guelph University Centre, Guelph, ON
www.guelphorganicconf.ca

February 2016

- **31st Annual North American Farm Direct Marketing Association (NAFDMA) Convention**
Jan 31 – Feb 6, 2016 – Abbotsford, BC
<http://www.farmersinspired.com/Convention/>
- **Social Media Bootcamp**
Feb 2, 4, 2016 – Lethbridge / Grande Prairie, AB
To register – 1-800-387-6030 – See [Coming Events](#)
- **Explore Local Webinar – Track & Measure for Improved Performance in Your Market**
Feb 9, 2016
- **Getting Into Farmers Markets**
Feb 10, 2016 – Peace River, AB
To register – 1-800-387-6030 – See [Coming Events](#)
- **Ontario Berry Growers Association Annual Meeting**
Feb 16, 2016 – Niagara Falls, ON
www.ontarioberries.com
- **Ontario Fruit & Vegetable Convention**
Feb 17-18, 2016 – Scotiabank Convention Centre – Niagara Falls, ON
www.ofvc.ca
- **Hort Snacks-to-Go Webinar – On-Farm Field Trials**
Feb 22, 2016
- **Alberta Farm Fresh School 2016**
Feb 25-26, 2016 – Pomeroy Inn & Suites – Olds, AB
www.albertafarmfresh.com
- **International Potato Technology Expo**
Feb 26-27, 2016 – Eastlink Centre - Charlottetown, PEI
www.potatoexpo.ca

SAVE THE DATE

The **Alberta Farm Fresh School** is set for February 25-26, 2016 at the Pomeroy Inn & Suites in Olds, AB (on Olds College campus)
Watch www.albertafarmfresh.com for details.



HortSnacks-to-Go: 2015/2016 Webinar Series



To register call Dustin Morton at
403-742-7571 or email at
dustin.morton@gov.ab.ca

September 28 (3 PM MST) –

Dustin Morton, Alberta Agriculture and Forestry
Dustin will be discussing the results of an Alberta Agriculture and Forestry project looking at greenhouse energy and material efficiency and how best to manage these in your greenhouse operation.

October 19 (3 PM MST) –

Dr. Chieri Kubota and Mark Kroggel, University of Arizona

Long popular in Japan and Europe, hydroponic strawberry production has largely been ignored in North America. Chieri and Mark are looking to change this with their research and will discuss some of what they've discovered along the way.

November 16 (3 PM MST) –

Grace Fedak, Serviceberry Farms

Grace Fedak has been growing some of the best strawberries in Alberta for over 20 years on her heavily treed Strathmore area farm. As her shelterbelts have aged, Grace has begun to switch them to eco-buffers and will talk about her successes and failures along the way.

December 14 (3 PM MST) –

Dr. Jim Faust, Clemson University

Jim is an associate professor of Floriculture at Clemson University and an expert in the area of diagnostics. Over the hour webinar, he'll be running an interactive "Name that problem" with some bedding plant and greenhouse issues he has seen over his career.

January 18 (3 PM MST) –

Christie Pollack, Christie's Gardens and Greenhouses

As owner of Christie's Gardens and Greenhouse in High Prairie, Christie Pollack is passionate about customer service. She'll discuss how to engage even your most problematic clients without alienating and provoking them.

February 22 (3 PM MST) –

Dr. Laura Van Eerd, University of Guelph

Laura is an associate professor at the University of Guelph in the area of soil fertility and cover crops. A proponent of on-farm trialing, she will tell you what you need to set up your own on farm trialing so you get the biggest bang for your buck from new products and techniques.

March 21 (3 PM MST) –

Dr. Ken Fry

Ken is a world renowned entomologist and is passionate about the role of beneficial insects in cropping systems. He'll be talking about how to encourage these natural enemies in your horticultural crops to improve your crop health and ultimately your bottom line.



Pricing Principles

Moving to Retail

Planning on selling to retail? Expand your understanding of the costs related to setting a profitable price.



