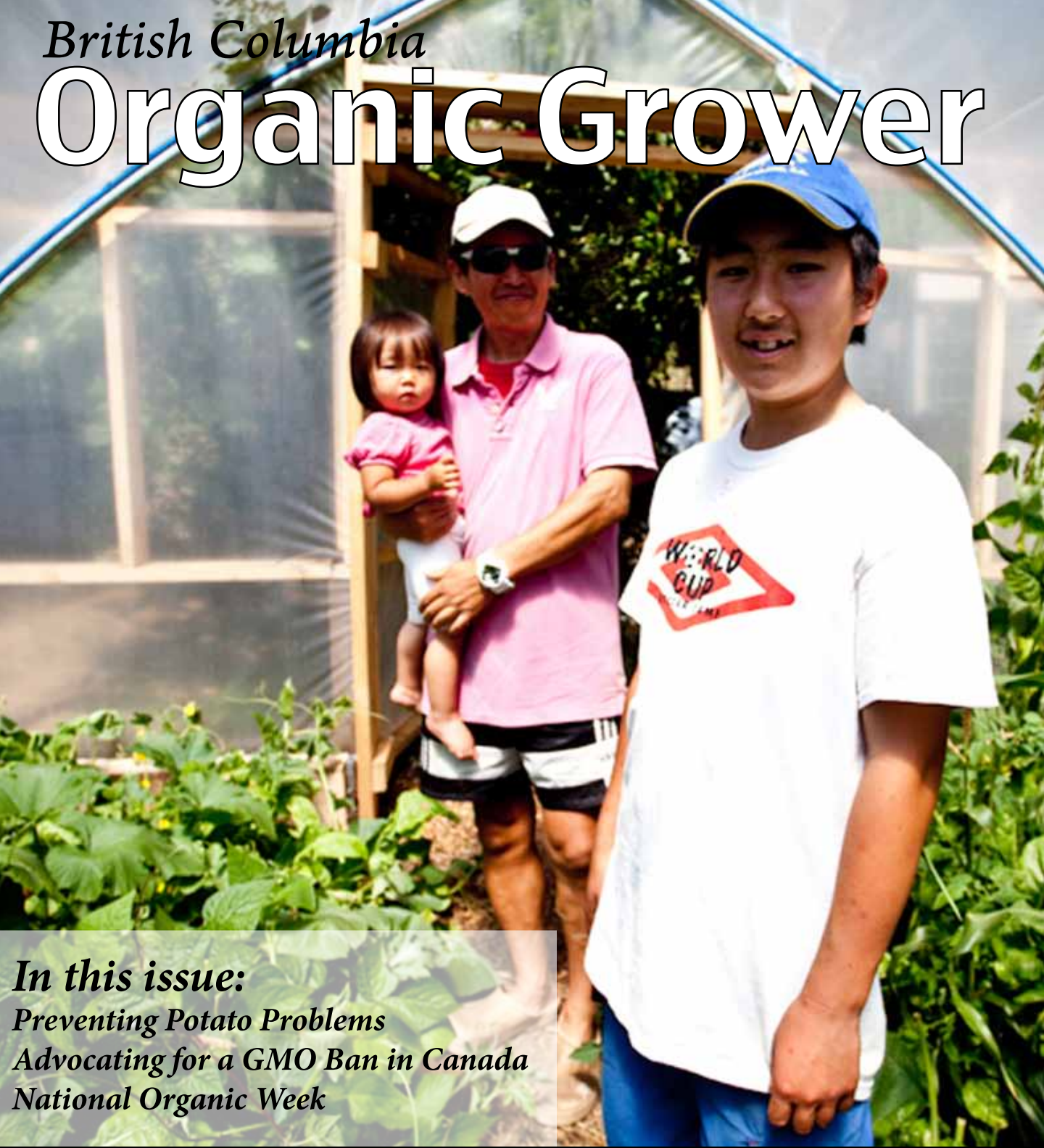
British Columbia

Organic Grower



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Preventing Potato Problems
Advocating for a GMO Ban in Canada
National Organic Week

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BC Organic Grower

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We welcome letters to the Editor (300 words maximum) and articles (1000 words maximum). Letters to the Editor are published at the discretion of the editor, based on relevance and suitability.

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www.certifiedorganic.bc.ca

On the Cover: In the greenhouse at Kenta Farm. Credit: Hannah Roessler.
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Layout & Design: Moss Dance

Executive's Report

By Corey Brown

Funny thing happened on the way to the COABC.

Years ago I was sent by my certifying body to cause a disturbance. "Damn that COABC," they said. "It's controlled by the industrialists. Attend the meetings and disagree with everything. Slow down the meetings and talk endlessly about compost."

I do love to see a little chaos and contention, so I agreed.

Attend a COABC meeting and witness a rather mixed up gathering. Business types with nice shirts. Some crunchy long hairs drinking kombucha. Some academics looking smart as hell. A confused-looking rancher desperately wondering how or why they ever got involved with this bunch. Then the whole group is asked to come up with directives that are satisfactory to everyone. The volume goes up, neckties come off, eyeglasses get broken, and in the end everyone is wondering how the rancher ended up drinking fermented tea.

Consensus. It's a cruel game to play at. But interestingly, this is where the COABC gets its' strength... when all the ideas come together. In the beginning, a cacophony of voices all warbling off-key. By the end, all together, hitting the high notes like some medieval eunuch choir. Light streaming in from a window illuminating the minute taker's laptop.

OK, maybe that's a bit much. I've held hands at these meetings. I've juggled with strangers, I've even done yoga. Truthfully, I've never harmonized. But I have been amazed watching farmers from all over the province tackle some seriously contentious issues, and leave the room smiling and shaking hands.

We may not look alike, we certainly don't agree on everything. But we all love compost and in the end, it's like the West Coast Rap All-Stars said back in '91, "We got together not for ego or fame, we got involved cause we're all in the same gang".

If you have questions or concerns about the direction of the COABC, I've got a proposition for you: get involved. Maybe you will bring new ideas to the table. Maybe you will be schooled on the intricacies of finding consensus among BC's diverse organic farmers. Either way, the nice guy with the outrageous beard will pour you a big, refreshing glass of kefir and you can be there to hold my hand as we do another 'ice breaking' exercise.

Over the summer, the BC Ministry of Agriculture held consultations on the proposed changes to the ALC Act. COABC was invited to participate in the stakeholder consultations and sent Arzeena Hamir, COABC Secretary and Jen Gamble, COABC Executive Director of Operations. The consultations centred on 11 specific questions determined by the Ministry. The Consultation period has now closed and the Ministry of Agriculture will be drafting the new regulations to present to cabinet.

COABC Office Report

By Jen Gamble

The opportunities to engage on a political level and promote the organic sector continue to increase.

There has been much interest lately in gauging the sector and its needs. The need for a mandatory organic regulation is currently being considered by the Ministry of Agriculture. In addition, we have also been asked to contribute feedback to the government through the new Industry Feedback group and through the ALR consultations.

The interest in the organic sector also extends to the opposition. In June, leader of the NDP, John Horgan, requested a meeting at the COABC office. MLA Horgan indicated he wanted to get an understanding of issues facing the organic community and to determine if there is any way to further support the sector. Once again the regulation of the word "organic" was discussed along with other important issues such as encouraging new and young farmers.

Amid all these outreach opportunities, the COABC office has also been preparing for the Canada Organic Office (COO) audit in September. Every two years COABC is audited by the COO to ensure that our verification systems are meeting the requirements. COABC is lucky to have such a competent Accreditation Board to manage these audits.

The preparation for the 2015 conference is now underway and COABC is pleased to welcome Michelle Tsutsumi as our new conference co-ordinator. Michelle has been involved with the Young Agrarians and is looking forward to planning the COABC conference. If you have session ideas please send them into the office and plan to join us in Chilliwack next year.

Last Quarter Achievements

- Finalized 2nd Quarter Reports
- Attended BC Government ALR Consultation
- Attended IAF Funders Roundtable

Watch for more information about the COABC Organic Week events. Remember, if you are holding an event let us know, we can help you get it on the National organicweek.ca event listing.

www.certifiedorganic.bc.ca

Editor's Note

By Marilee Peters

If summer is the season of sunshine, fall is most definitely the time for festivals. In the weeks ahead we'll be celebrating Farmer Appreciation Week at Farmers' Markets across BC, followed closely by the Canada-wide festivities of National Organic Week, September 20 - 28. Is your dance card full yet?

