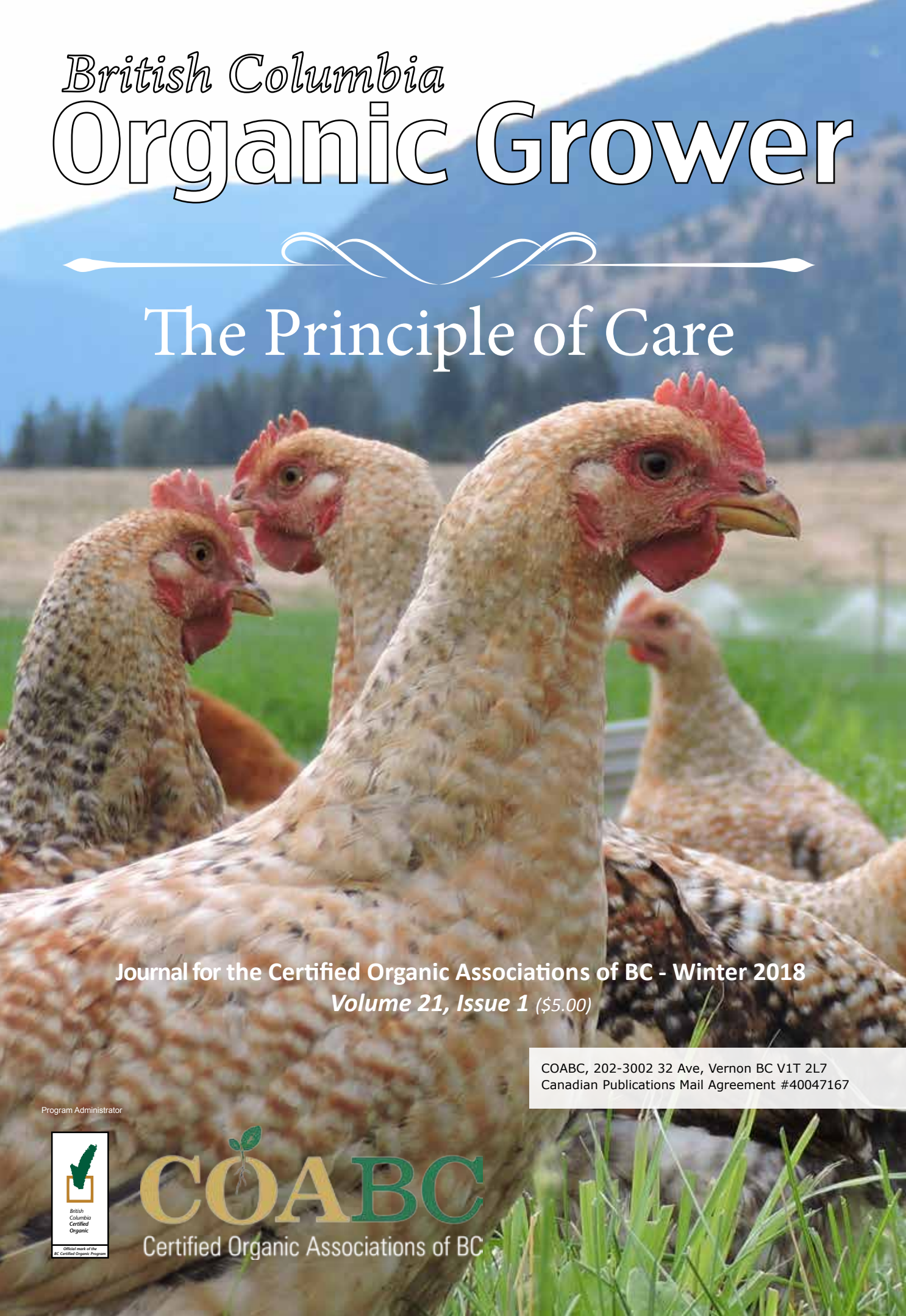

British Columbia Organic Grower

The Principle of Care

Journal for the Certified Organic Associations of BC - Winter 2018
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COABC
Certified Organic Associations of BC

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BC Organic Grower

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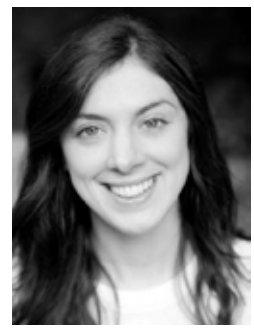
For general information or to contact your local Certification Body, call the office – or check our website:
certifiedorganic.bc.ca

On the Cover: Tristan and Aubyn Banwell of Spray Creek Ranch. Credit: Tristan Banwell.

Editor's Note

By Darcy Smith

Principle of Care—Organic agriculture should be managed in a precautionary and responsible manner to protect the health and well-being of current and future generations and the environment.



The last few issues of the BC Organic Grower have explored the principles of organic agriculture—principles that, as IFOAM puts is, "are the roots from which organic agriculture grows and develops. They express the contribution that organic agriculture can make to the world". Fairness, Ecology, Health, and, in our Winter 2018 issue, Care: while each principle is essential to the ethical underpinnings that inspire the organic movement, arguably it all starts with the Principle of Care. Organic farmers and food producers are responsible to and for the land and soil, each other, and future generations. All choices—what pest control methods to use, how to manage the land, which new technologies to adopt—flow from this sense of care.

Our Organic Stories feature, Spray Creek Ranch, demonstrates how practicing regenerative agriculture founded on the organic principle of care can strengthen the health and vitality of both land and community—dive into their approach to land management on page 8.

Seed catalogues and the promise of new green shoots get many of us through these dark winter months. On page 18, Shauna MacKinnon highlights inspiring moments from the BC Seed Gathering, and on page 16, Meagan Curtis from the BC Eco Seed Co-op explores seed saving as a reflection of the principle of care.

On page 6, Rebecca Kneen takes us from the concept of care to execution with a detailed look at the ins-and-outs of sanitizing, sterilizing, and disinfecting in organic operations. This issue also features the last chapter in a four part series from Charles Levkoe and Michael Ekers on unpaid farm labour, this time exploring legal implications (page 22).

In Footnotes from the Field, Marjorie Harris goes microscopic, exploring recent research on mycorrhizal fungi and implications for soil fertility management (page 25), and in our Ask An Expert column, Karen Fenske outlines the steps to caring for the next generation of farmers with successful succession planning (page 30).

In 2017, the Ministry of Agriculture introduced a new Industry Specialist for Organics position, and in this issue Susan Smith pens an introduction to Emma Holmes, who is already hard at work with organic farmers across BC (page 15). Welcome, Emma!

Finally, it's almost time for #COABC2018! Our theme this year is Bioregionalism: Resilience in a Changing Climate—head over to page 12 to plan your conference experience.

Our Organic Stories feature profiles members of the organic community each issue, from farmers to researchers to movers and shakers. Sometimes we seek out a profile that fits with our theme, as in this issue, though more often, the stories find us. If you'd like to see your farm featured, or you know of someone who should be in our pages, we'd love to hear from you.

We're always looking for story ideas and writers to help share all the wonderful things happening in the organic community. Reach out with your thoughts, letters, and story ideas to editor@certifiedorganic.bc.ca—and be sure to visit us online at:

bcorganicgrower.ca

Hill Day

This year marked COTA's 10 year anniversary—and their biggest and best Policy Conference and Lobby Day yet. On October 17, representatives from across Canada came together for a conference on issues affecting the organic industry. The next day featured the annual Lobby Day, where coordinated teams stormed the hill to voice concerns and celebrate achievements in meetings with MPs.

COABC was represented by Executive Director of Operations (EDO) Jen Gamble and Board of Directors member Paddy Doherty. Both met with federal MPs to raise awareness of the organic sector, and COABC EDO Jen Gamble presented a BC update to attendees of the conference.

COABC Strategic Planning Session

In early November, COABC hosted a productive meeting of the BC organic sector to discuss direction for the next five years. Many items, including communications, research, and sector capacity were highlighted as areas of importance. The 2018 - 2023 plan is in the editing process and will be available on the COABC website in the new year.

Pacific Agriculture Show

The Pacific Agriculture Show is coming up. Be sure to visit us at the COABC booth!

January 25 - January 27, 2018, Tradex Exhibition Centre (Abbotsford Airport) | Abbotsford, BC

More info:
agricultureshow.net

Mix It Up This Winter with Young Agrarians

Young Agrarians has a jam-packed series of events in January and February. Come learn and network at a Mixer or Land Link near you!

Salmon Arm Land Link | Jan 13
Revelstoke Land Link | Jan 14
Kelowna Mixer | Jan 27-28
Richmond Land Link | Feb 4
Vancouver Island Mixer | Feb 10-11
South OK Land Link | Feb 17

More info:
youngagrarians.org/events

Organic Online System

The Organic Online System is an innovative online tool for organic certification. Using the Organic Online System, operators will be able to apply for and renew certification online. Here are answers to a few Frequently Asked Questions:

Will I be able to use the Organic Online System for my 2018 application?
COABC has created a tool that can be used by any CB that is a member of COABC. Each CB has identified a strategy for adopting out the Organic Online System that will best suit the needs of the CB and its members. Factors may include deadline for applications, CB capacity, and more.