Attend this workshop if you are looking to:

- Price your products for profit
- Understand the components of pricing for the retail market
- Understanding retail buyers needs

Registration Information

Dates: **January 12, 2016**

Agri-Food Business Centre
6547 Sparrow Drive, Leduc, Alberta

January 14, 2016

Agriculture Centre
97 East Lake Ramp NE, Airdrie,
Alberta

Time: 9 a.m. - 3:30 p.m.

Registration starts at 8:30 a.m.

Cost: \$25 per person

(includes snacks, lunch and GST)

To register

call the **Ag-Info Centre** at

1-800-387-6030

The Horticultural Wish List

(Article by Dustin Morton)

With the holiday season nearly upon us, there is one question causing the good people of the province to lose sleep at night; what to get the horticulturalist in their life? With that question in mind (and tongue firmly planted in cheek) I've compiled a list of ideas with something for every budget that are sure to keep production humming along in the New Year.

1) Portable Microscopes

Gone are the days of calling your favourite commercial horticulture specialist with a worried tone and a blurry picture. Portable digital microscopes allow you to take quality pictures wherever you might be with a resolution previously impossible for most producers. Products such as Celestron's Portable LCD Digital Microscope or Dino-Lite's Edge series run anywhere from \$100 to \$300 and can zoom up to 220x in some cases. If your budget starts to pale at the cost, look no further than EZ-macro. A macro lens on an elastic band, this \$15 bad boy will have you taking textbook quality pictures on your smartphone in seconds. Alternatively, there are any number of cellphone/microscope hacks out there that can make field identification (slightly) easier than ever. And as always, the call to the commercial horticulture specialist is still free!

2) Irrigation

Dryland production got you down? Regardless of where you are in the province, this year was not great for rainfall. Horticultural crops are especially dependent on moisture, making irrigation a very expensive (but worthwhile) safety net. Alberta has no lack of irrigation equipment supply companies who can design and set up a system for you from pump to emitters, and will have you watering in no time (assuming that you have legal access to your water source). Alternatively, if the horticulturalist in your life is more of a DIY type person, companies like Dubois Agrinovation sell kits that you can assemble yourself for as much or little area as you like. When considering irrigation, don't forget to consider your water source and quality. This will have a substantial impact on emitters, filters, pumps, etc. and ultimately mean the difference between a system that works and a very expensive soil holder.

3) Bugs

Beneficial insects are all the rage right now and why wouldn't they be? Eat bad bugs? Check! Turn bad bugs into mummies? Check! Make your crop cleaner with fewer chemicals and worries? Check Check! Beneficial insect companies like BioBest and Koppert can help you find a bug for your problem and your crop. If Canada thistle is a problem, you may want to look at the Canada Thistle Stem Mining Weevil (*Hadroplontus litura*). These stem mining wonders are typically released in the fall and can significantly reduce Canada thistle stands in as little as 2-3 years. They get shipped in from Montana by West Central Forage and have become a very hot commodity so book soon!

4) **A nice cover crop mix**

Who doesn't love peas! Oats are awesome! How about mixing the two together for a green manure? Weed issues? Maybe some buckwheat is just what the doctor ordered. As the International Year of Soils wraps up, cover crops are riding high because of their ability to smother weeds, add precious nutrients to the soil and increase organic matter. While there is a considerable amount of work that still needs to be done on them in the Alberta context, if you're looking to dabble, tools like <http://decision-tool.incovercrops.ca/> can help you pick species according to your soil and end use (soil builder, compaction fighter, potential biofumigant, etc.). Some proven winners are the previously mentioned buckwheat (known for its fast growing, smothering capability), tillage radish (for its ability to break through all but the toughest of hardpans), and legumes (for their nitrogen fixing capacity).