If you need any help getting into the festive spirit, just check out our Organic Week write up on page 12— it's sure to inspire you to find an event happening near you, and you may even decide to host an event yourself! To find out more about what's going on around the province during Organic Week, follow the COABC on Twitter (@coabccanada) for frequent news and updates, or visit the motherlode of National Organic Week info: www.organicweek.ca.

In the midst of all the fun and frolic however, we're careful not to lose sight of more serious topics — and there's no shortage of those. In this issue, agrologist Marjorie Harris draws our attention to the problem of ergot mold infesting BC cereal crops, a legacy of this year's rainy spring weather. Read her recommendations for prevention and control of this dangerous toxin on pages 28-29. Lucy Sharratt of the Canadian Biotechnology Action Network calls for a ban on genetically modified foods and an overhaul of the scientific review process at Health Canada on page 7, while new voluntary guidelines for young farm workers are on page 13. The Invasive Species Council shares information and tips on identifying and controlling troublesome interlopers — spotted knapweed, cinquefoil, and blueweed, to name a few (see page 20).

As the days get shorter and the growing season slows its hectic pace, I hope you'll find time over the coming weeks to read through and savour this issue (maybe even a couple of times!) and send me your thoughts and comments on these stories and the others that fill these pages. Have you got tips to share about nurturing a good business relationship with chefs and restaurants (see pages 14 for some of the suggestions we've already gathered from farmers around the province)? Send them in and we'll print a follow-up in an upcoming issue! Or maybe you've got feedback to share about one of our other stories, or an idea for a story you'd like to see us cover. You can always reach me at editor@certifiedorganic.bc.ca.

editor@certifiedorganic.bc.ca

I Certify

New Campaign from Certified Organic Associations of BC Encourages Farmers to Choose Organic

We're totally excited to launch our "I'm Certified!" campaign, to tell the stories of BC's certified organic farmers. What's the best thing about becoming a certified organic farmer? Is it the glamour, the money, the fame? Maybe it's the simple satisfaction of knowing that you're giving your customers the healthiest food possible, while caring for your land and livestock responsibly and sustainably.

We want to hear from farmers across BC what their biggest reasons are for choosing organic certification. So we're encouraging certified organic farmers throughout BC to share their stories on social media about why they chose certification, and why they love organic farming.

Can you tell your story in a picture? Maybe a shot of that perfect peach, fresh from the tree, tells us all we need to know about why you chose to become a certified organic farmer. Or the diverse life in your fields and hedgerows, or the community gathering at your market stand — do they tell the story of the benefits of organic certification?

Does your story need words? It can be short ("My customers deserve it!") or as long as you choose.

How you tell your story is up to you. You can:

- Tweet your story: Tell us why you chose certification and use the hashtag #icertify.
- Post your Instagram photo: use #icertify to give us permission to share your photo.
- Share on Facebook: Make sure to tag us and our page in your post, and include your contact info.
- Email us and we'll post your story: Not on social media? Don't despair, you can still share! Just email us your story or photo and we'll post it to our website and share it through social media.

Why Share Your Story?

Because your story can help another farmer make the decision to become certified organic. Help build your organic farming community by reaching out to share your story with other farmers who are considering organic certification.

We'll feature selected "I Certified!" stories and photos on our website and in upcoming issues of the BC Organic Grower Magazine.

For more info, contact us at:
editor@certifiedorganic.bc.ca

Thanks to our sponsors:

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COABC
Certified Organic Associations of BC

Roundup Reality

It's Time for a Rational Debate on GMOs

By Lucy Sharratt

In June, the Canadian Biotechnology Action Network (CBAN) called for a moratorium on the approval of new genetically modified (GM, also called genetically engineered) foods and crops in Canada.

The call was triggered by the re-publication of a much-disputed study by Gilles-Eric Séralini on the safety of GM foods. In addition to reporting possible adverse health impacts of GM Roundup Ready corn, the study calls into question the entire method behind Health Canada's safety assessment of GM foods.

CBAN is calling for fundamental reform of Canada's GM safety regulation, and a re-evaluation of the safety of the GM foods already on the shelf. A moratorium on new approvals would be necessary first, to allow for genuine debate and reform.

GM Food, Not Reform, on the Table

However, reform does not appear to be on the table. The government and biotech industry are not interested in redesigning regulation, unless it's to remove safety oversight (see www.cban.ca/llp).

In fact, the window for reform in Canada closed long ago, as the dust gathered on the 58 recommendations of the 2001 government-commissioned report from the Royal Society of Canada's "Expert Panel on the Future of Food Biotechnology," and as acres of new GM crops expanded.

Today, most of Canada's corn, canola, soy and white sugar beet is GM. There was no democratic debate in Canada before this technology was introduced into our environment and food system.

Meanwhile, Health Canada is assessing the safety of a GM "non-browning" apple and a fast-growing GM salmon (set to be the world's first GM food animal), despite majority opposition from both consumers and growers. We don't know what else is currently being evaluated for market release.

There is no public list, there is no consultation, and there is no public science. Fundamentally, the regulation of genetically modified organisms (GMOs) in Canada was constructed to avoid any public debate, however reasonable.

Fighting Over the Lives of Rats and Humans

GM regulation in Canada was also designed to create a "predictable" regulatory environment for companies. This includes relying on corporate science that is not open to public scrutiny. Hence, the GM foods we're eating have not been subjected to long-term animal feeding trials.

This dangerous reality was exposed by the now-infamous study by a team of independent scientists from France, led by Caen University molecular biologist Giles-Éric Séralini.

Séralini's team conducted the first long-term study on GM corn, a feeding trial of the GM corn trait NK603 over the full two-year lifespan of rats (at the cost of 3.2 million Euro). NK603 is the GM trait in Roundup Ready 2 corn, tolerant to Monsanto's glyphosate formulation Roundup.

Continued on page 23...

Kenta Farm

Growing Community and Growing Food

Kikuchi family portrait. Credit: Hannah Roessler

The No-Weed Philosophy of Pender Island's Kikuchi Family

By Hannah Roessler

Boarding the ferry early one summer morning en route to a unique family farm on Pender Island, I am reminded how lucky we are to live in beautiful, diverse British Columbia. I am on my way to meet Arthur Kikuchi, to see if the rumors are true – a farmer who doesn't weed.

I meet up with Arthur at the Pender Island school garden rather than his farm because it is Sunday, which means soccer day for the kids. When I arrive, kids are dancing around the schoolyard with a soccer ball while their parents are gathered next to the garden plot in the shade.

A cob-building workshop is underway, keeping these parents and other community volunteers hard at work. Soon the kids jump in to help do what they do best: play in the mud. Cob walls rise rapidly from the ground, forming a combined garden shed, teaching space, and gathering space with a cob bench and oven included.

"Soon we will cook the veggies from the garden in the oven," says Arthur with a smile. "It is all so that we can teach the children."

It is evident that growing food is Arthur's second love: his first is sharing his knowledge and skills with children and youth. One of the first things he says to me, as I greet him and his eldest son, is that he feels it is very important to teach the next generation about growing food because "they are the future. My generation is past. This learning is very important."

Arthur and his wife Sanae (whose name means "newly germinated sprout of a grain of rice") don't come

from an agricultural background. "Not at all!" laughs Sanae. Their journey towards growing food started when Arthur was living in Paris as a spiritual healer, working with energetic medicine in the Shumei tradition. Unfortunately, he fell ill and was forced to return to Japan to seek healing himself. But no doctors were able to cure him, or even identify what was ailing him.

While Arthur and his healers searched for answers, he began working on a farm on Kishima Island, located in the south-western part of Japan. Within a month he began to see signs of his health returning. This was when he realized that farming, connecting with the plants and the earth, was the path to a better life for him and his family.

Eventually, Arthur and his family came to Pender Island, where they quickly fell in love with the hills and trees that reminded them strongly of Japan. Arthur also felt a connection to the landscape where fellow Japanese farmers had previously farmed, and this tie to the past inspired Arthur and Sanae to settle and farm on Pender Island, bringing with them their unique brand of Natural Farming techniques. In 2000, they founded Kenta Farm on the island.

Arthur bases his practice of Natural Farming on the techniques prescribed by Masanobu Fukuoka, a famed

Nature knows best in this holistic approach. Credit: Hannah Roessler

Japanese agriculturalist and the author of "The One-Straw Revolution," as well as the philosophy of Shumei. The basic tenet of this philosophy of farming involves modeling the agricultural system after natural systems.

An example is modeling the garden after the forest, allowing for a canopy layer, shrub layer, herbaceous layer, etc. This might mean leaving the weeds to grow. Yes. Leaving the weeds. To grow.

