British Columbia Organic Grower

Journal for the Certified Organic Associations of BC

Fall 2008
Volume 11, Issue 4

British Columbia Certified Organic

Official mark of the BC Certified Organic Program

COABC, 202-3002 32 Ave. Vernon BC V1T 2L7
Canadian Publications Mail Agreement #40047167

CONTENTS

BC Organic Grower

is received by all members of organizations belonging to the Certified Organic Association of British Columbia. *BC Organic Grower* is published quarterly by COABC.

We welcome letters to the Editor (300 words maximum) and articles (1000 words maximum). We reserve the right to edit for length.

Letters & submissions to:
Cassandra Redding, Editor
7306 Old Stamp Mill Road
Vernon BC V1H 1N2
phone: 250-307-5705
fax: 250-260-4436
editor@certifiedorganic.bc.ca

Advertising (rates & copy) & non-member subscriptions ($20/year plus GST) to:

COABC
202-3002 32nd Ave
Vernon, BC, V1T 2L7
Phone: 250-260-4429
Fax: 250-260-4436
office@certifiedorganic.bc.ca
www.certifiedorganic.bc.ca
office@certifiedorganic.bc.ca

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

Cover photo: COABC
Layout & Design:
Cassandra Redding

Other photos property of COABC.

Products advertised in *BC Organic Grower* are not necessarily approved for use by organic farmers/processors. Please consult the Materials List.

Next Issue Deadline:
December 2, 2008

President's Letter: Winning Friends and Influencing People

by Peter Johnston

On the COABC list-serve and many other places, there has been a fair bit of complaining that people don't appreciate and support their local farmers, or farms and farmers generally. Not surprisingly, this complaining often comes from farmers.

The complaint is real and reasonable, but it doesn't recognize the huge lack of knowledge and understanding that most people have about the food they eat, how it is produced, and where it comes from.

The vast majority of Canadians and Americans – and many other people, too – have lost their rural and agricultural and agrarian roots over the last several generations.

Most people get their food from a supermarket or a fast food place. The majority of that food is highly processed, convenient and quick to eat or heat and serve. It has a high energy content, large amounts of corn, oils, sugar and salt, a low nutritional value, and usually low fibre content as well. Very little of it would be recognized by our great-grandparents as food.

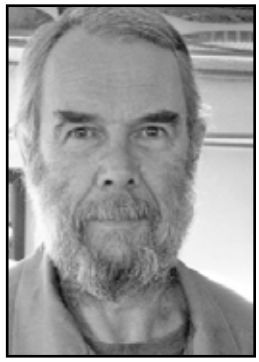
The supermarket gives no hint that there is such a thing as a season. Everything is available year-round, though the prices vary somewhat.

We've also been convinced that price and convenience are what's important. We've been discouraged from growing any of our own food, because it's seasonal and unreliable, and world agriculture – industrial agriculture – is efficient and dependable, and our modern food systems free us from the drudgery of cooking and preparing food – let alone growing it – so we can do more interesting and important things like watching television or shopping.

We've also come to believe – or hope – that industrial food is safe.

Our governments feel forced to try to make us think that our food is good and safe, or at least that they are working hard to make it so. That's why they introduce programs and regulations. Even if they don't make the food any safer, they are at least trying.

Concentrating food processing and handling into fewer and larger industrial plants does make it easier to inspect, or monitor, but it increases the chances of failure, and makes the results of inevitable failures widespread. People across the continent and around the world can become sick from an outbreak of food-borne disease from a single source.



Government generally doesn't mean to punish or harm small farmers, but they have been convinced that a level playing field – the same rules for everyone no matter what the scale of their operation – is fair and reasonable.

The only way that farmers can change the way things are going is to enlist the understanding and help of their customers, neighbours and friends. We must help to educate more and more people about the pleasures and benefits (to them, their family and friends, and to their neighbourhood and environment) of fresh, local and organic foods.

We will best be able to do this by being friendly and cooperative, with government as well as with our customers and potential customers.

Squeaking wheels only get greased when someone cares about keeping the wagon rolling. Positive people are listened to and can then point out some of the things that need changing and can enlist understanding and support.