5) **Free resource material**

For the frugal or those on a tight budget, the world wide web is an incredible resource of information just waiting to be printed and bound, pinned to a Pinterest board, or otherwise exploited. Websites like Cornell's small farm program, Farm Hack, and Farm Start are great for the beginning producer. Others such as the University of California Statewide Integrated Pest Management (IPM), New York State IPM, or Purdue Extension have material that even the most seasoned producer can use. While not all of this information is relevant to our climate and production cycle, much of the research can be adapted and used, making it irreplaceable.

With any luck, this list has brought both some levity and actual value to your day. It's been a very challenging year and the holiday season presents a fantastic opportunity to relax, reflect, and plan for the future. In that vein, it's been a pleasure working with you this year and from ours to yours, a very happy holiday season and all the best in the New Year.

Mental Snacktime – Creativity

"Creativity is just connecting things. When you ask creative people how they did something, they feel a little guilty because they didn't really do it, they just saw something. It seemed obvious to them after a while. That's because they were able to connect experiences they've had and synthesize new things." – Steve Jobs

"An essential aspect of creativity is not being afraid to fail."
– Edwin Land

"Don't think. Thinking is the enemy of creativity. It's self-conscious, and anything self-conscious is lousy. You can't try to do things. You simply must do things." – Ray Bradbury

"Creativity is a habit, and the best creativity is the result of good work habits." – Twyla Tharp

"Making the simple complicated is commonplace; making the complicated simple, awesomely simple, that's creativity." – Charles

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Commercial Horticulture
Specialist**

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Options for Successful On-Farm Sales

There are a host of different marketing channels through which or to which producers can sell their products. These include, but are not limited to, u-pick, on-farm sales (stores or markets – managed and self-managed), Community Supported Agriculture (CSA) / Food box programs, Farmers' Markets, restaurants, caterers, food service, institutions, retailers (range of scales) and wholesalers. Whichever you choose to use (maybe you'll choose several), it is important to ensure that you have the necessary pieces in place to make that channel work for you.

When it comes to direct marketing of horticultural produce, on-farm sales are a key part of many operations. While there are many operations that do well, there are always examples of operations that do some things differently and/or better than others. The following are some important points to consider when using direct on-farm retailing, including pick-your-own. While this isn't a comprehensive list, it includes important points, that flow from what your customer sees and experiences from the outside in. The examples are from a few of the places I've visited and that illustrate the points.

- **Directions – finding the farm**

As a non-farm boy, it isn't necessarily second nature for me to navigate through rural highways and byways. Getting your customer to your farm is critically important. This means providing good, clear directions (and perhaps a good map) to your farm, from different directions. Put the directions on your website, on your business cards and wherever else people will access them.



You should combine good directions with clear signage at different junction points. If at all possible, or at least for broader spectrum advertising, avoid using locally known landmarks, such as *"the Smith Place"* or *"Purple Monkey Ridge"*. These landmarks might mean something if you are from the area, but aren't much help to those who aren't. Also, avoid using non-permanent landmarks, such as trees or other things that might not always be there, or that people might not recognize.

Here are some links to places that made it easy to find them, wherever you were coming from. By easy, I mean that I was able to find them, the first time.

<http://kayben.com/contact-us/map-directions/>
<http://pipestoneberryfarm.com/get-directions.html>
<http://www.solsticeberryfarm.com/location.html>

- **Signage is critical**

In my opinion, while it may be possible to have too many signs, this number is rarely reached. If people can't find your farm, they can't buy your product. Make sure that you have appropriate signs at critical junction points, such as on the highways and closer to the farm. Make sure that there are signs directing people from every direction (or at least those that make sense). When placing signs, make sure that you follow all applicable rules and regulations, both provincial (www.signupalberta.com) and municipal (consult local authorities). Consider having someone who is not local work through your directions and drive to your farm, noting how easy it is with the current signage. Then correct the mistakes (if there are any).