Arthur laughed as I asked him, several times, about his philosophy on weeds. Dealing with my own "weed explosion" on the farm is like dealing with a niggling, guilty conscience. Bunches of weeds about to go to seed stand upright in my field, proudly displaying their amazing ability to grow taller (overnight?!) than my crops.

"The weeds are just like the pioneer species in a forest ecosystem," says Arthur, explaining, "I let them be. I just cut them down with my kana (a Japanese garden tool similar to a sickle), and leave their root structure intact. I believe that this helps maintain the soil structure, and overall, helps my garden grow."

If weeds interfere too aggressively with a specific crop, Arthur will pull them, but mostly he lets the whole system of plants thrive, believing that nature knows best when understanding the role of each element of the system.

In keeping with this holistic approach, Arthur also doesn't reach for outside inputs. He gathers a thin layer of soil from the forest floor to build his raised beds, as he finds this to be the best soil for growing. When I ask about potential issues with acidity, as forest soils in this region are known for their acidic qualities, he nods and agrees, but then gestures graciously to his garden beds where all sorts of crops are flourishing.

Lettuces, brassicas, chard, curcubits and corn all grow in a happy jumble, a testimony to the success of Arthur's practice of intercropping. While he groups crops roughly by plant family, if a volunteer kale pops up in the lettuce patch, he will leave it to thrive.

His children have adopted this mixed method of growing and they're clearly very knowledgeable about plants, though I have to pry it out of them because of their generous humility. Arthur's children lead their school's garden club, where groups of children from the school and around the island meet regularly to learn about seeds and work in the garden, learning and having fun all the while.

Standing in the shade next to the thriving school garden his children have created and the brand new cob gathering space he is helping to build, I'm impressed by the family's commitment to growing community. With a family so passionate about sharing their knowledge and holistic vision, Pender Island is lucky to have the Kikuchi family.

Hannah Roessler has farmed in Nicaragua, Washington, and BC on permaculture famers, polyculture cafetals, organic market farms and a biodynamic vineyard. She has an MA in Environmental Studies, and her research is focused on climate change and small-scale organic farming. She currently farms on the Saanich Peninsula on Vancouver Island.

NOW is the time to get excited about organics!

NATIONAL ORGANIC WEEK, SEPTEMBER 20-28, 2014




Learn how to pickle and preserve your harvest for year-round goodness.
Host a guided farm tour for a school group.
Take part in a food tasting or community potluck picnic.
Pick your best recipe and enter a recipe contest.
Organize an organic breakfast at a school, seniors centre, or community hub.

There's so much to choose from this National Organic Week, all part of Canada's biggest cross-country celebration of organic food, farming, and products. There are events happening in every region of every province, as consumers, growers and producers get together to celebrate the healthy, sustainable, delicious difference of certified organic food.

Every year, hundreds of events happen across the country during National Organic Week to showcase the benefits of organic agriculture and its positive impacts on our health and the health of our environment.

Organics by the Numbers

According to statistics released last year by the Canadian Organic Growers:

- Canada is home to 3732 organic farms, 870 organic processors, and 245 organic handlers.
- There are estimated to 900,000 hectares of organic production land, including wild harvest and pasture.
- While the total number of farms in Canada has declined by 17% from 2001 to 2011, Canadian organic operations have increased by 66.5%.
- Between 2001 and 2011 the amount of certified organic processors and handlers increased by 194%.
- BC is home to the nation's largest concentration of organic farms in a metropolitan area (31% of farms around Victoria are organic).

Want to Join the Fun?

Plan an Event!
Send in your event details by September 15, 2014 to have your event listed on the National Organic Week website: www.organicweek.ca.

Attend an Event!
To find out about events going on in your region, follow National Organic Week on Twitter or like them on Facebook. Tweet them at @OrganicWeek or visit www. Facebook.com/OrganicWeek.

Twitter: @OrganicWeek

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www.organicweek.ca

Keeping Kids Safe on the Farm

New Voluntary Guidelines for Young Farm Workers

Farm kids are a special breed: precocious, dedicated, smart, and hard working. But young workers often lack the knowledge, experience and judgment of seasoned farm workers, and that can cause them to put themselves at risk. Between 2008 - 2012, there were 449 young workers injured in agriculture in BC, according to statistics from WorksafeBC.

To keep kids safe while working on the farm, parents and employers of young farm workers need to have a clear understanding of youth development levels, abilities, limitations and know when and how to set clear rules and boundaries for any work assigned to a young person. Positive work experiences on the farm are important for motivating young people to seek a career in the industry and enter post-secondary programs in farming. These early work experiences and hands-on training opportunities are critical to the future of farming and the continuation of our food supply.

In March, the Canadian Agricultural Safety Association (CASA) and the Canadian Federation of Agriculture launched "Let's Talk About It!" a Canadian Agricultural Safety Week campaign focused on encouraging farmers to talk about farm safety. Talking to young workers is one part of good communication in the farm workplace. Glen Blahey is a Health and Safety Specialist with CASA: "Many young workers tend to generalize their skills from one task to another, feeling they possess the size and strength to overcome any problem. They feel that they are immortal and can't be hurt—this can put them at risk," he says.

CASA has developed a resource that provides information about the needs and limitations of young workers. The Canadian Model Youth Policy is a voluntary guideline that enables parents and farm owners and operators to plan and talk about keeping young farm workers safe. The policy was adapted from a similar document developed by youth safety advocates and agricultural leaders in the United States.

The model policy advises farm owners and operators to provide a basic orientation program for young workers, to introduce guidelines, expectations and policies for work on the farm. In BC, the Occupational Health and Safety Regulation requires that young workers must be provided with health and safety orientation and training specific to their workplace. This includes information on their rights and responsibilities, potential hazards, working alone or in isolation, workplace violence, personal protective equipment, and emergency procedures.

Credit: Arzeena Hamir

Supervision

Young farm workers require the highest level of support during the orientation and training process. The level of supervision a young worker needs depends on the individual, as competency and maturity levels vary from person to person. All work should be directly supervised until the young worker can prove their competency at a task. Young workers should work alongside experienced mentors and should not be placed in a work-alone situation.

Hazard Levels

When assigning general or specific tasks to youth it is also important to factor in the hazard level involved.

Continued on page 22...

Farmers & Chefs

Ingredients for a Perfect Relationship

Collected and compiled by Moss Dance & Marilee Peters

Good chefs want to use the best produce – which means fresh, local, and if possible, organic. But busy chefs often can't leave the kitchen to inspect farms and meet growers. Meanwhile, busy farmers aren't able to spend valuable summer growing hours hanging around restaurant kitchens – they're out in the fields, up to their elbows in the land's bounty.

So what's to become of the tastiest tomatoes, the most awesome asparagus, those flat-out fantastic fava beans? Are they destined never to find their way to diners' plates?

As the growing popularity of farm-to-table restaurants proves, every day more and more small farmers and independent chefs are finding ways to bridge the divide created by crazy schedules and hectic growing seasons. In the spirit of helping to foster those relationships, we offer the following tips from growers and chefs on building a solid ongoing business relationship.

Look for ways to enhance communication

"We invite our chefs individually to lunch at the farm in the winter to discuss how we can better serve them in the coming season, any new varieties they would like us to try, things to grow more of, etc."

Get personal. What do they like?

"Try to get to know their personal preferences with things like 'in general, if I'm short of one variety should I sub another or short you? If there's cosmetic damage, would you rather get the product at a discount, or not get it at all?'"

Convenience matters – go the extra mile.

"We are careful to establish the best day and time and method (email or phone) to contact them each week to let them know what new things are coming on line and how much we have so they can let us know what they want in the next order."

But not too far.

"Be careful not to do more work for chefs than you are being paid for – e.g. if they are asking for additional work to be done on a product (such as chopping rhubarb), then you must include this additional work into your pricing. We limit our restaurant focus because our experience is that many chefs will place small orders ($150-200) most of the time, which doesn't make the effort worthwhile. Oh yes, and all of our restaurant accounts are COD – always!"

Build connections.

"We find it's great to have the chefs come to the farm to pick up their orders because they become much more connected to the farm and it saves us the time it would take us to deliver."

But don't get too attached.

"Remember that the relationship is never secure. Chefs leave unexpectedly for all kinds of reasons, restaurants can change at the drop of a hat."

Don't be afraid of criticism: learn from it.

"Our chefs are our most critical buyers and that keeps us on our toes, perfecting how and when to harvest and how to store our produce so it is at it's best when they get it. We've learned to appreciate their criticism if the produce they get from us is not perfect."