Each CB will communicate with its members when the online platform will be available, so please wait for information from your CB. Transitioning to the new online system will take

time and may come with a few hiccups, so both the COABC and CBs appreciate your ongoing patience and support during this time.

Below, we've included a number of Frequently Asked Questions about the Organic Online System. These and more questions can be found online at: certifiedorganic.bc.ca/OrganicOnlineSystem

We'll be updated the FAQs page regularly with additional answers.

What will I need to use the Organic Online System?
To use the Organic Online System, you will require an Internet connection. Answers can be saved at any point, and you can return to the application later.

What if I don't have access to Internet or a computer?
While we hope that members will see the value in using the Organic Online System, we understand that for some members, it won't be possible. CBs will have a PDF alternative that will be provided to members who aren't able to use the Organic Online System.

Will the Organic Online System make the application process more complicated?
The goal is to make the application and renewal process easier for operators. The first time you use the Organic Online System, you will complete an "initial application." It may seem more difficult or take more time than usual as you adjust to the online application system. However, after you submit your initial application through the Organic Online System, you will find that renewals will be much simpler and reduce the amount of time you spend on renewals each year.

Will I have to fill out all the forms again every year I renew?
No. After you have completed an initial application through the Organic Online System, your application will be stored. When you apply for renewal the following year, your renewal will automatically populate with the answers and attachments you provided the previous year. You will need to review the information and make any necessary changes before submitting the application.

How can I learn how to use the Organic Online System?
COABC is currently developing a user guide for operators that will include step by step instructions for all aspects of the Organic Online System operator portal, including how to set up an account, how to start an application, how to complete an application, how to use the "Tasks" function, and how to submit "Approval Requests". You will also have access to a library of short videos that will demonstrate how to use different aspects of the Organic Online System operator portal.

How safe is my information?
All information submitted to the Organic Online System is securely stored on servers located in Canada, and backed up regularly. The Organic Online System was designed with the security of your information as a priority.
If you have a question that isn't answered in the FAQs, please email:

info@certifiedorganic.bc.ca

This project was funded in part by the governments of Canada and British Columbia through programs delivered by the Investment Agriculture Foundation of B.C.

Impressive Growth of Canada's Organic Market

On Thursday November 30th, 2017, the Canada Organic Trade Association (COTA) released their much-anticipated Canadian Organic Market: Trends and Opportunities 2017. This report is the second study by COTA providing a comprehensive look at Canada's organic market. The report combines consumers research with sales and trade data to provide valuable insight into market size, growth trends and Canadian consumer perceptions.

Since the report was last released in 2013, the organic market in Canada has experienced significant growth. "Canada's organic sector remains on its upward trajectory, gaining new market share as consumers across Canada eat and use more organic products than ever before," says Tia Loftsgard, Executive Director of COTA. "It is an exciting time to be a part of a sector that shows such promise to bring positive economic, social and environmental change to Canada."

The report combines sales data from the Nielsen Company, consumer data from Ipsos polls, and organic trade data from Statistics Canada. The report is rounded out with secondary research and analysis carried out by COTA, with additional insight and analysis from leading organic experts.

Don't get caught with outdated data! Purchase your copy of the Report at:

canada-organic.myshopify.com

CLEANING

Sanitizing, Sterilizing, and Disinfecting

No loose hair in a food processing environment unless it's a photo shoot! Rebecca Kneen at Crannóg Ales.

By Rebecca Kneen

Cleanup. We do it every day, in our homes and on our farms and in our food processing. For some of us, cleaning and sanitizing takes up more time than actually making or growing. For many farmers, though, cleaning is very much secondary to our primary goal of growing great food. Sure, we'll spray out our picking baskets with water after digging potatoes in the rain, and we'll make sure our salad spinner is free of chunks of clay and dried plants, but how much further do we need to go? And do we need to worry about sanitation at all?

Our regional Health Departments tend to prefer every food surface be disinfected, not just cleaned and sanitized, but few of us would adopt this either in principle or in practice. Fortunately, there's a middle ground. I shall insert here a caveat for all readers: I am NOT a food safety expert. I am a Certification Committee member for NOOA and a brewer and farmer. This article is not the final word, but will hopefully be a useful basic guide.

First, it is necessary to differentiate between cleaners and sanitizers. Cleaners remove dirt, organic material, and some germs (bacteria, viruses, and fungi) by physically washing them away. They do not kill. Sanitizers are chemicals that actually kill bacteria, viruses, and fungi. Disinfectants kill more than sanitizers, but are not always necessary. A surface that is not already clean cannot be sanitized, no matter how hard you try. Cleaners and sanitizers must come in contact with 100% of the surfaces, including valves, corners, and other "blind" areas. And yes, more time and the correct temperature will increase effectiveness, while increased concentration can actually impede the usefulness of any given chemical.

The main principles of any cleaning and sanitizing regime are correct chemical & concentration, complete coverage, and sufficient time and temperature.

For most daily low-risk food applications, proper cleaning is all that is required. If a food is likely to be directly ingested after harvest (as with herbs, microgreens, or sprouts) without the consumer washing them, handling surfaces must also be sanitized, as water- or soil-borne bacteria can relatively easily remain on the food.

Our first approach, of course, is to use only water that is potable and to test regularly. City water is tested daily, but on-farm water sources should be tested annually or, for microgreens and sprouts, at least semi-annually. Water must be tested at the point of use—not at the wellhead, but at the tap in your washing station.

A wide variety of cleaners are usable in the organic standard, and most detergents are up to normal farm cleaning needs. However, reading the consumer label is not enough. Labels such as "biodegradable", "natural", or "non-toxic" are essentially meaningless and unregulated. Therefore it is important to not just read the label for active ingredients, but to get an MSDS sheet for the cleaning product and find out what else is in it, as carriers and

Some common chemicals and their effects

Ammonia and bleach (sodium hypochlorite) cause asthma in workers who breathe too much of it in their jobs. They can trigger asthma attacks in children or ECE providers who already have asthma. They can also irritate the skin, eyes, and respiratory tract.

Quaternary ammonium compounds (also known as QUATs, QACs, or QATs) are not volatile compounds, but using them as sprays can cause nose and throat irritation. Benzalkonium chloride is a severe eye irritant and causes and triggers asthma. Exposures to QUATs may cause allergic skin reactions. Use of QUATs has been associated with the growth of bacteria that are resistant to disinfection. Sometimes this resistance also transfers to antibiotics. In laboratory studies, QUATs were found to damage genetic material (genes).

Terpenes are chemicals found in pine, lemon, and orange oils that are used in many cleaning and disinfecting products as well as in fragrances. Terpenes react with ozone, especially on hot smoggy days, forming very small particles like those found in smog and haze that can irritate the lungs and may cause other health problems and formaldehyde which causes cancer, is a sensitizer that is linked to asthma and allergic reactions, has damaged genes in lab tests, is a central nervous system depressant (slows down brain activity), may cause joint pain, depression, headaches, chest pains, ear infections, chronic fatigue, dizziness, and loss of sleep.

Triclosan is a suspected endocrine disruptor and may lead to the development of antibiotic-resistant bacteria.

Phthalates are used in fragrances that are found in air fresheners and cleaning and sanitizing products. They are endocrine disruptors. Research indicates that phthalates increase the risk of allergies and asthma and can affect children's neurodevelopment and thyroid function. Studies show links between phthalates in mothers to abnormal genital development in boys. Phthalates have been found in human urine, blood, semen, amniotic fluid, and breast milk.

Volatile organic compounds (VOCs) are chemicals that vaporize at room temperature. Many VOCs that are released by cleaning supplies have been linked to chronic respiratory problems such as asthma, allergic reactions, and headaches.

Environmentally friendly cleaners and sanitizers (not the same as organic!)
EcoLogo is a program of Underwriters Laboratory based in Canada. Some of these products are available in the U.S. and some are not. A list of certified cleaning products is available at

- **ecologo.org/en/certifiedgreenproducts**

Green Seal is a program based in the U.S. And used by many institutional purchasers. A list of Certified Cleaning Products is available at

- **greenseal.org/FindGreenSealProductsandServices**

Design for the Environment (DfE) is a U.S. EPA program. DfE certifies both institutional and retail/consumer products. A list of DfE-certified cleaning and other products are available at

- **www.epa.gov/dfe/products**

surfactants can be on the prohibited list. This may require a direct request to the manufacturer and some effort to discover, but it will prevent you from having your certification removed.

Food processing, abattoirs, and sprout/microgreen production all require a bit more by way of cleaners and sanitizers. Dairies, slaughterhouses, and breweries face challenges in cleaning fats and proteins, and require both caustic and acid cleaning. Surfaces should be designed for easy cleaning and resistance to the chemicals needed, while appropriate chemicals to clean the particular type of soil must be sourced. In other words, know both your chemical and what you are trying to remove.

Sanitizers can be used to prevent or manage fungal diseases like damping off in greenhouses, or for tools being used for pruning in orchards, hopyards, or berry plantations. Different uses and different surfaces require different approaches, as with cleaning. Some sanitizers require a post-usage rinse with potable water, while others are "leave-on". Soak or contact time is critical with sanitizers in particular, as there's no easy "look test" to see if the sanitizer has done its job. Standard operating procedures help everyone maintain those critical thresholds.