FROM THE HORT SNACKS ARCHIVES



On-farm directional signage – Serviceberry Farms – Strathmore, AB



On-farm directional signage – Riverbend Gardens – Edmonton, AB

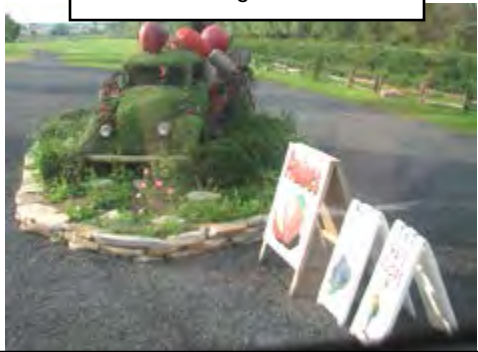


In-field directional signage – Thompson's Strawberry Farm – Bristol, Wisconsin

- **Entrance ways**

Your entrance serves several purposes. The primary purpose is gateway to your farm and is the “first impression” for all visitors. As such, it should catch the eye, represent who and what you are and help introduce your customer to your farm. Entrances should be easy to enter and should help to channel your customers to where they need to be, whether it is parking, sales or production areas.

Verger Denis Charboneau – Mont St-Gregoire, Québec



Thompson's Strawberry Farm – Bristol, Wisconsin



Knutson's Country Harvest – Newark, Illinois



Different examples of on-farm entrance signs

Tom's Farm Market & Greenhouse – Huntley, Illinois



Kayben Farms – Okotoks, AB



FROM THE HORT SNACKS ARCHIVES



Ferme D&M Sauriol
– Laval, Québec



Entrance sign that gives times, open or closed, etc. –
Solstice Berry Farms – Crossfield, AB

Different entrance signs



The Saskatoon Farm
– Dewinton, AB

As a secondary purpose, the entrance can also keep people out of the yard at times when you don't want people there. If there isn't a gate, then you can probably expect folks to visit at all times, which isn't always a good thing. Make sure that there are clear hours of operation on the gateway, so people know when you are there and open to visitors.

- **General farm site**

Since you are welcoming / inviting people onto your farm, as a bare minimum, make sure that the visible and public areas are tidy, as they will form the basis of whatever impressions your various customers form. Recognizing that your farm production and sales areas, and your home and work areas may be all in close proximity, try to make sure that these other areas don't detract from what you have to offer your customer. No-one will likely expect pristine conditions on a farm, but if your customers are allowed in an area, you should probably make an effort to keep it cleared and free from distractions or dangers. Cordon off places that you don't want entered by the general public.

People want to feel comfortable. Attempt to make your operation soft on the edges and easy on the eyes, as it will help put them at ease and make them more amenable to prolonging (and repeating) their experience with you.

- **Ease of access – all-season**

Customers can't buy what they can't get to. Your farm, fields and sales areas must be accessible during the times when your products are available, regardless of weather. This may mean addressing drainage issues, investing in enhanced parking surfaces (e.g. gravel, paving, asphalt, etc.) or innovatively tackling trouble areas. Field access is also critical, which means looking at grassed alleys, mulched areas, and perhaps directing traffic. Any movement roads/pathways

between field and sales/parking areas should also be clean, multi-seasonal and clearly marked. All areas should be free from hazards, regardless of their function.

Another area to carefully consider is access for those with limited mobility, such as the handicapped or seniors. If you are going to advertise and offer handicapped access, make sure it adheres to the applicable regulations. You might consider having visitors self-identify, so that you can accommodate them. You might have drop off spots, offering transportation to and from fields (such as golf carts or a range of options) or some other service. Special rules may be required for certain visitors, to ensure their needs (and yours) are addressed.