Accept the realities of the restaurant biz.

"Be respectful that chefs are as busy as farmers. Don't call or deliver during meal times, and never ever expect a chef to return your call when you leave a message."

"Keep in mind that many restaurants only have refrigeration space for a few days worth of food at a time, many prefer deliveries twice or three times a week."

Be choosy!

"We only sell to a few restaurants and we choose who we sell to carefully based on the chef's philosophy and willingness to work with the farm based on what grows best for us in our soil and climate (not based on what grows best in Italy for the ingredients the chef might actually want)."

And celebrate the benefits that flow from your burgeoning farm-chef relationship.

"We are in a more rural and remote setting, where both the small-farm culture and the farm-to-table restaurant culture are less established than in more urban settings. As younger, beginner farmers, we are enjoying working with restaurants who are themselves only beginning to feel their way into serving local product. We are finding that the challenges of working with restaurant clients are balanced out by knowing that the effort is helping to cultivate local food culture. We see the non-monetary benefits on our farm and in our community and trust that the effort is an investment in a richer food future."

Thanks to our contributors: Mary Alice Johnson, of ALM Farm, Sooke; Saanich Organics; Laura Hannant, of Mo & Mikey Farms, Creston; Chris Bodnar, Close To Home Oganics, Abbotsford; and Saanich Organics.

www.saanichorganics.com

www.almfarms.com

www.glenfavlleyorganicfarm.org/the-farm/close-to-home-organics



Why You Need Enterprise Budgets

Institute for Sustainable Food Systems' new project covers 30 crops and livestock that you grow and raise

By Ermias Afeworki

You have been farming for years, but do you ever evaluate the costs and returns of growing a particular crop?

You've purchased or inherited a piece of land and would like to farm on it. Have you come across any farm budgeting tools to estimate what it will cost you to grow a crop or raise a certain type of livestock?

You are passionate about small-scale farming and you want to start a farming business. Do you have a business plan to apply for credit from financial institutions?

If your answer to any of the above is "no," don't worry! The Institute for Sustainable Food Systems' new project to develop enterprise budgets for small scale farmers can help you assess the profitability of different products in your farm business.

Enterprise budgets, also called production budgets, are an indispensable farm business planning and management tool for aspiring and established farmers. Some of the uses of enterprise budgets include:

- itemizing costs and returns (income)
- listing inputs and production practices
- evaluating the financial efficacy of the enterprise
- estimating benefits and costs of fundamental changes in production practices (for example, investing in irrigation)
- providing a foundation for a total farm plan
- supporting applications for credit.

While small-scale farming is an integral part of the agricultural sector in southwest British Columbia, most of the currently available enterprise budgets generally focus on larger-scale and conventional methods of production. Enterprise budgets for the emergent small-scale, low-input and alternate-market agricultural sector of southwest BC are limited. The Institute for Sustainable Food Systems (ISFS) at Kwantlen Polytechnic University has set out to fill this gap.

ISFS is developing the tools that new and current small-scale farmers need in order to fully understand the costs and revenues of producing and selling food. We are developing enterprise budgets for 30 crops and livestock that can be produced on small lots using low-input farming techniques, and sold through direct-marketing in southwest BC. The budgets created in this project will assist farmers in planning their enterprise mix, calculating revenue and cost figures, and providing benchmarks that can be used to increase efficiency.

Using these enterprise budgets, farmers will be able to assess the profitability of individual crops on a diversified farm and to conduct "what-if" analysis. Ultimately, this project will support the viability of small-scale farms by providing data for farmers to assess their crop costs and yields, and develop financially viable business plans for their farms, including making strategic economic decisions such as allocating resources to the most profitable crops.

Understanding Enterprise Budgets

It is worth noting that the enterprise budgets developed in this project do not represent a particular farm. Instead, they are intended to be used as standard guides for evaluating costs and returns. Using the enterprise budget as a guide, each farmer can input their own cost and revenue numbers to estimate the profitability of each crop or livestock on their farm. Using the enterprise budget as a guide, farmers can input their own cost and revenue numbers to estimate the profitability of each crop or livestock on their farms. The goal is to help farmers become better informed in making economic decisions, minimize inefficiencies, and more production toward optimum levels.

All the enterprise budgets being developed in this project are what are known as "economic budgets." Economic budgets use the concept of "opportunity cost", which is defined as the cost of using a resource based on what it could have earned if used for the next best alternative.

For instance, suppose a farmer has $10,000, which he is considered using in one of two ways: either to purchase a tractor, or to invest in bonds. If the farmer decides to buy the tractor, the opportunity cost of that choice is the principal plus the interest income (say at five percent) that could have been earned had the farmer chosen the next best alternative: buying bonds. To realize an economic profit from the investment in the tractor, the farm needs to generate income above $10,500 (interest included).

While economic budgets include both monetary costs and 'perceived' non-cash costs, there is a second kind of enterprise budget which accounts for only explicit costs and excludes opportunity costs: cash budgets. Economic budgets cover all the expected costs of running a farm business; therefore, they provide a better picture of expected costs and returns.

However, for producers who have significant equity in their farm businesses, an economic enterprise budget is likely to overestimate costs. For that reason, although the economic enterprise budget may show a negative economic profit, it does not necessarily indicate the business is unprofitable in accounting terms.

Recruiting Experienced Farmers was Essential

For the budgets to accurately represent small-scale farming in practice, we required input from experienced farmers. We needed to recruit farmers, but quickly discovered there was no comprehensive list of southwest BC farm businesses and contact information. Fortunately, we were able to use internet resources such as BC Farm Fresh and the Certified Organic Associations of BC's online directory of certified organic growers.

While the farmers we contacted were very excited about the project, many were unfamiliar with working with research institutions; they questioned how useful the project outputs might be. We believe the project's outcomes will demonstrate the value to farmers of working with researchers to produce tools and services that can assist farmers in making informed decisions.

With the help and advice of our project partners, and through the recommendation of other farmers, we were able to recruit a total of 26 farmers, who participated in focus-group workshops for data collection. Most of the farmers who provided information for vegetable budgets follow organic practices, some of them certified. Hazelnut and tree fruits farmers characterized their farms as small-scale and direct-market, following a mix of conventional and organic farming practices. For example, they followed integrated pest management practices. Goat, lamb and pork producers characterized their operation as small scale, free range and direct market.

Bringing Small-Scale Farming into Focus: Workshops with Farmers

The best time to conduct focus-group workshops with southwest BC farmers is in the winter between December and March. We arranged 14 workshops between mid-February and the first week of April 2014 to gather data on the 30 crops and livestock products selected. Each workshop had two to four participants and lasted between four and seven hours.

These workshops were a new experience for both the ISFS researchers and participating farmers. Small-scale farms typically produce a variety of vegetables, and in some cases also livestock, on a single farm. Therefore some farm equipment, such as a tractor, is shared between crops. However, enterprise budgets are prepared separately for each crop so that users will be able to compare them to decide what crops make the best economic sense for their operation. It was sometimes a challenge to determine how to allocate inputs to individual crops.

We asked farmers to tell us the farmland size that would represent a small-scale farming operation in southwest BC. This aroused intense discussions. Many small-scale farmers operate at different sizes and there is no standard definition for small-scale. However, participants agreed that the majority of small-scale farms in southwest BC are smaller than 10 acres, with high concentrations between two and five acres. To give representation to both ends of the spectrum, we decided to base some of the budget calculations on five acres and others on two acres.

The focus group sessions created an opportunity for farmers to come together and share their experiences. Some of the farmers told us these workshops were the first time they were able to discuss faming in detail with other farmers. Some of the questions we asked made them think a lot about the details of costs and returns on their farm operations. For example, while farmers know off the tops of their heads how many tractor hours or the total fuel cost it takes to till the whole farmland, they had to think carefully to estimate the detailed costs for just one specific crop within their mixed farm operation. Farmers answered our questions to their best knowledge and memory.

What's ahead?

The first drafts of the budgets have been developed and are now being reviewed by the participating farmers. All the budgets are expected to be completed by September 2014.

Once the revision and verification process is completed, the budgets will be publicly available on the ISFS website in a standard format. We will be hosting workshops across southwest BC to explain how to use these budgets. To learn more about the project and updates, please visit our website:

bcfoodsystem.com/enterprise_budgets

Learn More:

1. Hinman, Herbert R. Nov.2002. "Understanding and Using WSU enterprise budgets" Washington

State University Cooperative Extension
2. Carkner, Richard. Aug.2000. "Using Enterprise Budgets to Make Decisions about your Farm" Pacific Northwest Extension Publications
3. Harper, Jayson K., Cornelisse, Sarah., Kime Lynn F., Hyde, Jefferey. 2013. "Agricultural Alternatives: Budgeting for Agricultural Decision Making" Penn State University Extension

The ISFS enterprise budget project is generously funded through the 2013 EnviroFund, VanCity Savings Credit Union.