Many producers rely on common household bleach for basic sanitation. Chlorine bleach is listed on the PSL, but beware: many bleach formulations include fragrances that are not allowed. Be very careful about dilution, and ensure the correct ratios are observed. Peroxyacetic Acid (hydrogen peroxide and acetic acid blend) is widely used as a substitute, and is considerably less toxic. It

continued on page 27...

SPRAY CREEK RANCH

Regenerative Ranchers

All Photos: Tristan Banwell

By Michelle Tsutsumi and Tristan Banwell

Tristan and Aubyn Banwell, managers of Spray Creek Ranch, have shared quite the journey. They met in high school band class in Northern California, spent their university years as urban vegans and then homesteaded off-grid for five years before moving to the juxtaposed landscape of Northern St'at'imc Territory near Lillooet. Situated between rugged cliffs, endless forested mountains and the mighty Fraser River, Spray Creek Ranch is also home to cattle, pigs, and poultry, as well as an on-farm abattoir and meat shop. Of 260 acres, around 125 are under gravity-fed irrigation, including open perennial pastures, orchards, silvopasture, and homestead gardens. The remaining land includes mostly native forest and protected riparian areas.

For thousands of years, the land where Spray Creek Ranch is situated was a gathering place for St'at'imc people. The old homestead cabin and original irrigation ditches date back to the late 1800s and the land was deeded in 1897. More recently, the farm was a commodity cow-calf ranch, producing winter feed like hay or corn silage while the cattle spent the summer on range in the mountains. Calves were sold at auction in the fall and the cycle started again. In 2014, Tristan and Aubyn moved onto the land and began the process of reshaping the ranch from a conventional, small-scale commodity model to an organic and regenerative agroecosystem.

Regenerative Agriculture builds on the organic Principle of Care, whereby agriculture "should be managed in a precautionary and responsible manner to protect the health and well-being of current and future generations and the environment," (IFOAM Organics International) by specifying concrete actions towards improvement. Thinking in terms of regeneration guides producers in their quest to increase biodiversity, enrich soil, improve water cycles, enhance ecosystems, develop resilience to

climate fluctuation, and strengthen the health and vitality of their communities. “Organic is our foundation,” says Tristan, “and we’re building from that foundation with regenerative practices.”

Soon after arriving on the farm in 2014, Tristan and Aubyn started Management-Intensive Rotational Grazing (MiG) à la Jim Gerrish and Allan Savory. This involves keeping the cows on the move anywhere from once every three days to a few times per day, depending on the season, pasture condition and their goals.

“Cattle are the primary tool for regeneration on the farm and they work hard every day turning grass and mountain water into fertility,” says Aubyn. Next come the poultry flocks—also major contributors to soil health—turning farm-milled organic feed into powerful fertilizer. They break up the cow manure and grass thatch that accumulates in the pastures, allowing new plants to germinate and thrive. Pigs act as a disturbance agent on the farm, breaking up the ground in preparation for reseeding more diverse pastures.

MiG is labour-intensive, but Tristan says that the benefits far outweigh the additional effort. “Conventional, continuous grazing is like driving a tractor without brakes or a steering wheel. We are now able to use our cow herd as a tool to improve the soil environment, which is the foundation of plant and animal health.” Using portable electric fencing, the cows are moved to fresh pasture, usually each day, along with their portable water and

mineral feeder. Moving the cows across the ranch this way spreads their impact and fertility evenly over the pastures, encouraging healthy plant growth and carbon sequestration while disallowing the over-grazing, nutrient pollution and compaction that comes from conventional continuous cattle grazing systems. The level of attention to, and care for, their cattle does not stop here.

Tristan and Aubyn are selecting for smaller-framed cows, high fertility, calving ease, and heat tolerance using purebred Red Angus bulls. Acknowledging Mother Nature's wisdom, they have transitioned the herd to later calving and a shorter breeding season. "The cows calve onto fresh green pasture in May and June, along with the deer, mountain goats, and bighorn sheep in the area," Aubyn says. "Calving later has helped eliminate the calving problems we used to see. In 2017, we didn't assist a single cow, had a 100% calf crop and 96% of the cows and heifers exposed were bred in two cycles."

In late summer, grazing is carefully planned so that as much standing forage can be stockpiled on the farm as possible. This is then rationed out over the winter to extend the grazing season well into the new year. "Every day we're grazing, the cows are working for us, and we're saving hundreds of dollars," says Tristan. What little hay is needed is purchased from local certified organic farms. Because the cows have a chance to recover their body condition on spring grass before calving, calves are able to winter with their mothers, postponing the stress of weaning until the calves are older. When calves are weaned, it is done so using a multi-stage process to keep weaning stress on both cows and calves to a minimum.
During the fall of 2015, baseline soil carbon monitoring was completed across all fields on Spray Creek Ranch. This was conducted in partnership with a Thompson Rivers University Master of Science student, Dan Denesiuk, who was part of Dr. Lauchlin Fraser's interdisciplinary plant ecology and land management lab in Kamloops. Meaningful research conclusions will not be available for some years, but there are compelling qualitative observations that the land is celebrating the shift to regenerative agriculture.

In terms of increasing biodiversity, there has been an increase in the variety and abundance of clovers without seeding. The clovers initially came back from the pasture seed bank during the long rest periods between grazing, and are able to set seed again each season. Another key observation is that their 80% alfalfa hay fields filled in with grasses in only two years. Leaving tall residual after grazing appears to favour grasses, as they can recover more quickly than the alfalfa, which has less leaf area at the bottom of the plant. They have also decreased the amount of irrigation water applied to the land as organic matter builds and trampled forage reduces soil temperature and evaporation.

When analyzing the financial picture, it was evident that a right-sized commodity cow-calf operation would not provide a livelihood. At the same time, they knew that the land could provide much more with additional labour. Much deliberation was focused on the mix of enterprises that would work on the land and in the local markets. Thus began a period of adding and trialing elements, then eliminating the ones that were not a good fit. They also began development of an on-farm abattoir and meat shop, starting with obtaining a Class D slaughter licence. This allows on-farm slaughter of many of their animals, and their eventual goal is to slaughter, butcher, and pack-

age all their production right on the farm for direct marketing. The abattoir and meat shop is also developing into an independent enterprise that will help other local, small-scale producers get their products to market.

Beyond the reach of their business, the Banwells have found other ways to contribute to the well-being of the community. Soon after moving to Lillooet, they began working to reduce barriers for small-scale farmers in the area. In 2015, they trialled a cooperative marketing effort for Lillooet-area farms, which led to the creation of the Lillooet Agriculture & Food Society (LAFS). This non-profit supports local farmers, ranchers, growers and other passionate individuals who are building a sustainable food system. Bringing workshops to town, launching the Lillooet Grown brand, and tirelessly working to improve market access and local production and processing capacity has kept the dedicated board, staff, and contractors busy.

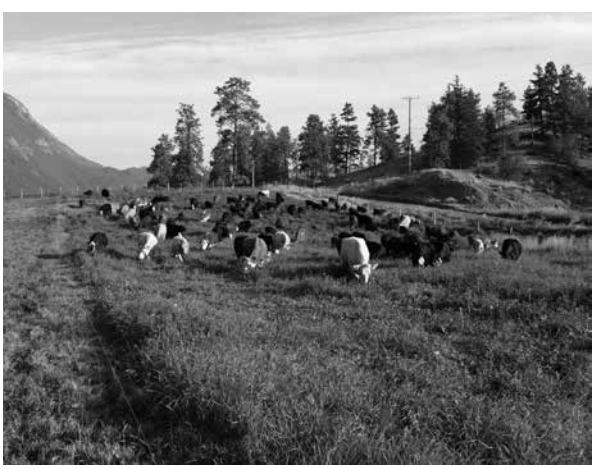
In addition to chairing LAFS, Tristan will be representing the North Okanagan Organic Association on the COABC Board starting in February. Aubyn sits on the board of the Lillooet Farmers' Market Association, and is working to bring the Farmers' Market Nutrition Coupon Program to the community. The couple has been very involved with Young Agrarians (YA), taking advantage of mentorship and learning opportunities as well as sharing their knowledge at YA events. They also donate their products and time to support local fundraisers and initiatives like the Lillooet Friendship Centre Food Bank, the Lillooet District Hospital Foundation, the Náskan Ūxwal (I'm Going Home) Walk, Love Lillooet, the T'it'q'et Amlec Food Security Initiative and Lillooet Seedy Saturday.

Tristan and Aubyn have already had a remarkable impact in terms of strengthening the health and vitality of their soil, pasture, livestock, community, and livelihood through transitioning the land and their lives toward organic regenerative practices. The significance of protecting land and water for future generations is even more meaningful with their first child due in early February.