- **Parking**

Having adequate parking is important to ensure that customers can come and go from your farm without major difficulties or headaches. As a general rule, it is recommended that you have 4-6 spaces for every acre of production, with a minimum of 10 spaces. While parking takes up a fair bit of space, by creatively orienting parking spaces or creating flow patterns, you might be able to squeeze in the spaces without sacrificing excessive amounts of your land. Options might include having small parking areas in different parts of your operation, for the different activities that you have. Regardless of the amount of space that you allocate to parking, it should be accessible and usable in all seasons, should include space for handicapped or limited mobility access and should have good signage (to avoid confusion)



Grassed in-field parking
- Johnson's Farm Produce - Hobart, Indiana



Paved parking lot for greenhouse, garden centre & on-farm store
- Tom's Farm Market & Greenhouse - Huntley, Illinois



FROM THE HORT SNACKS ARCHIVES

Entrance driveway and marked grassed parking areas – the former “The Garden” – Calgary, AB



Parking lot – The Saskatoon Farm – Dewinton, AB

- **Facilities**

The level of sophistication of your operation will determine the number of buildings that you have on site. Some critical buildings include toilets and hand wash stations (there might be more than one or you might NEED more than one, depending on your size and layout), as well as a sales centre. While facilities vary a great deal, one thing holds true; you can tell a lot about someone by their washroom (or at least, you can judge someone based on it).

Toilets should be clean and should be accompanied by a wash station of some sort, to ensure food safety standards are met. Toilets can consist of a complete facility with running water and flush toilets, or a simple outhouse or porta-potty. All toilets should be accompanied by a hand-washing station. Wash stations can consist of running water sinks or, in a pinch, a hand sanitation dispenser, depending on the level of dirtiness and where the toilet is located. Ensure that your choice of facility meets appropriate health and safety standards (consult local health authority officials).



Mobile toilet & hand washing station
– Fraisière RouG.I. et Fils – Saint-Ignace-de-Stanbridge, Québec



Outhouse – Lizzie’s Berry Farm – Wizard Lake, AB

FROM THE HORT SNACKS ARCHIVES



Washroom facilities – The Jungle Farm – Innisfail, AB



Wash Station – wash basin & hand sanitizer – E.L.K.S. Vegetable & Berry Farm – St. Albert, AB

Sales centres come in all shapes and sizes. Sometimes, you will see a full-blown store, with registers, displays and other things. Some are self-serve, with honor system payment. If you are selling by weight, you will need to have an official scale, which has been checked and calibrated by the Department of Weights and Measures (federal). Depending on the set up, you should also have clear signage (for pricing, rules, etc.), cold or other storage, coolers or shelves with extra items (pre-picked, value-added), etc. You might offer a place for kids to play, picnic facilities or tables and chairs, to add to the comfortable experience for your customers (and their attendants).

You will need some sort of cash or payment processing system, whether it is cash-only or debit or credit card as well. You will also have to address security, which will depend on the set up.

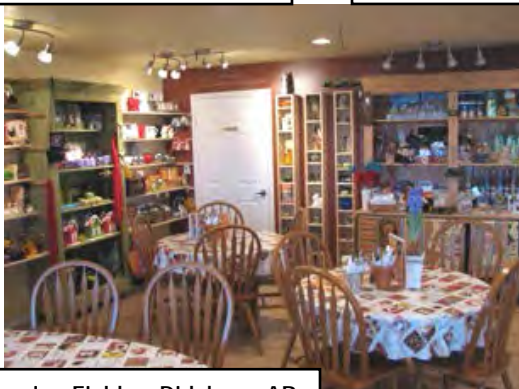


Pipestone Berry Farm – Pipestone, AB



The Jungle Farm – Innisfail, AB

Different on-farm sales centres



The Blooming Fields – Didsbury, AB



Self-serve sales centre – Edgars Farm – Innisfail, AB

FROM THE HORT SNACKS ARCHIVES



Linda's Market Garden – Smoky Lake, AB



Different on-farm sales areas

Serviceberry Farms – Strathmore, AB



Johnson's Farm Produce – Hobart, Indiana



Sales counter on-farm, including scale, etc.
– E.L.K.S. Vegetable & Berry Farm – St. Albert, AB

On-farm sales building
– Ferme D&M Sauriol – Laval, Québec



- **Instructions – Avoid confusion**

No one likes to feel like they don't know what is going on. As a business owner, you want it clear how you want things done, including the payment system, your prices, the procedures for picking, parking, entering/exiting, etc. Instructional signage can reduce the human labour requirement for customer management significantly. Make signs clear, concise and in sufficient numbers. There is a fine line between enough and too many. It is more about quality than quantity.