More people are interested in where and how their food is produced today than at any time in the last fifty years. They are clamoring to be involved and active, and to live and eat healthily. We must enlist their support to help make changes that work for local food production now, or there isn't much hope for the future.

One more thought. If you have a complaint, please communicate that complaint to the person or organization that is not acting as you'd like. It isn't fair to complain publicly about something unless you have first put the complaint to the perceived perpetrator directly.

...continued on page 4

...continued from page 3

It can be difficult and scary to confront someone, but if you put your complaint in the form of an enquiry, asking for clarification and explanation, then you are most likely to find out if there has been some mis-understanding. The subject of your enquiry may then realize that they have been at fault, and make moves to correct things.

Remember the saying that used to be fairly common in restaurants and other service businesses: *If you like our service, please tell your friends. If you do not like it, please tell us*? I would only add that it's also good to tell organizations and individuals when you are pleased with them as well as when you are displeased.

I encourage everybody, when they hear someone complain, to ask if they have complained to the source yet. If not, encourage or help them do it.

If you have a complaint about what COABC is doing, or isn't doing, I'd be happy to hear from you. I can't promise that I will or can do much more than listen and try to understand, but I'm open to complaints and suggestions. And to compliments, too, if you want to share them. Don't neglect to also talk to your CB's COABC representative/director.

I wish everyone happy and bountiful harvests and good fresh (and stored) local organic food through the winter season.. Get your cover crops in and growing well. They'll pay you back next season with better fertility and tilth, and reduced erosion and possibly weed control as well.

Report from the Administrator

by Karen Fenske

From far and wide it is said that the demand for BC Organics isn't slowing down. The world needs us, our neighbours want us but how are we going to keep up?

The Strategic Plan will be one tool that helps us provide the answers to that question. That's right! An Organic Sector Strategic Plan for BC is being worked on right now and will be completed by November 30, 2008. It is an exciting process that highlights accomplishments, describes where we are, and sets goals for where we want to be and finally spells out how we are going to get there.

The project was made possible through a generous grant of $20,000 from the Investment Agriculture Foundation plus $7000 of in-kind support from sector participants including COABC. This funding has allowed COABC to hire a consultant to do research, facilitate discussions and write the plan. A Steering Committee of 13 organic sector members was established to work with the consultant. The committee includes: COABC members Samuel Godfrey, Harvie Snow, Gunta Vitins, Carmen Wakeling, Raymond Wong, and Dag Falck, as well as Emily Mackenzie from AAFC and Susan Smith from BCMAL, Rick Thompson from Overwaitea Food Group, Jen Cody of BC Foods Systems Network, Heather Pritchard of Farm Folk/ City Folk, a non-certified producer Gary King and Gary Jones from Kwantlen University College. Three of the committee members also sit on the National Organic Value Chain Roundtable (OVCRT) which works on organic sector issues at a national level.

From around the world fresh ideas and common directions were researched, and national priorities were examined. Interviews have been done with the committee and extended stakeholders to identify issues and solutions, on-line Forum discussions with the committee are taking place, and a written document is taking shape.

By the time you read this the committee will have met in Abbotsford for a brainstorming session to draft strategic priorities and explore options for future projects. ***You will have the opportunity to provide feedback and input*** via an on-line survey which will be available on the COABC web-site the beginning of October and gathering throughout your CB to talk about what you see are the strengths, weaknesses, opportunities and solutions.

The COABC Board of Directors will be gathering November 7& 8th for a COABC planning session while at the same time addressing how COABC will contrib-

ute to the overall forward movement of the organic sector in BC. It is important to have presented your individual or group input to your Board representative before this meeting so the information can be integrated into the strategic plan.

Even though over the years our world has gotten smaller and the organic movement has increased there is still so much to do. We expect that individual farmers, researchers, companies and certifying bodies have projects that they want developed. This is the chance to align goals and resources to innovate so draft your project and put the idea forward.

The best strategic plan is a collaborative work linking the wide variety of perspectives. This is your opportunity to bring forward barriers, challenges and threats to our work and to call attention to our strengths, spell out our resources and plan to take advantage of the opportunities together. We live in exciting times with eyes and ears turning to sustainable systems which protect our world and add to our well being.