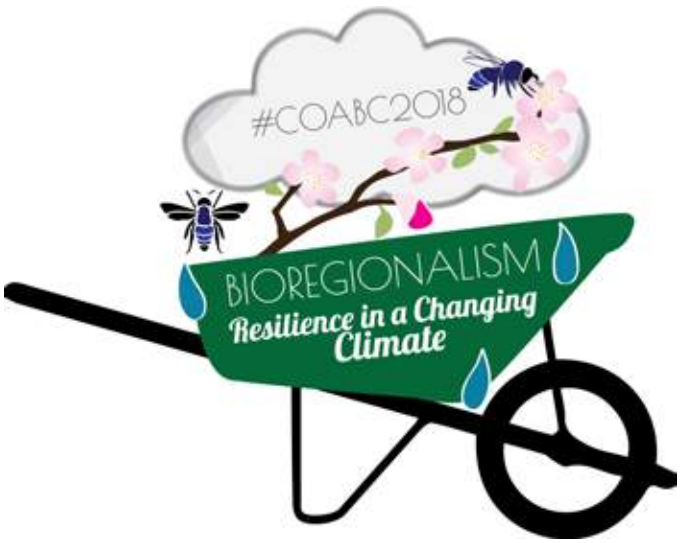
To follow along with their unfolding journey, join their newsletter, find them on social media, or check out their website:

spraycreek.ca

Michelle Tsutsumi is a part of Golden Ears Farm in Chase, BC, looking after the market garden, 15-week CSA Program, and events with her partner Tristan Cavers and daughter Avé. goldenearsfarm.com



BIOREGIONALISM:
Resilience in a Changing Climate
COABC 2018 CONFERENCE IN ABBOTSFORD
FEBRUARY 23-25



Register to attend the #COABC2018 Conference at the Quality Hotel & Conference Centre while early bird tickets are still available! This year we are celebrating the 25th Anniversary of the COABC and we are pleased to have not one, but two thought-provoking keynote presenters for you. Attending our conference is your chance to visit with the leaders in our organic world, exchange ideas, eat amazing meals, learn from experts, and return home inspired by our incredible community before the season kicks into high gear.

Our theme this year is inspired by the past year's unpredicted weather events and a need to adapt as a community. The diversity of presentations has been selected to foster effective discussions and provoke progress towards our common goals as environmentally concerned food producers, entrepreneurs, distributors, citizens, and leaders.

Join us for our official kick-off to the weekend: Friday evening is our conference reception at 6:30 pm. We are very pleased to have Dawn Morrison presenting our first keynote address this evening. Dawn is of Secwepemc ancestry and is the Director of the Working Group on Indigenous Food Sovereignty. She will be speaking on the topic of Sustainable Land and Food Systems—Indigenous Peoples, Social Justice, and Original Instructions. Dawn has consistently organized and held the space over the last 10 years for Indigenous food sovereignty related research, action, and policy proposal projects including: Decolonizing Research and Relationships, Indigenous Food Sovereignty Learning Circle, Strengthening Indigenous Food Sovereignty in Canada, and Wild Salmon Caravan. Dawn has a background in horticulture, ethnobotany, adult education, and restoration of natural systems, and is an internationally recognized author. Dawn's work shines a light on the cross-cultural interface where Indigenous food sovereignty provides a baseline of historical reference points in the movement to a more just and sustainable land and food system.

The rest of the reception is an event that you won't want to miss: welcoming remarks paired with organic hors d'oeuvres made from locally sourced ingredients donated by our amazing community of growers. We'll be washing those down with organic wine and our annual Organic Ale Tasting hosted by Crannóg Ales. Friday night kicks off a busy weekend that never seems to leave enough time for visiting, so we hope to see you there!

Saturday morning will start with Kent Mullinix presenting as our second keynote address generously sponsored by Nature's Path. Kent will speak to Food Systems in a changing environmental, economic, and societal climate: our path to a sustainable food system future. In this presentation Kent will examine the predominant social,


Dawn Morrison

economic and environmental outcomes of and factors impinging on the near and longer term sustainability of agriculture and our food system. Specific challenges, developments, and opportunities will be identified and discussed. All to inform our vision of and direct our way toward a robust, sustainable agriculture and food system future.

Kent Mullinix is Director of the Institute for Sustainable Food Systems at Kwantlen University in British Columbia, Canada. Mullinix attended the University of Missouri where he earned a B.S. in Agriculture, M.S. in Horticulture and Ph.D. in Agriculture Education. He also earned a Ph.D. in Plant Science specializing in integrated pest management from the University of British Columbia. Formerly Mullinix was an Associate Professor and the Endowed Joint Chair in Pomology at Washington State University and Director of Agriculture Programs at Wenatchee Valley College. His areas of professional focus are pomology, biologically based-ecologically sound crop production systems, regionalization of agri-food systems and family-based agriculture revitalization. Mullinix has, lived and worked on farms, owned and operated an orchard with his family in eastern Washington and oversaw the establishment and management of a 45 acre organic apple, sweet cherry, and peach teaching and research orchard in eastern Washington.

More Conference Information & Highlights

Register Online at Eventbrite.ca: https://www.eventbrite.ca/e/coabc-2018-conference-tickets-39344641883

Location & Accommodation

We hope to see you at the Quality Hotel & Conference Centre in Abbotsford, BC. Accommodation at the Hotel can be booked by phone 1-(888)-411-1070. Be sure to specify that you are attending the COABC Conference. You may receive a discount in our guest room block if you book soon!

COABC Trade Show

The COABC conference features an exciting trade show located right where the action is beside the presentation rooms. This is a great opportunity to discover new resources and products that could be integrated into your farm operation. We will have an Organic Seed Corner integrated in the Trade Show, your opportunity to Swap & Learn, hosted by BC Eco Seed Co-op.

If you would like to register for a booth in our Trade Show please visit our Eventbrite COABC 2018 Conference Trade Show page. Limited Space is available. To register for the trade show, please visit:


Kent Mullinix

eventbrite.ca/e/coabc-2018-trade-show-tickets-39415026405

Silent Auction

At our auction you will find an amazing array of items to place your bid on: clothing, art, books, art, food, wine, tools, seeds, services, and so much more. If you would like to donate an auction item, please do! You can indicate this upon registering; alternatively you may contact our conference coordinator. Bring items with you to the conference. Auction items will be displayed Saturday afternoon until bidding closes on Saturday at 9 PM.

Poster Session:

We are pleased to offer free space for poster presentations related to innovative organic production. Contact the conference organizer with your poster idea and to book space. conference@certifiedorganic.bc.ca

Young Agrarians Mixer

Join us for a YA social mixer on Saturday evening! Meet other awesome agrarians, who value food, farmers, nature and community. All ages welcome! This event is for everyone who cares about the next generation of farmers.

Saturday Feast

We will enjoy locally sourced, certified organic ingredients, followed by music, check the website for who will be playing!

One of the ways we keep the conference costs affordable is by featuring food donated by local growers and producers. Please contact conference@coordinator.bc.ca if you are able to donate. You can also indicate this on your order form and Jesse, our coordinator, will be in touch.

Kids' Programming

We are in the early stages of planning to provide a program for a small number of kids on the Conference Saturday. This would include kids hosting a mini farmers market to actively engage children in the important work that we do as organic farmers. Please email conference@certifiedorganic.bc.ca if you are interested. Spots will be limited.

Presentations & Workshops

Here are our presentations & speakers at-a-glance, with a few more TBA. Be sure to check the COABC website for Conference 2018 speaker & session details as they emerge.

Friday Afternoon

If you are in the area during the day on Friday, we will have two presentations with limited capacity on Friday afternoon, with Tia Loftsgard the Executive Director of the Canada Organic Trade Association and Heather Pritchard on Foodlands Cooperative of BC. Stay tuned online for details as they are released.

Saturday & Sunday

Organic Online System Work-Along: An Introduction to the new Organic Online System - *with Darcy Smith and Jen Gamble.*
Bring your laptops, dive into the system, and ask your questions!

Stories from the Vanguard of Organics - *with Chris Bodnar*
Chris Bodnar will host a roundtable of venerated members of BC Organics to share defining moments from their careers and the history of the organic sector. Discussion encouraged and audience questions welcome. Come and see how the formative stories and experiences of BC's original organic farmers can help shape the next future of agriculture and guide a new generation of growers.

Tools to Understand the Economics of Seed Production - *with Shauna Mackinnon and Chris Thoreau*.
Are you growing seed or want to start but are not sure if a seed crop can give you a financial return? FarmFolk CityFolk, in collaboration with UBC Farm, has been developing enterprise budget spreadsheets for seed production in BC to help answer this question. This session will walk you through seed production budget templates that will help you better understand the economics of integrating seed production into your farm. We will also explore options for growing seed under contract, how to get started and what to include in contracts.

Canadian Conversations on Transitioning to Organic Production - *with Ashley St. Hilaire*
The demand for organic products is outpacing supply. We need more organic farmers in Canada, but we have a limited understanding of what it takes to transition to organic production. To address this gap, COG launched Canada's first, comprehensive national study looking at the challenges of transitioning to organic production. Researchers completed on-farm interviews and focus groups with all types, and sizes of organic producers across the country. Ashley St Hilaire from the COG will present preliminary findings from this study, and discuss the relevance of these in forming policy, programs, strategies, and tools for transitioning farmers.

Guacamole: A Cooking Lesson for Justice
What is the real story behind how fruit and vegetables get from the farm to our tables? How can we ensure that the people who grow these ingredients for us are treated fairly, with respect and with dignity? Join the Migrant Workers' Dignity Association (MWDA) to have fun, food, and learn with foreign farm workers who grow our BC produce in an interactive, theatrical cooking lesson and discussion.