FROM THE HORT SNACKS ARCHIVES

Informational signage

- Rajzer's Farm Market & Greenhouse - North Delacour, Michigan



On-farm directional signage

- Hidden Valley Gardens - Red Deer, AB



In-field information / directional signage - Kayben Farms - Okotoks, AB



Picking information sign - Bridgeview Gardens - Grimshaw, AB



On-farm information signs - E.L.K.S. Vegetables & Berry Farm - St. Albert, AB



Picking information sign - Kayben Farms - Okotoks, AB

- Clear pricing - Avoid confusion**

Unless you are prepared to dicker over every sale, you need to clearly outline your prices. Clear pricing, which might include whether the price is by weight or by volume, as well as any associated rules, will head off any potential confusion right at the start. Put prices up near where picking is taking place, as well as at the checkout. It isn't a bad idea to post your current prices on your website. When people go to the store, they want to know what things cost. On-farm should be no different. Mark it clearly.

Harvesting your vegetables:			
Pick up harvesting basket / bags at the concession in the park			
Please be careful not to damage plants during harvesting			
For best vegetables, dig carefully beside the plant to loosen soil			
Call growers using plastic knives provided			
Please do not discard / waste any produce that you've harvested			
Clearly supervise young children			
Return to concession for payment			
Place your produce in a cooler for transport			
Do not wash until ready to use			
Elevated garden:			
Asparagus	per lb	\$12.95	available
Beets	per lb	\$12.95	available
Carrots	per lb	\$12.95	available
Cauliflower	per lb	\$12.95	available
Chard	per lb	\$12.95	available
Corn	per lb	\$12.95	available
Courage	per lb	\$12.95	available
Courgette	per lb	\$12.95	available
Green beans	per lb	\$12.95	available
Peas	per lb	\$12.95	available
Spinach	per lb	\$12.95	available
Tomatoes	per lb	\$12.95	available
Zucchini	per lb	\$12.95	available
Asparagus	per lb	\$12.95	available
Onion	per lb	\$12.95	available
Garlic	per lb	\$12.95	available
Herbs	per lb	\$12.95	available
Peas	per lb	\$12.95	available
Carrots	per lb	\$12.95	available
Beets	per lb	\$12.95	available
Chard	per lb	\$12.95	available
Corn	per lb	\$12.95	available
Courage	per lb	\$12.95	available
Courgette	per lb	\$12.95	available
Green beans	per lb	\$12.95	available
Peas	per lb	\$12.95	available
Spinach	per lb	\$12.95	available
Tomatoes	per lb	\$12.95	available
Zucchini	per lb	\$12.95	available



Pricing signs - Kayben Farms / The Garden - Okotoks, AB / Calgary, AB

- **Picking containers close at hand**

Many u-pick operations suggest that people bring their own containers, although it is a good idea to suggest a maximum size for certain produce, to prevent excessive damage to things like squishable fruit or other delicates. Providing picking containers is both a customer service tool and a convenience factor for customers, particularly if they want to make an impulse purchase of extra fruit. Some operations charge for the containers, which recoups the cost. Others consider it a small cost, which pays off quickly when people are not limited in the number of containers they have. Below are a couple of examples of good practices that I've observed.

Picking containers for customers – E.L.K.S. Vegetable & Berry Farm – St. Albert, AB



Picking buckets with bags – easy one-step to empty & weigh – Solstice Berry Farm – Crossfield, AB

If you are weighing by the pound, weigh the containers before they get filled, and mark them. This allows you to subtract the weight of the container, in the case of it being an atypical size (as opposed to a "standard" ice cream pail).