Ermias joined the Institute for Sustainable Food Systems at Kwantlen Polytechnic University in August 2013 as a research associate. His current work involves developing enterprise budgets for 30 crops and livestock. His research interests are economics of regional food systems; community economic development; economic valuation of natural resources; data and statistical analysis. Ermias earned a Master of Science degree in Resource Economics and Policy from the University of Maine, USA in 2011.

Contributing author: Dr. Kent Mullinix
The author would like to thank Caroline Chiu, Dr. Wallapak Polasub and Dr. Cornelia Sussmann for their valuable comments and suggestions.

Look for Enterprise Budgets on these Crops and Livestock Products

We chose 30 crops and livestock products that are common in the southwest BC small-scale farming market. The final selection was made in consultation with our project partners, Close to Home Organics and Farm Folk City Folk, based on three criteria: suitability to the climate, economic value and nutritional value of the crop/livestock.

Vegetables
bell peppers
beets
broccoli
bok choi
bush beans
brussel sprouts
cabbage
carrots
cucumbers
garlic
kale
lettuce
potatoes
radishes
rhubarb
spinach
tomatoes
turnips
yellow onions
winter squash
zucchinis

Animal Products
honeybees
lamb
goatmeat
pork

Fruits
apples
pears
plums
specialty crops
hazelnuts
hops

GreenBytes

Pollinators love organics

A recent study published in the journal Animal Conservation has found that organically managed vineyards have significantly higher numbers of interactions between pollinators and flowers than conventional vineyards, thanks to greater numbers of flowering plants. The study authors conclude the results show that organic farming will be critical for maintaining pollinator biodiversity in the future

organicalberta.org/news/higher-pollinator-biodiversity-in-organic-farms

Prevention of Invasive Plants

The Key to Healthier, Marketable Crops

By Julianne Leekie

According to the Ministry of Agriculture, farmers and ranchers in British Columbia lose an estimated $50 million in crop revenue annually to invasive plants, and spend several million dollars more on control measures such as herbicides and cultivation. Invasive plants harm the environment, the economy, and in some cases, human health and safety. With no natural predators, invasive plants grow rapidly, spread quickly, and form dense patches that displace native species and disrupt natural ecosystems.

Preventing the spread of invasive plants across the province—such as blueweed, spotted and diffuse knapweed, sulphur cinquefoil, and oxeye daisy—is key to producing healthier, marketable crops. And the first step is identification.

Spot the Trouble: Spotted Knapweed

Invasive plants like spotted knapweed (Centaurea biebersteinii) can have huge economic impacts by competing with desirable crops and reducing crop yields by up to 15 percent. Currently found throughout southern BC, spotted and diffuse knapweed (Centaurea diffusa) are a major concern in the Omineca, Peace River, Kootenay, Okanagan, Thompson, and Cariboo regions. Since animals rarely eat these species, infestations go unchecked on rangeland and wildlife habitat.

Spotted knapweed is a prolific seed producer, with individual plants producing up to 140,000 seeds per square metre. Diffuse knapweed plants can produce up to 18,000 seeds that can remain dormant in the soil for years. Both knapweeds spread by wind, livestock and people, preferring open areas and well-drained soils where they establish in grasslands, open forests, and along roadsides. Seeds and plant fragments make their way into hay and the undercarriages of vehicles, allowing for new infestations over great distances. These plants choke out desirable forage for livestock and wildlife and increase soil erosion.

A Potent Problem: Sulphur Cinquefoil

Another invasive plant of concern in southern BC rangelands and pastures is sulphur cinquefoil (Potentilla recta). Often mistaken for marijuana or ornamental strawberry plants because of its five stalky leaflets,

Clockwise from top left: blueweed, ox-eye daisy and sulphur cinquefoil.

sulphur cinquefoil is known among First Nations for its edible fruit and healing properties on open sores. However, infestations are impacting both native plant diversity and the agriculture industry with a powerful punch. In fact, the Latin word Potentilla, is derived from the word potens, meaning powerful. The name alludes to the medicinal value of sulphur cinquefoil; however, this can also apply to its ability to out-compete desirable forage plants that are crucial to wildlife and livestock.

Because of its unpleasant taste, sulphur cinquefoil is avoided by grazers, allowing the plants to out-compete forage crops and native vegetation. Even without grazing, sulphur cinquefoil out-competes forage grasses over time if it is not controlled, significantly reducing pasture productivity.

Sulphur cinquefoil can produce up to 1,600 seeds that survive up to two years, and disperse effectively through the digestive systems of birds, wildlife, and livestock. Seeds can also spread in mud caught in tire treads or undercarriages of vehicles and machinery, or by being picked up by hooves or hair. Additionally, plants spread through new shoots that emerge from the decaying main root, allowing it to live up to 20 years. Hand-pulling the entire root system is the most effective way to remove small infestations.

Crying the Blues over Blueweed

Like cinquefoil, blueweed (Echium vulgare) comes with a price tag to our ecosystems and economy. This highly invasive plan is a concern in the Cariboo, Central Kootenay, Columbia-Shuswap, East Kootenay, Okanagan-Silmilkameen, and Thompson-Nicola Regional Districts.

From a gardener's perspective, the pretty blue blossoms of blueweed plants attract bees, butterflies, and birds while deterring deer and rabbits from a daily nibble, making it a welcome addition to the yard.
However, most grazing animals will avoid blueweed since it is unpalatable; therefore, a small infestation will spread quickly, reducing the area available for food and forage crops and increasing overgrazing on pastures. As a result, infestations are associated with economic losses and rising management costs on agricultural lands.

Commonly called "viper's bugloss" because of its resemblance to a viper's head, blueweed has bright blue blossoms found on the upper side of short, rough stems. Although large infestations make a pretty photograph, this plant can spread quickly through ample seed production—a single plant can produce up to 2800 seeds. Seeds generally drop in the immediate area of the parent plant, but can be distributed further by people and animals, as the rough seeds stick to clothing, hair and feathers.

Disease carrier: Oxeye Daisy

Perhaps a surprise to many is the invasiveness of the well-known wildflower, oxeye daisy (Leucanthemum vulgare). In Greek mythology, the name 'oxeye' was a flattering name affectionately given to Hera, the Queen of Olympian gods and later given to this pretty daisy. More than a pretty wildflower, oxeye daisy is not a native species in BC, but an aggressive invader commonly found dotting low to mid-elevations in grasslands and dry to moist forests. It is present in the Kootenays, Lower Mainland, Vancouver Island, and a concern in the Cariboo, Okanagan, Peace River, Thompson, and Omineca. Oxeye daisy is a considered an invasive plant in 13 crops in 40 countries!

Oxeye daisy plants aggressively reproduce by seed and underground stems. A single plant produces 26,000 seeds and dispersal leads to new, dense infestations that alter the productivity of a pasture by replacing grasses, especially in an overgrazed area with low soil fertility.

Due to its unpleasant taste, most grazers avoid oxeye daisy, leaving it to spread easily within grazed grasslands, pastures, and rangelands. Infestations decrease forage for wildlife and local plant biodiversity. Even if some plants are eaten, as many as 40% of the seeds consumed by livestock may remain viable after passing through the digestive tract. These plants have also shown to carry several crop diseases including the yellow dwarf virus of potatoes, creating economic losses for both ranchers and farmers.

To learn more about prevention and the best management practices for these and other invasive plants, visit the Invasive Species Council of BC's website (www.bcinvasives.ca) for TIPS Factsheets, as well as the popular Grow Me Instead booklet, which identifies 26 of the province's most unwanted invasive plants in horticulture and provides expert-recommended alternatives for all of BC's growing regions.

Thank you for your actions that help prevent the spread of invasive species in BC. Report invasive species to: the ISCBC hotline (1-888-933-3722); Report-A-Weed app (www.reportaweedbc.ca); regional invasive species committee (contact list at www.bcinvasives.ca); or regional district.

For more information, or to connect with your local invasive species committee, visit:

www.bcinvasives.ca

Julianne Leekie is a Communications Officer with the Invasive Species Council of BC (ISCBC), a registered charity and non-profit society working to minimize the ecological, social, and economic impacts caused by invasive species. The organization's goals are to: educate the public and professionals about invasive species and their risk to ecosystems and economies through activities such as workshops, seminars and newsletters; coordinate and fund research relating to invasive species and make this available to the public; and undertake and support actions that improve the health of BC's natural ecosystems.