Management-Intensive Grazing for Your Bioregion
Management-intensive Grazing (MiG) is a flexible, goal-driven approach to pasture management and utilization whereby animal nutrient demand through the grazing season is balanced with forage supply, and available forage is allocated based on animal requirements. Sound a little complex? Join organic grass farmer Tristan Banwell as he explains the principles behind MiG, and shares the tools and techniques you need to implement this grazing system in your bioregion. Wherever you farm, you will see healthier animals, healthier pastures, more productivity, and lower costs when changing from a continuous grazing system.

Keeping Small Herds Healthy: On-Farm Nutrition, Vaccinations, and Herbals - *with Dr. Lauren Lyzenga*
Are you an owner of a small herd of cattle, goats or sheep? This presentation will discuss how to keep small herds healthy by touching on topics such as nutrition, vaccinations and some herbals that can be used on the farm.

Expanding Cherry Production in British Columbia Under Climate Change - *with Louise Nelson, Department of Biology, UBCO*
With climate change, cherry production in the southern interior of British Columbia is expanding northward and to higher elevations than previously possible. Efficient use of limited water and maintenance of soil health while sustaining cherry quality and yield are important factors to consider in adaptation of cherry to these new sites. Dr. Nelson will explain the findings of their research which includes post-harvest deficit irrigation and positive predictors of plant growth being linked to maintained soil organic carbon levels and high levels of microbial activity.

Continued on page 28....

BC Ministry of Agriculture
Welcomes New Organics Specialist

Right: New Industry Specialist for Organics, Emma Holmes. Left: Emma with her mentor, the late Doug Wilcox, at Duck Creek Farm on Salt Spring Island

By Susan Smith, P.Ag.

Please take a moment to welcome Emma Holmes, our new Industry Specialist for Organics! She is based at the Agriculture Centre in beautiful Abbotsford, and while serving a temporary assignment for the Ministry of Agriculture as the New Entrant Agrologist, Emma successfully competed for the Organics Specialist position.

Emma is an alumni of UBC's Faculty of Land and Food Systems, with an MSc in Soil Science and a BSc in Global Resource Systems. At UBC, her focus was sustainable agriculture and she was privileged to visit a wide variety of organic farms in the province and learn directly from growers as part of her class work. Emma also took part in two programs that provided her with on-farm skills: the UBC Organic Agricultural Internship and Canadian Farm Business Step-Up. She went on to complete an 8-month intensive permaculture program at the Bullock Brother's Homestead, and spent a season managing a small-scale diversified organic farm on Salt Spring Island. Emma has been teaching about sustainable soil management and agriculture since 2011 at UBC Farm and garden clubs around the Lower Mainland; and is the Soil Science instructor for KPU's Tsawwassen Farm School.

Before joining the Ministry of Agriculture, Emma coordinated an on-farm extension program for small-scale organic growers in Metro Vancouver where she worked closely with farmers, researchers, universities, and agrologists on the complex issues pertaining to climate change. She was also the operations manager of Skipper Otto's Community Supported Fishery; programs manager of the Vancouver Urban Farming Society; and is a qualified Environmental Farm Planner.

As the outgoing Industry Specialist for Organics, I will be playing a role over the next four to six months (through April) in assisting Emma's transition to the Organics file. As Emma steps away from her new entrant role and into organics, I see an opportunity for her work to be informed with new entrant opportunities and ideas for development of improved extension for the BC organic sector. Her work will include collaboration with the organic sector and other agencies to support the growth of organics in British Columbia. Continued support and stewardship of the transition to mandatory organic certification in BC will also be key. I look forward to Emma's collaborative style and her organized approach to engagement.

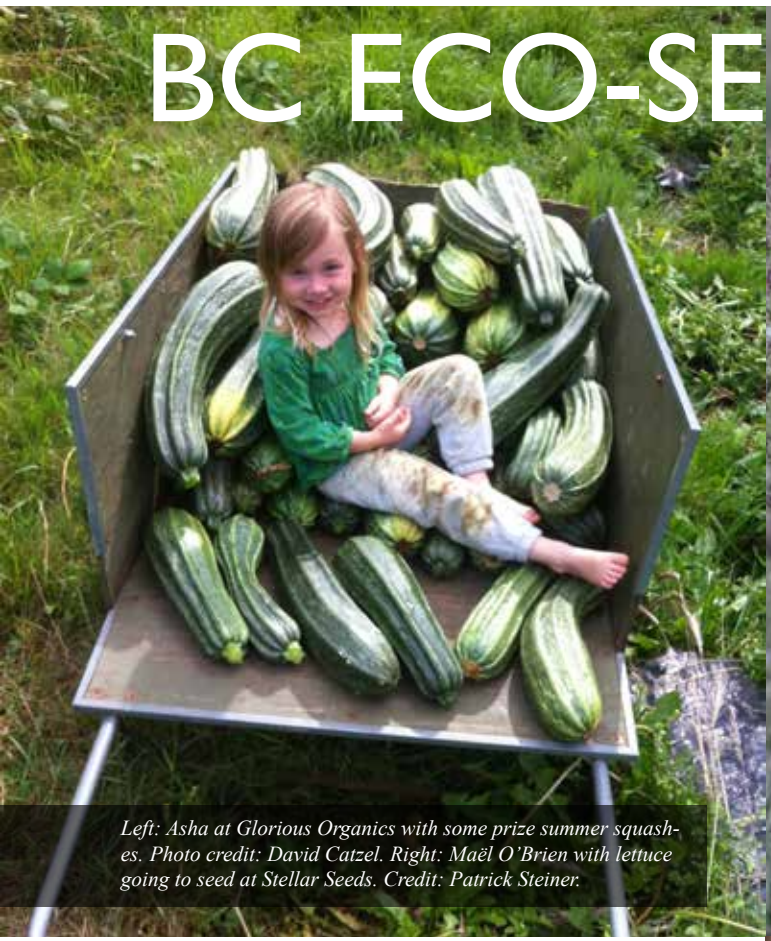
Please take some time over the next little while to welcome Emma.

[A quick note from the editor and COABC: While we're excited to have Emma on board, we are so very grateful to Susan Smith for all she's done in her role as Industry Specialist for Field Vegetables and Organics. A big thank you to Susan from the organic sector—don't be a stranger!]

Susan Smith is an Industry Specialist for Field Vegetables and Organics at the BC Ministry of Agriculture.

SEEDING THE FUTURE

BC ECO-SEED COOP



Left: Asha at Glorious Organics with some prize summer squashes. Photo credit: David Catzel. Right: Maël O'Brien with lettuce going to seed at Stellar Seeds. Credit: Patrick Steiner.

By Meagan Curtis

As a physical embodiment of the next generation, seeds compel us to respect the concept of intergenerational justice also known as the seventh-generation principle followed by many First Nations in Canada. To achieve this, agriculture is practiced in a precautionary manner so that harm is prevented to our crops, the seeds they bare, and the soil they grow in whenever possible—especially when evidence regarding the effects of other potential practices is unclear or unavailable. A precautionary approach ensures that future generations are cared for and that intergenerational justice is upheld so that these generations can reach their full potential.

The principle of care and precautionary principle are embodied in the BC Ecological Seed Co-op's (BCESC) commitment to open pollinated varieties that are ecologically grown, GE-free, and held in the public domain, emphasizing our belief in the democratization of seed ('open source' seed). The essentially co-operative nature of the BCESC relates to the principle of care in multiple ways.

At the heart of the co-operative model are values of self-responsibility, democracy, equality, solidarity, openness, and social responsibility. These values contribute to the realization of the principle of care as well as offer

Asha at Glorious Organics joining in on the seeding fun. Credit: David Catzel.

an alternative approach to agricultural practices that are premised on the manipulation and exploitation of land and plants.

These values also inform how we envision the natural world and its inherent regenerative capabilities. Rather than modernizing seed with reductionist scientific technologies or practices, the principle of care appears to lead to an approach that is instead both humble and cautious so as not to potentially produce deleterious consequences to seed diversity and health for the next generation. Instead of capitalizing on potential gains through the reduction and commodification of natural diversity, this principle instead positions seed growers as guardians of nature who act with respect for the future while utilizing wisdom from the past.

Although the principle of care may not be commonly applied in many contemporary decision-making processes, it is inherent in the historical art and science of seed saving. The BCESC works with this principle to address a challenge that BC farmers face yearly—the lack of reliable access to good quality seed for the varieties they desire. Most organic farmers in the province still rely on conventionally produced seed for at least part of their operation. BCESC hopes that their collective knowledge and work may give farmers another option and begin to address the deep philosophical questions in agriculture that society faces and that we live out every season on our farms.

For more information about the BC Eco Seed Co-op find them at

www.bcecoseedcoop.com.

BC Eco Seed Co-op members at the BC Seed Gathering, November, 2017. Credit: Michael Marrapese.

Meagan Curtis is working on developing farmland in British Columbia and is interested in the gaps between our practices and ethics and the possible ways we may make these gaps narrower.

References
www.cela.ca/collections/pollution/precautionary-principle
www.slvrec.com/content/7-cooperative-principles

THE BC SEED GATHERING

UBC Farm Field Tour Credit: Michael Marrapese

uniting community, spurring plans for action

By Shauna MacKinnon

The BC Seed Gathering is not your typical conference. The foundation of the event is a deep commitment to responding to community needs and providing a place for experienced and new seed growers to come together to learn, network and strategize together. The Gatherings are a connection point and forum to discuss what is needed to propel BC seed systems forward.