- **Help is close at hand**

On-farm direct market operations can be somewhat disorienting for customers, particularly if they are only familiar with regular retail. Make sure that your customers feel comfortable and at ease, by ensuring that help is nearby. This can mean having helpers or customer service staff in the field, in the sales area or wherever it is needed. Don't let a customer walk away unsatisfied or unhappy simply because they didn't know what to do or were limited in some other way.

- **A Friendly Face & Welcome Voice**

Along with readily available help, customers will respond to friendly greetings. People like to be recognized or at least treated like they matter to someone. You need to have your happy face on when greeting your customers OR have your friendliest, cheeriest and most welcoming staff person greeting them. Keep crusty Uncle Gus on the tractor, away from the customers. To take a glass half full / half empty look at this, consider that people are slow to forget an insult or if they are made to feel unwelcome, but they will rarely forget a friendly smile and a kind word or welcome. People remember how they are made to feel.



Tidy operation – Petrofka Bridge Orchards – Waldheim, SK



Pine False Webworm

Acantholyda erythrocephala

Crops Affected: *Pinus* species – red and white pine = preferred however mugo, scots, Austrian and other species may be attacked

Life Cycle:

- Single generation per year
- Overwinters as a pupa in the soil
- Adults emerge in late spring (late May or June depending on the area)
 - Shiny blue-black sawfly with a bright orange head (female) or black head with yellow facial markings (males)
- Eggs are laid on needles of the host
 - Multiple yellow eggs are laid in a row along the length of the previous year's needles
 - Females cut a slit in the needle and place the egg with a small portion of the egg within the slit
 - Eggs are laid from late May through June
- Larvae
 - Young larvae are pale brown with brown-orange head
 - Pale grey-green, with purple-red longitudinal stripes along sides and back and a brown/black head area
- Larvae emerge within 2 weeks and spin a web at the base of the needles
 - Needles are cut and pulled into the web, creating a silken tube along the branch
 - Tubes become filled with partially eaten needles, frass and larval skins
 - Larvae feed on the needles
 - Larvae feed for about 3+ weeks
 - Preference is for older needles but feeding on new growth does occur
 - Mature larvae drop to the ground to overwinter in the soil until following spring, with pupation occurring in spring

Symptoms:

- Chewed needles may be visible
- Silk tubes filled with frass and other debris will highly visible along branches towards the tips

Monitoring:

- Adults are large and fairly visible in spring after emergence
- Eggs can be found along needles shortly after adult emergence

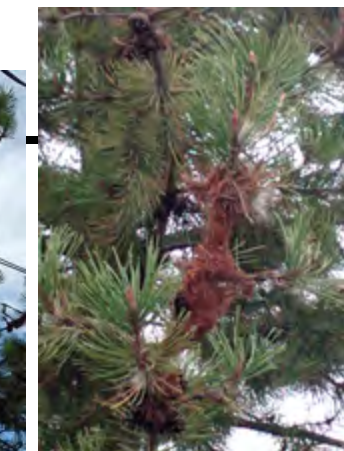
Management:

- Chemical control is difficult once larvae become established within tubes
 - Registered chemicals should be applied when adults are emerged, prior to nest development
- Natural controls through predation by birds, rodents and other insects do occur
- On smaller plant specimens
 - Larvae can be removed by hand
 - Eggs may be destroyed once observed
- Webbed nests may be pulled apart and the nest destroyed
- Mulches at the base of the tree (extending out to the edge of the tree) can prevent mature larvae from entering the soil to overwinter