...Keeping Kids Safe, continued from page 13

For instance, job assignments for 14 and 15 year old youth should occur in non-hazardous work environments only. The range of options can expand for 16 and 17 year old youth, but only if they have taken either vocational or other work-based learning programs and have the written consent of their parents.

Working Hours

Hours of work are another important factor to consider when scheduling young workers for farm tasks or shifts. Young workers require shorter work hours and more frequent breaks than an adult. Youth under the age of 18 are in a rapid state of growth and development and need more time for sleep and rest. Young workers also need time to participate in school, family and community recreation activities to help them develop into balanced adults.

When Are Workers No Longer "Young"?

It is important to acknowledge that nothing magical happens at age 18 in terms of maturity or risk of injury, so it is important to always evaluate the competency of a young worker against risk of injury on a task-by-task basis. And as always, it is important to review the provincial legislative requirements for young workers, which govern hours of work and safety and health regulations.

Young workers can be an excellent asset to any farm workplace, but it is important to provide them with the special attention, supervision, training and orientation they need to be productive and safe.

Credit: Arzeena Hamir

Resources

Canadian Agriculture Safety Association
- www.casa-acsa.ca

WorksafeBC
- www.worksafebc.com

For more information on the Canadian Model Youth Policy: Youth Employment in Agriculture, visit
- www.casa-acsa.ca/CanadianModelYouthPolicy

Canadian Agricultural Safety Week (CASW) is an annual public education campaign focusing on the importance of safe agriculture. In 2014, the theme for CASW is Let's Talk About It! and encourages farmers to engage in conversations about safety through a combination of farmer testimonials, producer resources and videos.

The Canadian Agricultural Safety Association (CASA) and the Canadian Federation of Agriculture (CFA) deliver CASW in partnership with the Government of Canada through Growing Forward 2, a federal, provincial, territorial initiative.

CASA had developed a set of voluntary guidelines for farm operators to use when employing young workers on their farms.

... Roundup Reality, continued from page 7

The lab rats were fed three different diets: the GM corn alone, the GM corn grown with Roundup (and hence with Roundup residues), and Roundup alone.

The team summarized their results in a recent press release, where they stated that Roundup and Roundup Ready corn should be considered endocrine (hormone) disruptors:

"…Roundup causes severe liver and kidney deficiencies and hormonal disturbances, such as breast tumours, at low environmentally relevant levels. Similar effects were observed from the chronic consumption of Roundup-tolerant GM maize [corn]." Importantly, the first tumours were observed one month after Monsanto's own 90-day test ended – and peaked at 18 months. If this study is followed-up and validated, the implications for both industry and governments are huge.

The significance of the findings could explain why the study, and Séralini himself, has been so roundly attacked. The study was first published in 2012 in the journal Food and Chemical Toxicology, but was retracted a year later after a coordinated industry backlash that included the appointment of a former Monsanto employee to the journal's editorial board.

Séralini's paper was re-published this June, in the online journal Environmental Sciences Europe. The journal's editor said, "We want to enable a rational discussion about the study." This, unfortunately, seems unlikely.

The GM trait NK603 was approved in Canada in 2001, three years before Monsanto published its own short, now challenged, 90-day feeding trial. For over a decade, corn with this GM trait has been used for animal feed and processed food ingredients, and recently appeared in GM sweet corn (2012). Is Health Canada open to a genuine evaluation of their 2001 decision?

We don't know what, if any, negative health impacts there might be from eating GM foods. What we do know is that our regulatory agencies rely on corporate science to make their decisions, and that this data is classified as "Confidential Business Information." These companies are increasingly aggressive in defending their science, and in painting public concern about health questions and secrecy as hysteria.

Time for a Real Debate

There is a fairly vicious back-and-forth in the media at the moment, and social media in particular, over the science of GM. This seems to be favoured terrain for the biotech industry, which has managed to label GM critics as "anti-science" in much of the mainstream media. This is almost as ludicrous as the industry calling GM critics "anti-agriculture" in the farm press. The mud-slinging and high rhetoric, on both sides, is eroding the possible space for reasonable debate.

For much of the public, however, the time for reasonable debate has passed. What conclusions can the public be expected to draw when there is still no GM food labelling? When GM 2,4-D tolerant crops are the industry's solution to glyphosate resistant weeds? And when the first long-term study of GM corn was seemingly booted out of the scientific literature by industry pressure?

The fact is that there is a competing vision for our future. Organic farming already provides the tools we need to feed ourselves, fight climate change, build healthier soils, protect our water and support family farmers. The real debate should now focus on what type of agriculture and food system we want and need. We already have all the evidence we need to have that debate, and everyone has access to it.

Learn More:
For further background on the Séralini story: www.cban.ca/Resources/Topics/Human-Health-Risks

"GMO Myths and Truths, An evidence-based examination of the claims made for the safety and efficacy of genetically modified crops", Second Edition. May 2014. Earth Open Source: http://earthopensource.org/index.php/reports/gmo-myths-and-truths

www.cban.ca

Lucy Sharratt works in Ottawa as the Coordinator of the Canadian Biotechnology Action Network, (CBAN). CBAN is a campaign coalition of 18 organizations including farmer associations, environmental groups and international development organizations, all of which have various concerns about genetic engineering. Lucy previously worked as a campaigner and researcher on this issue at the Sierra Club of Canada and the Polaris Institute.

ORGANIC POTATOES
Post Harvest Risk Assessment

Ugly spuds: rot and blight strike again

Clockwise from top left: dry rot, late blight, pink rot and pythium leak. Credit: K. Jack.

By Kiara Jack and Marjolaine Dessureault

Potatoes are an important income-generating crop for many growers in the Lower Mainland and throughout BC. It requires a lot of care and attention to produce a healthy potato crop and growers' efforts do not end at harvest.

Great economic loss can be encountered during the post-harvest stage of potato production, both through direct costs (loss of tuber sales) and indirect costs (which can include the potential loss of consumer confidence, as well as additional time spent grading). To help growers understand and prevent post-harvest potato diseases, our recent study, funded jointly by the Organic Sector Development Program and Fraserland Organics, focused on damage and disease issues at harvest and in storage.

All potatoes sourced for this study were gathered from organic potato fields in Delta, BC. The fields belonged to three different growers and were managed using typical practices for organic production, with all nutrient, irrigation and pest management choices made by individual growers.

More potato issues: silver scurf (left) and soft rot (right). Credit: K. Jack.

Potato Diseases and their Sources

Potato quality can be greatly reduced through handling practices at harvest and while grading and storing. Diseases present in the field or on equipment will also degrade potatoes as infection spreads in storage. Damage while handling tubers increases the risk of disease development and spread as wounds create easier entrance for some diseases.

Several of the most common and serious storage diseases either enter exclusively through tuber wounds, or these wounds greatly increase the probability of disease access. Some of these serious diseases include:

- bacterial soft rot (Erwinia carotovora
- late blight (Phytophthora infestans)
- Fusarium dry rot (Fusarium spp.)
- Pythium leak (Pythium spp.)
- pink rot (Phytophtora erythroseptica)
- silver scurf (Helminthosporium solani)

Not only will diseases enter through the initially damaged tuber, many diseases will spread to surrounding tubers—even in cold storage, escalating the problem.

Bruise Reduction Guidelines

A few basic bruise reduction guidelines include:

- harvesting mature tubers when skin is set and when pulp temperature is between 10-16˚C, maintaining soil on the primary chains,
- running machinery at full capacity,
- avoiding chain shakers,
- ensuring drops are less than 15cm on all lines and
- overlooking machinery for sharp edges.

We recommend testing different varieties at different times during storage. For larger-scale operations with lengthier storage times, tuber assessment during storage may be useful in order to select tubers for shipment.

Tuber damage at harvest

We assessed the variety of wounds (skinning, bruising and cuts) that can take place during potato harvest and during washing and bagging. There are varying reasons for each type of damage, such as poor tuber hydration, poor skin set and impact points. For tuber damage assessment, potatoes were collected from eight fields during harvest.

Two different types of equipment (Grimme GT 170 and Grimme GZ 1700 DL) were assessed. Tubers were collected manually from the field and at six different locations on the harvester.

Collection locations were chosen to account for potatoes either dropping, or changing chains or direction (where damage is likely to occur). In addition to samples taken at harvest, we tracked tubers from three of the eight fields along the washing and bagging lines. Tubers were assessed based on varying degrees of damage after they were left in a hot box (Deep freezer with portable heater, bucket of water and temperature gauge) for a minimum of 12hrs with the temperature set to 35 °C, as this increases bruising visibility.