The smallest idea can prove to be the path to success so let's speak up!

Editor's Note

by Cassandra Redding

The focus of *BC Organic Grower's* fall issue is "seeds" and all things seedy, with many of the articles being donated by BC Seeds group. Issues such as where to get your seeds, how to market and distribute your seeds, and what policies are in place regarding seeds are discussed in detail. You will also find a full-colour Seeds Map on page 24.

With every issue of the Grower I notice how quickly the seasons pass us by. Fall is upon us and already plans are underway for the Conference and AGM that happens from February 20th to 22nd. This year's theme is **'From field to table.....BC organics'**. All members and the public are invited to attend.

In this issue you will also find new articles that will help you in the world of organics - there are practical tips, updates on current events and happenings, and important notices on organic standards.

The *Grower* draws from a list of writers and experts, and welcomes ideas and submissions from you, the reader.

Please feel free to contact me or the COABC with suggestions or comments - anything you think needs to written about and seen by members of the BC organic industry.

I hope everyone enjoyed their summer and that the next season brings a a great harvest from the field to table. "

Happy Fall!

Dear Rochelle

Dear Rochelle,
I see under the National Standards that I am going to be required to use organic seed and can only resort to untreated non-organic seed if organic is not commercially available. This is going to create more work for me and my suppliers. Why is this requirement being added to our standard?
Shaking my head in Rutland

Dear Shaking,
This is one of those topics where there appears to be no obvious win-win, but bear with me. First off this requirement was part of the voluntary 1999 Canada Standards, so this is not a new constraint being imposed by the National Standard. BC's voluntary provincial standard only recommended using organic seeds and allowed growers to use non-organic untreated seed without substantiation of availability. This was done because the COABC membership was extensively canvassed during the last Standards Review Process and it was clear there was minimal availability of the seed varieties most growers were using and seed-saving skills were in their infancy.

But times have changed, as not only are there more organic seed varieties available through various channels, many BC growers have been developing their own seed strains and are busy saving seeds.

We also needed to align our standard with the USA and European Union. "The USDA published regulations on organic farming at the end of 2000 and implemented in October 2002 (USDA, 2000). Among other things, the regulations require that organic farmers plant organic seed if it is commercially available. A similar set of regulations was developed in the European Union. As a result, seed companies began to contract for the organic production of seed."[1]

Initially both the US and the EU were liberally granting organic seed exemptions initially but "the EU ended exemptions for organic seeds in 2003, and member states of the EU are required to establish a registry of organically produced seeds. US certifiers are also more strictly enforcing the USDA organic seed ruling and establishing organic seed registries.[1]" Quoting one BC grower that I know quite well: "Buying organic seed grows the organic seed market, and supports the expertise to provide such seeds."

As you can see, if we don't make it a requirement to at least use organic seed when you find what you want and require continued searching for organic seed, how do we ever get this seed supply developed? It's like the chicken and egg scenario. If the seeds don't exist, you can't use them, but if you don't create a demand for them will they ever exist? And if we don't go this route why would seed houses carry organic seeds if no one needs to use them? Probably the biggest limiting factor for maintaining organic seed supplies right now is maintaining a wide enough selection of regionally appropriate adaptive seed varieties meeting everyone's needs; I am hopeful this will come with time.

And yes this requirement will add some work to the certification process for farmers, suppliers and certification agencies, until we do have an organic seed supply in place. The complex part of the equation is how to assess "commercially unavailable". To me this means if the seed variety/strain you want to grow because it is suitable to your location and conditions as well as appropriate for your marketing strategy is unavailable, and you have practiced your due diligence searching and can demonstrate this effort in your farm records, then that variety for that season is "commercially unavailable". Don't forget this effort will have to be repeated annually.