At the 2012 Gathering plans for the BC Eco Seed Co-op were hatched. The Co-op was launched at the 2014 Gathering and 2017 offered an opportunity to keep building the momentum. The Gathering participants were ready to do just that—the energy and enthusiasm in the room on Friday evening for the official opening was incredible! Perhaps people were already buoyed by conversations during the field tour of the BC Seed Trials at UBC Farm or in the afternoon BC Eco Seed Co-op, Community Seed Organizers, and research focus group sessions. Or maybe folks were just happy to have a chance to relax and connect after a long season. Regardless, the positive energy of the participants set the stage for a productive and inspiring event.

The official opening began with remarks by Kwantlen Polytechnic University's Elder in Residence Lekeyten and Kwantlen First Nation's Education Coordinator Cheryl Gabriel, who set the tone by emphasizing the importance of seed work to future generations.

Dr. Michael Bomford, a professor in the Sustainable Agriculture & Food Systems at KPU, Dr. Hannah Wittman, Academic Director of the Centre for Sustainable Food Systems at UBC, Harold Steves, Richmond's longest standing city councillor, and Arif Lalani, the Assistant Deputy Minister for the BC Ministry of Agriculture each spoke on Friday evening. The common theme shared by these speakers was their interest in supporting the BC seed sector and vision for how seed can and should be the foundation of sustainable agriculture in BC.

What set this year's Gathering apart from past events was this unprecedented level of support from multiple academic institutions and the Ministry of Agriculture. "My goal is clear—I want to help create opportunities for BC farmers and food producers and this includes seed

producers," said Agriculture Minister Lana Popham. "As a former farmer myself, I know how important the BC seed sector is to BC agriculture. I want to thank our seed growers for the important role they have in ensuring we have food on our tables and jobs in our communities."

New Assets for the Seed Community

KPU has long supported the BC Seed Gathering as the co-host for all three events. This year, support ratcheted up a notch with the unveiling of the new KPU Seed Lab and introduction of the Garden City Lands where variety trials for seed will take place. These facilities will be put to use to further KPU's commitment to providing post-secondary education, extension programming and research focused on fostering a sustainable, regional food system. These new assets were developed in response to several years of consulting with partners to identify priorities for research and teaching programs. Research support for the growing organic seed sector was consistently identified as a priority and an appropriate seed testing facility focused on vegetable seeds was a gap that KPU knew they could fill.

The Seed Lab and variety trials at the Garden City Lands are part of KPU's vision of organic seed production becoming an important component of the agricultural landscape, providing exciting opportunities for growers to have a broad impact on seed diversity and quality.

Similarly, UBC and FarmFolk CityFolk have partnered to deliver the BC Seed Trials where over 25 participating farmers have conducted variety trials on their own farms along with the primary research site at UBC. The BC Seed Trials offer opportunities to strengthen farmers' skills in trialing crops while also providing much needed data on how bioregionally produced seed performs in comparison to commercial varieties. Ultimately, the trials will help determine which varieties are the best candidates for further breeding and seed production. This project has increased UBC's interaction with the seed community and laid the groundwork for more research in the future.

Skills Sharing

The participants themselves are a huge part of the draw of the BC Seed Gathering. Over 100 seed-loving folks gathered together this year from as far away as Smithers, Moberly Lake, and the Kootenays. Getting the perspective on seed from these communities enriched the conversation about what resilient BC seed systems really mean. Any Canadian seed event should include conversations about the challenges of growing seed in mountainous or northern climates and the value of dedicating a seed library exclusively to seeds with short days to maturation and cold hardy plants.

The Gathering featured over 25 presenters, each bringing their own unique experience and deep knowledge of their subject area to share with participants. Keynote speakers Steve Peters (part of the staff team for Organic Seed Alliance in California) and Dan Brisebois (founding member of the Tourne-Sol Co-operative in Quebec) shared their perspectives on the potential of open-pollinated seeds to outperform hybrids and how to improve the business side of growing seed. BC speakers included Mel Sylvestre from UBC Farm on how to integrate seed into your vegetable production, Rupert Adams on growing seed for medicinal plants, and Vanessa Adams on growing seed and propagating native plants for habitat restoration. Many of the presentations and session notes can be downloaded at: bcseeds.org/gathering

Community Seed Advocates Connect

A true highlight of the Gathering was the number of Seedy Saturday and Seed Library organizers that participated. The "community stream" started on Friday afternoon with a strategy meeting and continued with a full day of programming on Saturday. By the final session on Saturday community organizers wrapped up their time together by identifying 11 action points to increase the collaboration and connection between community initiatives and concrete steps to support more resilient seed systems. You can view the 11 steps at:

bcseeds.org/gathering

What's Next

The format of the Gathering socials and sessions were designed to generate feedback in the form of individual written portraits, flip charts, and evaluation forms. As we continue to build and shape the BC Seeds program at FarmFolk CityFolk we will be putting all of this information to good use. One thing that came up again and again

Clockwise from top: Mel Sylvestre showcases the UBC Farm seed processing facility; seed plants at the UBC Farm field tour; seed lovers socializing; Kwantlen Polytechnic University's Elder in Residence Lekeyten and Kwantlen First Nation's Education Co-ordinator Cheryl Gabriel. Credit: Michael Marrapese

is the request for more regional Gatherings, training, and networking opportunities. We heard you! Stay tuned for expanded regional training opportunities in 2018.

A big thank you to our co-host KPU, our many sponsors, volunteers, and Gathering Advisory Committee members—without you the event would not have been possible!

Shauna MacKinnon has been working on food issues for over a decade, from running environmental campaigns to holding the position of BC outpost for the Canada Organic Trade Association. She recently joined the BC Seed Security Program, a collaboration between the Bauta Family Initiative on Canadian Seed Security and FarmFolk CityFolk.

KPU Seed Lab

KPU secured funding support from the Canada Foundation for Innovation and the BC Knowledge Development Fund to establish a Seed Testing Lab and Research Farm at their Richmond campus.

The lab is currently under construction and will have equipment such as growth chambers for germination tests, optical seed sorters, seed driers, density sorters, and gravity sorters. The research farm will provide a site where variety trials, new crop development research and production systems research can be carried out. The type of research and services the lab can provide will assist in the development of performance metrics and research-based best management practices for seed production in BC to ensure and enhance the quality and diversity of seeds offered.

The lab is expected to be operational by Spring 2018 with the aim to begin conducting analysis on 2018 crops. Growers and retailers can connect with KPU to let them know how they can best be supported. For further information contact Rebecca Harbut:

Rebecca.Harbut@kpu.ca

Top: Kale at UBC Farm. Above: Aabir Dey National Program Manager and Western Ontario Coordinator The Bauta Family Seed Initiative. Credit: Michael Marrapese

ECOLOGICAL FARM INTERNSHIPS AND THE LAW

By Charles Z Levkoe and Michael Ekers

Originally published by Ecological Farmers Association of Ontario in "Ecological Farming in Ontario". This is part 4 of a 4 part series on research into unpaid farm labour. While the research was conducted with farms in Ontario, much of the findings likely carry over to BC. In 2017, the authors published a workshop report on Ecological Farm Internships that is available for download here: www.foodandlabour.ca/results-and-reflections

This article is the fourth in a series that describes the increasing trend of non-waged interns working on ecological farms across Ontario. In this article we explore some of the legal implications of these practices and the ensuing concerns from farmers and interns across the province. This article should not, under any circumstances, be considered legal advice and we recommend that the appropriate government departments or legal specialists be contacted regarding specific questions. Also, the laws surrounding farm internships in Ontario are extremely vague. We do not try to determine whether these internships are legal or not, as we are ill-equipped to do so as non-lawyers, but we do attempt to highlight the legal landscape as we understand it and the gaps and ambiguities that deserve further legal research

In previous articles, we established that ecological farm internships offer many things to trainees (e.g., knowledge and skill training), farmers (e.g., support for ecological food production) and the broader food movement. However, the legality of these labour arrangements in Ontario remains uncertain, especially after cases have been settled elsewhere in which unpaid interns were awarded back-wages. For example, in 2013, two farm interns in British Columbia claimed their work arrangement did not meet provincial employment standards and settled out of court for several months' worth of back-wages. This case caused significant concern for farmers across the country using non-waged interns.

There have been increasing government crackdowns on (non-agricultural) internship programs throughout North America. According to the Ontario Ministry of Labour, between September and December 2015 employment standards officers found that of 77 workplaces that had interns, almost a quarter did not meet legal requirements under the Employment Standards Act (ESA). As a result, many Ontario farmers have been deeply concerned that their use of non-wage interns could be judged in contravention of the law. One farmer commented, "I worry sometimes because there are some farms who aren't doing things properly with payroll and that's the type of thing that could end with crackdowns that affect all of us". A farmer and non-profit director explained, "Some farmers are surprised when I suggest that there's a risk because they are technically breaking labour rules and relying on the good will of the intern and the internship going well to avoid litigation down the line".