We observed greater damage happening during the washing and bagging of tubers than during field harvesting. Bruising was the most common type of damage and was found to increase at three positions along the washing and bagging line (on the picking table, belt and into bags) and four positions along the harvester (primary and secondary chains, picking table to multi-sep, and as tubers are dropped into the truck).

Post-harvest diseases

Secondly, the incidence and severity of common storage diseases was assessed by inspection of tubers at harvest (varieties: Satina, AC Peregrine and Yukon Gold) and after two months in storage (AC Peregrine and Yukon Gold). Some diseases are an issue both during the growing season and in storage (such as late blight) and others (such as silver scurf) are problems in storage only.

In our trial, silver scurf, rhizoctonia, common scab and soft rot were the most prominent diseases and were assessed for their incidence and severity. Severity of silver scurf, rhizoctonia, soft rot, and common scab were comparable between freshly harvested and stored AC Peregrine variety tubers. Silver scurf severity did intensify slightly on Yukon Gold tubers after two months of storage, however all other diseases remained at similar levels.

Post-harvest Control of Diseases

Finally, the efficacy of three registered organic fungicides were tested for post-harvest disease management. The products tested were Bio-Save® 10 LP (Pseudomonas syringae), Serenade® ASOTM (Bacillus subtilis), and StorOx (hydrogen peroxide) along with a water treatment (Control). These products were applied to tubers shortly after harvest, and tubers were held in storage for two

months . We used the potato variety Norland which is very susceptible to silver scurf and we concentrated on three diseases for this portion of the study: silver scurf, soft rot, and rhizoctonia.

The label rate for each product was used. Tubers were stored in a commercial potato storage facility after treatment where conditions were 2.8°C and 99% RH. Disease incidence and severity were assessed pre-treatment and two month post-treatment. Serenade ASO and StorOx were found to suppress silver scurf and soft rot development in storage while Bio-Save 10 LP was found to suppress silver scurf development compared to the water only Control treatment. Rhizoctonia development was not found to be supressed by any of the products but disease pressure was low.

By focusing on bruising damage we were able to identify key locations where our collaborating growers can focus their efforts to reduce damage. We recommend that all growers think about similarly assessing their harvest practices in detail to be able to identify specific areas where changes could be made to their operations.

Kiara Jack has a Diploma in Environmental Studies from Langara College and B.Sc in Global Resource Systems from UBC. She has completed the Seed Potato Certification Inspectors' Training Course with the CFIA. Kiara specializes in IPM for conventional potatoes. Her research has focused on tuber damage reduction at harvest and thrip and two spot spider mite control in potatoes.

Marjolaine Dessureault specializes in IPM for seed potatoes, organic vegetable crops and cranberries. She has a B.Sc. in Agronomy from Laval University and is a professional Agrologist with the BC Institute of Agrologist. She has completed the CFIA Seed Potato Inspector Course and coordinates the field portion of the Western Canada Seed Potato Post-harvest Test in Hawaii.

Find the full report at:

www.certifiedorganic.bc.ca/programs/osdp/I-175_Organic_Post_Harvest%20Final_Report.pdf

Best Practices for Potato Storage

Overall, best management practices suggested for reducing storage rots include:

- harvest when the tubers are mature and the soil is cool
- minimize bruising by reducing physical impacts during harvest
- encourage wounds to heal quickly by drying and cooling
- maintain adequate airflow in storage
- avoid condensation in storage
- maintain sound storage hygiene.

Post-harvest products can be used as additional tools but should be used in combination with good management practices. The efficacy of post-harvest treatment can vary with disease pressure, storage conditions and storage length.

Toxic Ergot Alert!

The Dangers in Winter Rye

By Marjorie Harris

The wet weather of 2014 has favored the development of heavy toxic ergot mold infections in cereal grains around BC. The winter rye cover crops that weren't turned under in early spring and were allowed to grow to mature seed heads are particularly heavily infected, as well as the triticale to a lesser degree.

Yet many farmers are still unfamiliar with this plant disease and how to manage or prevent it. In response, the BC Organic Grower is reprinting excerpts from the following article from its winter 2011 issue.

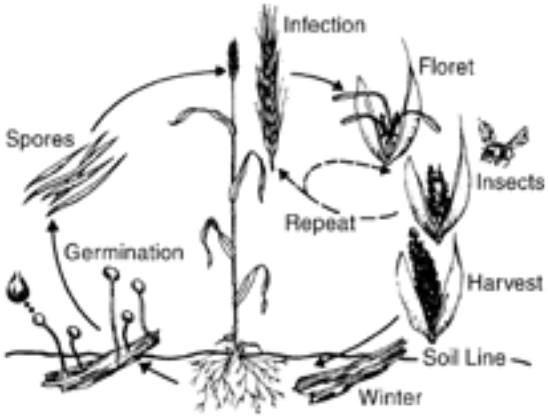
Ergot is a plant disease caused by the parasitic fungus Claviceps purpurea, which infects cereal grains, forage grasses and wild grasses, producing poisonous mycotoxins (alkaloids: ergotamine, ergotoxine, and ergometrine), that are very toxic to livestock, poultry and humans. Four well-recognized forms of ergotism occur in animals, birds and humans:

1. The acute form creates convulsions and central nervous system derangement.
2. The chronic form develops into gangrene.
3. A hyperthermia form increases body temperature
4. A form that causes abortion, prolonged gestation, agalactia (no milk), and foal death.

Acute or Chronic Ergotism, formerly known as St. Anthony's Fire, was the scourge of Europe from more than 600 years, until the cause was finally discovered to be ergot-infected grains.

Ergot outbreaks are not a thing of the past: in 1951 an outbreak in France caused 5% of the villagers of Pont Saint Esprit to go mad. They had hallucinations, writhed in agony, vomited, ran crazily in the streets and suffered terrible burning sensations in their limbs. The ergot source was traced to contaminated flour used at a local bakery.

Mycotoxins can accumulate in the food chain (for example, in dairy products) and in food processing, and their potency is only partially reduced by high temperatures in baking, which means they remain in products such as bread.



Alternative Cover Crops

The situation is so serious with the repeated ergot infections that I suggest alternative cover crops, some of which can effectively avoid the ergot problem altogether, and perhaps even provide better benefits for commonly desired cover crop attributes including: erosion fighter, nitrogen source, nitrogen scavenger, and soil builder.

Cool season grass
Barley, Oat, Wheat, Annual Fescue

Cool season broadleaf (non-legume)
Phacelia, Flax, Spinach, Kale, Canola, Mustard, Turnip, Radish, Beet, Carrot

Cool season broadleaf (legume)
Field Pea, Lentil, Lupin, Vetch, Berseem Clover, Red Clover, White Clover, Sweetclover, Medic, Birdsfoot Trefoil, Sainfoin, Alfalfa

Warm season broadleaf (legume)
Chickpea, Cowpea, Soybean, Mung Bean

Warm season broadleaf (non-legume)
Amaranth, Buckwheat, Sunflower, Safflower, Squash, Chicory

Warm Season grass
Pearl Millet, Foxtail Millet, Proso Millet, Sudan Grass, Teff,

Grain
Sorghum, Corn

www.joe.org/joe/2013june/tt7.php

Ergot mycotoxins are only slowly eliminated from the human body and can become concentrated in the blood stream, leading to Ergotism. This syndrome is

most commonly seen among grainery workers but can occur anywhere in the population.

The Canadian Grain Commission's "Primary Grade Determinants for Ergot Official Grain Grading Guide" tables indicate that all grades of grain carry a percentage of ergot contamination measured by weight. In decreasing order of infection incidence, ergot is most prevalent in rye, triticale, wheat, barley, and is only rarely found in oats.

Preventing Ergot Mould

Prevention strategies are directed at breaking the two-state disease cycle. The first state starts in the spring when the soil-bound ergot bodies germinate, producing ascospores that become wind-borne, infecting blooming grass florets. In the second stage, called the "honeydew stage," the florets exude a sticky ooze of spores that are spread to other florets by insects and/or rain.

Once an infestation is discovered, removal must be done carefully, wearing a mask to prevent inhalation of the spores. Gloves should be worn to stop absorbance of mycotoxins through the skin. To help prevent crop re-infection, remove the diseased plants before the ergot bodies fall the ground, increasing the soil load.