Just so you know I don't believe this will stop you from using up already purchased non-organic seed supplies that have been previously allowed by your certification agency, especially if you present a clear plan of action to your certifier as to how you plan to

move forward and increase your organic seed supply. It would be best to explain how much inventory you have on hand of each variety, plus list the current availability of organic equivalents. If organic is available it would be good to project how long it will take to use up your existing inventory. It would probably also be appropriate to include information on any arrangements you have made to help develop the organic seed supply, such as your plans to save seed on-farm (list the varieties planned), ordering seed from other organic producers, and participate in on-farm seed research as there is still a lot of work to be done. Of course, this approach is only my idea and each CB will have to set a policy to guide them through this transition period, so do speak to your certifier before ordering your seeds for 2009.

1. History of Organic Seed by Brian Baker http://seed.hort.oregonstate.edu/content/history-organic-seed.

2. History of Organic Seed by Brian Baker http://seed.hort.oregonstate.edu/content/history-organic-seed.

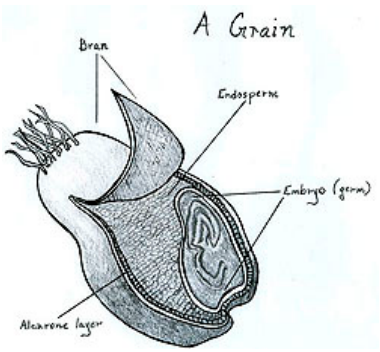
British Columbia Seed Database http://www.bcseeds.org/dborganic.php
Cyber-Help Seed Database http://www.certifiedorganic.bc.ca/rcbtoa/services/seeds-sources.html
OMRI's Organic Seed Database http://seeds.omri.org/index.php?action=customerintro
UK's Organic X Seeds database http://www.organicxseeds.com/oxs/do/Login

The Anatomy of Cereal Seed: *Optimizing grain quality involves getting the right proportions within the seed*

by Andy Hammermeister, Ph.D., P.Ag

Knowing about grain quality starts with knowing the anatomy of a single grain. Whether the grain is to be used for feed or for human consumption, the key characteristics of a grain still apply. Have you ever wondered how the anatomy of a grain affects its quality characteristics? The figure below shows the anatomy of a typical grain. Here we will discuss the parts of seed from the inside out starting with the embryo.

The embryo, also known as the germ, is the beginnings of a New plant, including the genetics, and early plant structures (leaves and roots) that will get the plant started. The embryo contains various protein, oils, enzymes and vitamins. It makes up approximately 3% of the seed. The enzymes it contains helps to trigger the release of nutrients from the remainder of the seed when the embryonic plant starts to grow.



The germ is typically removed during milling of refined flour because it can influence bread making quality, and the oils in the germ can go rancid if the flour is stored for a long time. Some millers/bakers such as Speerville Mill and the Dover mill, will mix the germ back into the flour (along with the bran discussed below) when making whole wheat bread.

The endosperm makes up 75-83% of the seed. It contains the starch which is held in a matrix of protein. This is the energy source of the seed

for germination, and the proportion of protein and starch in the endosperm will dictate its characteristics for feed and food processing.

Surrounding the endosperm is the aleurone layer which makes up a relatively small part of the seed. The aleurone contains enzymes that can start the reaction that changes starch into sugar, a key step in using grains for specialized uses such as brewing beer.

The next layer is the seed coat which is often referred to as the bran. In wheat, the bran accounts for approximately 14% of the seed. The bran is the skin of the seed and helps to protect it from disease and pests. The bran is mainly made up of fiber and contains some vitamins. The bran can affect protein content and milling quality, so it is typically removed when making refined flour but may be added back in to make various percentages of whole wheat. Small seeds will have a larger amount of bran compared with the inside of the seed, whereas larger or plumper seeds will have a smaller ratio of surface area (bran) to inside. This means that larger seeds are often more desirable, especially from a milling perspective.

Cereals are typically enclosed (while still in the head of the plant) by two fibrous sheaths, the hull, that protect the seed (not shown in the figure). The larger one is called the lemma and the smaller one is the palea. For wheat, rye, and hulless forms of oats and barley, the lemma and palea fall off the seed during harvest and become part of the chaff. But the lemma and palea are closed tightly on hulled forms of oats and barley. The lemma and palea are mostly fiber, and do not add much value in terms of feed. They account for up to 30% of the yield of hulled grains. This means that a hulled variety of oats (or barley) may yield 20-30% higher than a hulless oat, however, the energy and protein of the oats will be 20-30% lower, resulting in lower feed value.