In Ontario, there are two main areas of legislation that impact farm internships. First, the ESA sets out the rights and responsibilities of both employees and employers and contains fairly clear guidelines to what makes an internship. In short, if you perform work that is of benefit to another person or business, you are considered an

employee and therefore entitled to rights under the ESA such as minimum wage. One exception to these rules is for trainees; however, these cases have very restrictive conditions. According to the Ministry of Labour, if an intern receives training used by employees, they would also be considered an employee unless the following six conditions are met:

- The training is similar to that which is given in a vocational school.
- The training is for the benefit of the intern. You receive some benefit from the training, such as new knowledge or skills.
- The employer derives little, if any, benefit from the activity of the intern while he or she is being trained.
- Your training doesn't take someone else's job.
- Your employer isn't promising you a job at the end of your training.
- You have been told that you will not be paid for your time.

(www.labour.gov.on.ca/english/es/pubs/internships.php)

In addition, farmers taking on interns should be clear on whether they meet regulatory compliance guidelines in Ontario. Aside from the ESA, employers must be in compliance with the Workplace Safety and Insurance Act (WSIA) and the Occupational Health and Safety Act (OHSA). As operators will know, the Workplace Safety and Insurance Board (WSIB) administers the WSIA and delivers no-fault workplace insurance and all agricultural employers must provide coverage to their employees. The OHSA also sets out a number of rights and duties for employers and workers. Compliance includes providing mandatory information about health and safety on the farm and the right to refuse work if it is believed to be dangerous.

The second area of legislation is the agricultural exemptions to the ESA. In general, farm workers involved in primary production (e.g., planting crops, cultivating, pruning, feeding, and caring for livestock) are not covered by some employment standards including minimum wage, hours of work, overtime, general pay with holidays and vacation (of note, this is different for harvest workers and landscape gardeners). However, one farmer noted that when interns do anything other than primary production, they may be on shaky legal ground: "If they're going to a farmers' market and manning a stall and working independently, it gets murky". According to the Ministry of Labour, anyone whose work is related to the harvesting, canning, processing, or packing of fresh vegetables or fruits, or their distribution is entitled to all minimum ESA standards (www.labour.gov.on.ca/english/es/pubs/factsheets/fs_agri.php).

The legislation varies slightly in each province. In Alberta farm owners and related family members are excluded from occupational health and safety laws, but not waged workers. In British Columbia, all agricultural workers are entitled to minimum wage and vacation time. It should be stressed that there is a considerable uncertainty around internship law and agriculture exemptions to labour standards and at this time there is no detailed account of how these areas of law intersect.

Surrounding these legal details, there is an ethical question that many farmers and interns have raised about the value of labour and fair compensation. A labour lawyer noted, "There's quite a tension there. How do you ensure protection, because, say somebody dies or gets seriously injured on one of these farms? [Employment laws] came in the early part of the late 19th Century as a means to protect vulnerable workers from exploitation and set a floor so people could live". While there are many benefits that emerge from ecological farming, most farms are businesses and farmers derive various benefits as owners. Anyone doing work on a farm is contributing to the value of that business and deserves compensation. This is especially important for new farmers building the skills, knowledge, and financial (or other) capital to eventually start their own farm business. The best advice we have heard is to always pay minimum wage and ensure employers and interns are adhering to all provincial legislation.

There are a number of government programs farmers can access to help support new farmer training and internships. The following are three good options:

- Green Farm Internships (Agriculture and Agri-food Canada): Part of the Agricultural Youth Green Jobs Initiative, this program offers up to 50% of the cost of hiring young workers (up to $16,000 per intern) for environmental activities, services, or research that will benefit the agriculture sector.
- Career Focus Program (Service Canada): This program supports 4-12 month agricultural internships for recent graduates of a qualified post secondary program.
- Rural Summer Jobs Service (OMAFRA): The program provides wage subsidies for rural and agri-food businesses that employ summer students ages 14-30.

If you would like more information on this research project, to comment on these issues or contact us, please visit our website:

foodandlabour.ca

Dr. Michael Ekers is an Assistant Professor in Human Geography at the University of Toronto Scarborough. His work mobilizes social and political theory and political economic approaches to understand the making of different environments and the cultures of labour in environmental spaces.

Dr. Charles Levkoe is the Canada Research Chair in Sustainable Food Systems and an Assistant Professor in Health Sciences at Lakehead University. He has been involved in food sovereignty work for over 15 years in both the community and academic sectors. His ongoing community-based research focuses on the opportunities for building more socially just and ecologically sustainable food systems through collaboration and social mobilization.

A Culture of Caring

Farmers of the future at Forstbauer Farm. Credit: Thomas Buchan

For Our Children's Children

By Marjorie Harris BSc, IOIA V.O. P.Ag

This past year offered me a renewed and greater depth of understanding for the foundations of organic agriculture that are steeped in a culture of caring and concern for how the long term ramifications of today's actions will affect tomorrow's world.

One of my field-person positions required that I obtain a pesticide applicator's licence. As I worked through the educational material provided through the BC government training program, I was taken aback to read that certain pesticides have been identified that have the ability to kill the soil irreversibly. I do not comprehend how any substances in this category of lethality could even be considered for agricultural use.

Soil fertility is a primary concern for organic and regenerative agriculture. To quote Rodale, "healthy soil, healthy plants, healthy people". This quote and concept makes a lot of sense to me. The healthier the soil, the more microbes and fungi systems available to actively deliver nutrients to the plants. More nutrients help plants develop strong immune systems and robust growth that ultimately translate into more phytonutrients created per plant. These well fed, healthy plants supply those proteins, carbohydrates, minerals, vitamins, and species unique phytonutrients to the human dinner plate.

The culture of caring for soil fertility over the long term in organic agriculture is in stark contrast to the concept that there would be legitimate reasons to knowingly kill the soil through conventional agriculture methods. This concept was shocking and foreign to me and made me immediately more deeply thankful for the organic culture of caring for the living earth.

The basic Canada Organic Standard requires a buffer zone that can offer growers an opportunity to build in biodiversity zones. The Demeter Canada inspection forms demonstrate an example of deeper long term caring. Here, reflection on caring for, and protecting ancient

forest soils and their living biodiversity, is implied in questions:
3.9 No clearing of virgin forest or high value conservation areas.
3.10 Is 10% of the productive farm area a biodiversity reserve?

The biodynamic practice of protecting undisturbed forest soils for future generations is supported by current scientific evidence, which has found that the ectomycorrhizal fungi of the forest can absorb 30% more human created carbon dioxide under low nitrogen conditions than grassland and agricultural soils dominated by arbuscular fungi.

The roots of forest plants are closely associated with their ectomycorrhizal fungi that can deliver extra atmospheric carbon dioxide directly to the plant, causing a 30% increase in growth—this is termed the 'fertilization effect'. In a recent study into the fertilization effect, the research team analysed 83 carbon dioxide fertilization experiments, which demonstrated that a plant's ability to take advantage of extra CO2 depended on whether the roots were associated with ectomycorrhizal or arbuscular fungi. The forest-type ectomycorrhizal won hands down every time with an extra 30% plant growth. The arbuscular fungi in the agricultural/grassland was not able to take advantage of higher carbon dioxide levels at all. (Terrer, et al., 2016)

It was determined that the arbuscular fungi need higher levels of nitrogen in the soil compared to the forest ectomycorrhizal fungi, which are able to absorb soil nitrogen even under low nitrogen conditions. The ability to absorb soil nitrogen determines how much carbon dioxide can be absorbed to fertilize the plants into extra growth. During this time of climate change concern, forests and forest soils are a real and measurable ally for their ability to sequester and reduce the increasing atmospheric carbon dioxide levels and therefore help stabilize global temperature.

A final thought on preserving ancient soils comes to mind and that is the power of humates and fulvic acid, both formed by ancient processes that can take thousands of years. The average residence time of humic substances in undisturbed soils based on radiocarbon dating is as follows: humin, 1140 years; humic acid, 1235 years; and fulvic acid, 870 years. Conventional agricultural practices have shortened the residence time of humic substances through excessive fertilizing and by using tillage methods that expose the sod to weathering.

In this age of CRISPR genome editors (DNA editors) being put in the public marketplace for anybody to tinker with gene splicing, the reported power of fulvic acid to repair RNA/DNA is also in the news. Crop farmers tout the capacity of fulvic acid to raise crop immunities and to even repair DNA after genetic modification. Fulvic acids are also available for human consumption and list immunity boosting powers and potential nerve tissue regeneration.

While much of the evidence for fulvic acid and humates is still in anecdotal evidence, the scientific body of supporting evidence is growing. Who knows what the future holds, it may very well be that the information and memory in the ancient soils will save us from manmade DNA disruptions.

The future is in our hands, and in the choices we make day to day. An organic culture of caring for our children's children with careful soil fertility management techniques that protect the mysteries and unknown wealth of ancient soil biodiversity is an idea and community that gets my supporting vote!

Marjorie Harris is an organophyte, agrologist, consultant, and verification officer in BC. She offers organic nutrient consulting and verification services supporting natural systems.

References:

Terrer, C., Vicca, S., Hungate, B.A., Phillips, R.P., Prentice, I.C. (2016). Mycorrhizal association as a primary control of the CO2 fertilization effect. Science, 353(6294):72-4. doi: 10.1126/science.aaf4610.

... Cleaners—continued from page 7

breaks down quickly into a mildly acidic water, which is great for your waste stream, and which is easy on the humans using it. Both bleach dilutions and peroxyacetic acid break down, which means that your mixes must be refreshed or replaced rapidly. Peroxyacetic acid is also a no-rinse sanitizer, which makes it easier to use.