Ergot tends to grow more heavily on the outer edges of the grain planted fields, where it comes in contact with the wild grasses, so mowing headlands and roadways before wild grasses flower helps to limit stage one.

Tips

- Crop rotation away from cereal grains from one to two years limits ergot survival.
- When using winter rye as a green manure, make sure to plow it under in the spring, as it is at high risk for infection if allowed to mature.
- Plant clean seed for grain or forage grasses.
- Till under crop residue at least 4cm to make ergot germination less successful.
- Keep heavily infected crops separate from clean crops when delivering to the grain elevator.

Marjorie Harris, BSc, (Limnology and Soil Science), A. Ag. & IOIA V.O. (Crops, Livestock and Processing)

This article is excerpted from a longer article published in the Winter 2011 issue of the BC Organic Grower (vol. 14, issue 1) by Marjorie Harris, entitled "Ergot Fungus Infection: A Short History & Management Strategies for Organic Farms."

Events & Announcements

Events

The 2015 COABC Conference will be held in Chilliwack at the Best Western Rainbow Country Inn, February 27 - March 1, 2015.Watch the COABC website for more information:
www.certifiedorganic.bc.ca

Farmers Appreciation Week September 8 - 15, 2014 - 5th annual Farmers Appreciation Week to raise public awareness of the important contribution that local food and local farmers make to our lives and highlight the ways we can support local food and small farms, such as shopping at the farmers' market. See the BC Association of Farmers Markets for more information:
www.bcafm.org

National Organic Week, September 20-28 - The largest annual celebration of organic food, farming and products across the country. Register your event, or find an event near you at www.organicweek.ca.

9TH Annual Organic Okanagan Festival September 28th, 2014 from 11:00 am - 4:00 pm. Rotary Centre for the Arts, 421 Cawston Avenue, Kelowna. The most comprehensive and enjoyable green living exposition in the Okanagan Valley. Enjoy a Certified Organic Farmer's Market, Green Living Marketplace, organic food court, great live local music and Activist Alley too! Info at:
www.okanagangreens.ca

FarmFolk CityFolk's Feast of Fields A 4-hour wandering harvest festival that highlights the connections between farmer and chef, field and table, and farm folks and city folks. Join them to celebrate the 20th Metro Vancouver Feast, 17th Vancouver Island Feast and 6th Okanagan Feast. Details at:
www.farmfolkcityfolk.ca/

15th Annual Salt Spring Island Apple Festival, September 28, 2014, 9am-5pm, Fulford Hall, 2591 Fulford-Ganges Road. Theme: Celebrating the Magic of Mother Nature. More information: www.saltspringmarket.com/apples

Ploughing Workshop with Horses and Tractors, Deerfoot Farm, September 21, 2014. 4420 Hullcar Road, Armstrong BC. Hosted by Young Agrarians and Deerfoot Farm. To register contact David Doran: 250-546-6884. daviddoran@telus.net

The Freak'n Farmer, September 20, 2014, 7:00am - 4:00pm. Covert Farms Family Estate, 300 Covert Place, Okanagan-Similkameen. Tickets for this adventure obstacle race are available at: eventbrite.ca/e/the-freakn-farmer-tickets-8643010477?aff=efbevent

BC Seed Gathering November 14-16, 2014, Richmond - The 2nd annual provincial gathering of seed growers, community leaders, and farmers from across BC. Sessions on growing for seed, developing local seed banks and a wide range of other topics. Theme: Sharing the knowledge of seed growing and saving, learning from our seed saving knowledge keepers. Co-Sponsored by FarmFolk CityFolk and KPU's Institute for Sustainable Food Systems. For more info: www.farmfolkcityfolk.ca

Announcements

UBC Practicum in Sustainable Agriculture An eight-month experiential learning program designed for aspiring farmers, urban gardeners, environmental educators, and students with an interest in applying their learning about sustainable agriculture and food systems. Applications for 2015 now open at; ubcfarm.ubc.ca/community/practicum-in-sustainable-agriculture/

COABC
Certified Organic Associations of BC

ORDER FORM

202-3002 32nd Avenue, Vernon, BC V1T 2L7; p: 250 .260.4429; f: 250.260.4436; office@certifiedorganic.bc.ca

Enterprise Name: _____

Contact Name: _____

Address: _____

City/Province: _____

Postal Code: _____ **Phone Number:** (___)_____

Certification Body & No.: _____

Date Ordered: _____ **Date Required:** _____

PST Exemption (for packaging materials)

☐ Option 1:
PST Number: _____

☐ Option 2: Certificate of Exemption

Farmer exemption form:
www.sbr.gov.bc.ca/documents_library/forms/0458FILL.pdf
Other enterprises exemption form:
www.sbr.gov.bc.ca/documents_library/forms/0490FILL.pdf
or request the appropriate exemption form from the office.

Item	Units	Unit Price	Quantity Discount	Quantity	Total
Stickers 1" round	1000 pc roll	$13.50	10 rolls $120.00		
Stickers 1 1/4" square	1000 pc roll	$10.50	10 rolls $90.00		
Twist Ties 10" (15,000 per case)	1000 pc	$13.00	Full Case-$165.00		

The packaging materials above are only available to COABC Certified Organic members and are PST exempt for qualifying enterprises (see above).
Have you signed a Consent to use Official Marks Declaration Form (July 2006 revision)? Y/N
With which products will you be using the packaging materials?_____
_____

Promo Materials: available to everyone	Member $	Non-member $	Tax		
Bucket Hats size M or L *	$15.75	$15.75	PST taxable		
Ball Caps	$13.10	$13.10	PST taxable		
Green T-shirts L or XL *	$18.00	$18.00	PST taxable		
Natural T-shirts (Logo) M *	$7.25	$7.25	PST taxable		
Natural T-shirts (Plain) S, XL or XXL	$5.00	$5.00	PST taxable		
Organic Livestock Handbook 2nd Edition *	$30.00	$27.50	No PST		
Organic Tree Fruit Management	$19.95	$25.95	No PST		
Western Canada Organic Directory	$6.00	$6.00	No PST		
			Sub-total (before taxes and shipping):		

*Limited quantities available - please contact the COABC office for availability GST # 887782431

Postage Rates
Minimum charge of $10.00 per order for any promo and/or packaging materials
GST will be added to postage amounts
Rates vary and will be calculated at the office

An invoice will be sent with your order. Postage and applicable taxes will be added to your invoice.
Please do not send payment before receiving invoice.

TO ORDER ONLINE VISIT:
WWW.CERTIFIEDORGANIC.BC.CA

THE ENVIRONMENTAL FARM PLAN

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Project funding available!

HERE TO HELP
Heather Moberg, Planning Advisor for the EFP Program

Meet Your Planning Advisor

Environmental Farm Plan (EFP) Planning Advisors are helping B.C. farmers minimize agriculture's impact on the environment. Planning Advisors are also confidentially helping B.C. farmers better understand agriculture related environmental regulations. Your friendly and local Planning Advisor will help you, at no charge, create a customized environmental action plan for your farm. Use this plan to prioritize and voluntarily address any environmental risks that you identify on your farm. After all of the necessary risks on your farm have been addressed, apply for a certificate of completion and receive the widely recognized EFP farm gate sign!

"NOW IS THE TIME"
Ken Clark, General Manager Fresh Overwaitea Food Group

What Consumers Want

Consumers increasingly base their buying decisions on a desire to support environmental sustainability. Farmers who have an implemented Environmental Farm Plan are serious about reducing agriculture's impact on the environment. Join over 4,000 B.C. farmers and ranchers who have an Environmental Farm Plan by signing up for your on-farm visit with your local Planning Advisor today at **www.bcefp.ca**

Do you want to improve product traceability or improve your on-farm food safety? Cost shared funding up to 90% is available for some programs. Apply online today at www.bcac.bc.ca/ardcorp

"A VALUABLE PLANNING TOOL"
Susan Snow, Snow Farms Ltd.
COABC Co-President

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The B.C. Agricultural Research & Development Corporation is a wholly owned subsidiary of the British Columbia Agriculture Council (BCAC). Working with BCAC and the federal and provincial governments, ARDcorp delivers effective and affordable programs and services that advance both the individual producer and entire agriculture sector while benefitting local communities. ARDcorp provides funding and assistance for a variety of producer-focused programs for which eligible BC farmers and ranchers may apply. For more information about ARDcorp delivered programs visit www.bcac.bc.ca/ardcorp

www.bcefp.ca

Funding for the above programs is provided by *Growing Forward 2*, a federal-provincial-territorial initiative.

Growing Forward 2
A federal-provincial-territorial initiative

British Columbia

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