Entire tree infested by Pine False Webworm

Photo by Lorraine Taylor – Lac Ste Anne County



Web masses of Pine False Webworm

Photos by Robert Spencer



Pine False Webworm - eggs

Photo by Lorraine Taylor – Lac Ste Anne County



Suspected Pine False Webworm - adult

Photo by Lorraine Taylor – Lac Ste Anne County

Some Lettuce Diseases

Sclerotinia Rot A.k.a. White Mould, Cottony Soft Rot, (Lettuce) Drop,

Causal Organism: *Sclerotinia sclerotiorum*

Crops Affected: Lettuce and wide range of other crops (over 400 host species)

Disease Cycle:

- Soil-borne sclerotia (hard mycelial bodies) produce mycelium, which infect plant tissues
 - Sclerotia can survive for over 10 years in the soil
- Sclerotia can also produce little mushrooms (apothecia), which release spores
 - Spores can infect weak tissues in high and prolonged humidity conditions
- Disease develops at temperatures above 0°C, but prefers 13-18°C for optimum growth.
- High humidity and free moisture also contribute to disease infection



Lettuce Drop - Gerald Holmes, California Polytechnic State University at San Luis Obispo, Bugwood.org

Symptoms:

- May initially cause damping off or petiole infections, with leaves and crown areas becoming infected, especially those in contact with the soil
- Infected tissues typically turn dark brown and a characteristic white, cottony mycelium covers it
- Crop will exhibit a wilting of infected tissues (e.g. "drop" symptom)
- Black sclerotia (hard, mycelial, overwintering bodies – not spores) form in diseased tissues later on, sometimes within tissues
 - Size of these will vary, but are often large (may resemble rat droppings or Tic Tacs)
 - May be flattened, rounded, oval or disc-like
- This disease can be distinguished from similar diseases by the cottony white mycelium and the black sclerotia
 - Bacterial soft rots do not form mycelium and are slimy

Management:

- Rotate to non-host crops; maintain a 3-5 year rotation to reduce soil borne inoculum
- If possible, remove infected debris from growing areas to reduce inoculum
- Control weeds, as they are both alternate hosts and can contribute to increased relative humidity
- Ensure good air circulation within the canopy
- Ensure good soil drainage
- Rapidly cool harvested crops
- Ensure storage areas and containers (e.g. pallets, etc.) are properly sanitized, to remove any sclerotia that may adhere to surfaces
- Preventative chemical sprays are available to protect various crops. Follow label instruction for maximum impact



Lettuce tip burn - Gerald Holmes, California Polytechnic State University at San Luis Obispo, Bugwood.org

Physiological Disorders – Tip Burn / Internal Browning

Causal Organism: Not caused by biotic pathogens

Crops Affected: Lettuce, leafy Brassica greens

Disease Cycle:

- Caused by inadequate uptake and movement of calcium to rapidly growing tissue, resulting in low levels of calcium in the tissues
- Typically associated with conditions favouring rapid plant growth
- Excess soil water can reduce calcium uptake
- Moisture level fluctuations e.g. dry conditions following a period of abundant moisture (or vice versa) can make the disorder worse
- Soil texture can play a role in incidence of this disorder
- Calcium competes for uptake with potassium and magnesium

Symptoms:

- The inner leaves of head-forming crops (cabbage, Brussels Sprouts, lettuce) initially exhibit brown necrotic spots, with the margins turning brown and then become papery at the margin or over large portions of the leaf – leaves may turn dark brown or black in some crops
- Necrotic tissues may become infected by secondary bacterial infections, resulting in a soft rot

Management:

- Avoid conditions where rapid plant growth occurs – steady, even growth is preferred
- Provide adequate but not excess fertility
- Maintain a ratio of 1:1 Phosphorus to Potassium; avoid excess nitrogen and magnesium in the soil
- Irrigate to maintain optimum soil moisture, ensuring continuous uptake of calcium
- Avoid waterlogged or excess moisture conditions
- Avoid saline soils, damaged roots
- Calcium applications will not have a significant effect for tip burn
- There are cultivars which differ in susceptibility to tip burn

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