Daily Operations Made Simple

The basic principle here is that if something is not straightforward, it will be done incorrectly. Clear, well-written, and organized procedures with tools directly at hand will ensure that everyone does the job right and rapidly every time.

First, think about what you are cleaning: are you simply doing an annual clean of your start trays? Are you cleaning your daily work surfaces? What are they made of, and what are you trying to remove? What are the potential bacteria, viruses or fungi you are trying to get rid of?

Do your homework: Research your chemicals and make sure everything you need and want to use will be allowed. Do this before the next certification application, so you aren't caught out in non-compliance in the middle of operations. Get MSDS sheets, write to the manufacturers, and spend some quality time with the PSL. Trust me, it's riveting.

Look over your equipment: what can you remove and soak in cleaner and sanitizer easily and safely? What needs to be cleaned in place (CIP)? Do you have the appropriate pumps, spray balls etc to run a CIP system? Will it reach all the blind areas? Do you have more than one cleaner type to make sure you can clean the different types of gunk?

Set up your tools: Set up spray bottles, measuring tools and mix buckets for both cleaners and sanitizers. Label each of them with the target dilution (especially spray bottles) and have recipes posted where chemicals are stored. All your chemicals should be in safe, secure storage where they are easily accessed by adults but not children and where you can also keep your measuring tools, but also where there is no chance of contaminating your food or ingredients if you spill.

Write it down: Follow yourself around for a day or a week, and observe what your regular processes are. How often do you need to clean and sanitize? Are you doing it? Are you not doing it because you don't have the right hose nozzle, or someone keeps borrowing the scrub brush? Is your sanitizer spray bottle too far away or in a spot that's too hard to reach? Is it a huge chore to set up your CIP system for one piece of machinery? Once you see what you are actually doing, you can see why you are not doing certain procedures—and then you can create a setup or a system that will make it easy to improve.

From that experience, you can create a Standard Operating Procedure, a routine that enables every person to do the same procedure reliably. It includes when to clean and sanitize every piece of equipment or surface, what the appropriate concentrations of chemicals are for different uses, and how frequently to replace chemical mixes. Daily checklists can be incorporated into your batch records or cleaning logs can simply be posted in the work area. Initialing tasks as completed is vital, especially for things like knowing who restocked the sanitizer spray bottle and when, as a missed day can mean no effective sanitizer was applied.

We check on our SOPs periodically, to make sure that they are working for everyone—sometimes you discover that a tool is missing, or a new employee can't actually reach everything, or that interesting substitutions have been made. Even when you discover problems, they can teach you to change procedures, chemicals, or training. We have also discovered that all staff have to be trained to understand why the SOP is set up the way it is—why certain tanks have to be cleaned differently from other tanks, why contact times are important for sanitizers, and so on. For committed and interested staff, understanding the why will not just improve compliance but can improve the entire system.

Rebecca Kneen farms and brews with her partner Brian MacIsaac at Crannóg Ales, Canada's first certified organic, on-farm microbrewery. They have been certified organic since inception in 1999. Their farm is a 10 acre mixed farm growing hops, fruit, and vegetables as well as pigs, sheep, and chickens. Rebecca has been involved in agriculture, food, and social justice issues since she met her first pair of rubber boots at age three on the family's Nova Scotia farm.

... COABC Conference Info, continued from page 14

Best Business Practices & Marketing Tools for Farmers selling at BC Farmers' Markets - *with Heather O'Hara, BC Association of Farmers' Markets*
BCAFM and KPU just completed a fabulous year long project to compile a guide of best practices for farmers selling at farmers' markets and other sales channels. We interviewed and documented best practices from 15 successful farmers from all regions across the province. This includes many amazing organic farmers/farms such as Mackin Creek Farm, Arzeena Hamir, and others. We also created some practical marketing tools.

A Radical Re-visioning to Sustainable Food Systems based on a Decolonizing Research and Relationships Approach - w*ith Dawn Morrison and Guest (TBA).*

Step up your Record Keeping By Taking a Step Back: Perspectives of An Inspector, **A Farmer, & A Distributor** - *with Rebecca Kneen, Heather Stretch & (TBA).*

Organic Grain Production Workshop - *Hosted by Fieldstone Organics.*

Biosecurity: Understanding Pests and their Pathways - *with Tracy Hueppelsheuser, Entomologist, Plant and Animal Health Branch, BC Ministry of Agriculture*

Revisions to the Canadian Organic Standards - *with Rochelle Eisen, Nicole Boudreau, Ashley St Hilaire*
COG Wants to Hear About Your Experience Transitioning to Organic from Noon-2pm Sunday!

Canadian Organic Growers has spent the last few months working with farmers and producers to identify the main costs and barriers involved in transitioning to organic production. Now it's time to validate their findings and they want to hear from you!

You should attend this COG focus group if you:
- are interested in transitioning to organic;
- started to transition but stopped;
- have completed transition successfully;
- have been organic from the start or
- are a producer that wants to tell us how we can support transition

For more information, go to www.cog.ca or to reserve your spot, get in touch with Rachael@cog.ca

Stay Tuned for updates on the COABC Website & our Facebook Event Page for who the remaining Guest Speakers will be!

We look forward to seeing you in February!

www.certifiedorganic.bc.ca/infonews/conference2018

Thank you

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HOW WILL YOU KEEP THE FARM GOING?

FAMILY + CHANGE = SUCCESSION PLANNING BASICS

By Karen Fenske

For the ten years I have been involved in BC agriculture I have watched a generation of owners and parents run successful operations. Now that they are considering retirement, forced or by choice, and the next generation is looking to secure equity, to own something, change is imperative. Succession planning defines what your future "could look like" and helps you get there. In essence, you are defining significant changes to your family structure, roles, dynamics, and relationships.

Unfortunately, succession and estate planning often boil down to conflict over money, power and assets. It can be made more complicated because individuals may not engage at the same pace for a variety of reasons including being afraid of change or the very real belief that if we talk about something bad, it will happen.

The succession planning process, while intense, can involve coaching family members and significant others to a harmonious "new normal". It is preferable to maximize the benefits and minimize the negative effects. Here are the four underlying steps of succession planning:

Acknowledge What is Changing

KEY: Define the "new normal", the goals, options, and benefits
Say them out loud and write them down.
What are the results? Benefits, risks, and consequences?
What is left behind? Is it "an old way of doing things" that doesn't work anymore?
How do you feel? Angry, relieved, ashamed, excited, depressed, afraid, anxious, sad, etc. This is very personal and unpredictable. The changes may be big to you and not to others.
Focus on your specific needs and situation rather than others' reactions.

Accept Change

KEY: Make choices.
You may have an open mind and be excited—or resist, complain, avoid, ignore, undermine, and sabotage.
Change is both positive and negative. Gather information and listen to the rationale, then look for "both sides of the coin" for yourself and others involved.
Name the losses and grieve them.
Remember that what seems "wrong" now may be the "right thing" in the future.

Adjust to Change

KEY: Maximize the advantages and opportunities then minimize and compensate for the negative aspects of the change and the new situation.
What needs to be abandoned or tweaked?
Plan for yourself. What do you need? How can you be involved?

Anticipate Change

KEY: Put your "eyes on the horizon". Research trends. Talk. Prepare.
Evaluate the results of the changes and modify.
Recognize the decisions you make today may change and evolve over time.

The work we do to transition operations to the next set of hands is critical to a wide variety of issues including food security, good health, and our economy. You may find it difficult to start the conversation; however, I encourage you to take the first steps. You can talk, plan, innovate, and modify—then relax as the plans roll out. It is reasonable to enlist a third party, such as counselor, lawyer, or financial planner to manage the conversations. It is worth the effort and time to get things right.

Karen Fenske is a financial consultant with Investors Group and is licensed to sell Mutual Funds and Insurance in BC. She has a degree in business and mediation skills, and has provided strategic planning and business development for 25 years. She lives in Vernon with her husband. She enjoys spending time with her two young adult children, in her garden, hiking, skiing, travelling around the province, and watching murder mysteries.

Classifieds

Suppliers Wanted:

Ostro Organics is looking for cleaned, certified organic borage, evening primrose, hemp, safflower, sunflower, camelina oil-seeds. Growers/Processors please contact info@ostro-organics.ca or call 778-922-2229

COABC
Certified Organic Associations of BC

ORDER FORM

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Enterprise Name: _____

Contact Name: _____

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City/Province: _____

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

Certification Body & No.: _____

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

PST Exemption (for packaging materials)

☐ Option 1:
BCAC Farmer ID # :_____ Expiry:_____

☐ Option 2: PST Number: _____

☐ Option 3: Certificate of Exemption
Farmer exemption: 0458FILL.pdf
Other enterprises exemption: 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	$13.50	10 rolls $120.00		
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 Are you Certified? 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		
Natural T-shirts (Plain) S * or XXL	$5.00	$5.00	PST taxable		
NEW!! COABC T-shirts Designed by Brian MacIsaac Men's size S-XXL & Ladies sizes S-L	$17.85	$17.85	PST taxable		
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

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Minimum charge of $10.00 per order for any promo and/or packaging materials
GST will be added to postage amounts
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An invoice will be sent with your order. Postage and applicable taxes will be added to your invoice.
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