Food processors typically prefer hulless varieties of crops because it eliminates the step of removing the hull before (eg. rolling the oats for oatmeal). As mentioned above, the hull does help protect the seed from disease and damage. Hulless varieties of oats and barley are more susceptible to disease during crop establishment and damage during harvesting. Damaging the seed can reduce quality and increase losses.

Farm Focus: Two Wings Farm

This Farm Focus is authored by Shirley Bellows.

It was my pleasure to visit Marti Wood and her husband Bernie Martin-Wood at their lovely three acre farm in rural Victoria, Vancouver Island. Two Wings Farm is where they grow their vegetables and herbs and save seeds from them to offer in their catalogue. Their company is a perfect example of a seed company that services its own bio-region by offering seeds from plants that grow well in that area.

The property was purchased in 1986 and the soil proved to be fertile and ideal for an organic farm and orchard. Initially they planned to only grow their own organic food but they soon had chickens and a herd of registered Alpine Dairy Goats and were selling their produce at area markets, restaurants and they briefly had a box program. They are always looking for vegetables that grow well in their area and they have continued testing many additional varieties over the years. If it's rare, delicious and performs really well they grow it and then list it in their catalogue.

They learned how to save seed from their plants but it was not their main focus until Marti went to Ethiopia in 1993. She states, "Dan Jason and I were the first two Canadians to participate in the course on plant genetic resource conservation presented by U.S.C. Canada. We were very concerned with the loss of traditional varieties of seed and the erosion of the genetic diversity in Canada, but witnessing it and it's effects in Africa was stunning and I came home with a new feeling of urgency. We 're not going to save the world, but we can be a resource for our little bio-region and so after selling co-operatively with three other women farmers, in 1999 'Two Wings Farm Seeds' was launched." They still sell their extra produce but the chickens and goats are gone and they are now dedicated to the seed company.

There are two greenhouses on their property and one is used for growing late season tomatoes. Although areas of Vancouver Island have a long growing season, the summers are rarely very hot and night temperatures seldom go above 20 degrees C. This means that there is not enough heat to ripen vegetables that particularly need it. The tomato greenhouse was full of healthy tomato plants with a number of fruit already nearly ripe by the last week of July. Pesta was a large and particularly attractive bi-colour that looked ready for picking. They have found several tomato varieties that do well outside, however, and particularly recommend Ailsa Craig, Aurega, Black Prince and Stupice. Since they select for early ripening tomatoes to save their seeds from, their seeds will produce tomatoes earlier than seeds of the

...continued on page 10

...continued from page 9

same variety purchased from other seed companies. One pepper that grows well outside and in the greenhouse is the Red Ruffled. It ripens to a dark red and Marti claims it as the best tasting pepper ever. It is sweet, juicy and has a dynamic flavour.

Outside there were rows and rows of squash, beans and peas and also buckwheat in bloom. Keeping the pollinators from cross-pollinating their many different varieties is done by using the buckwheat blossoms as an attractant and also by isolation and using barriers such a floating rowcover cloth. (Reemay) They are fortunate that the area slugs prefer the cool treed area along the creek but they handle all other pests through organic gardening methods and are certified organic by Islands Organic Producers Association. They are also members of Seeds of Diversity Canada, formerly the Heritage Seed Program.

One rare squash that they grow and recommend is Winter Luxury. It is an orange pie pumpkin type that was introduced in 1893 and improved and popularized by Gill Brothers Seeds by 1917. It matures to about 2 kg in size and its skin is slightly netted like a cantaloupe. The orange flesh is sweet and makes a delicious pie. Several pea varieties do well in their garden including Green Arrow, Norli, Oregon Sugar Pod , Sugar Ann, and Sugar Snap. Another rare plant they grow is the Ethiopian Lentil and it is very decorative with bluish-lavender blossoms that resemble Sweet Peas on a small bush.

Two Wings Farm is in sight of the Pacific Ocean and the ocean breezes help dry the seed pods before they are removed from the plants and taken to their basement. It is cool, dry and dark there and a perfect spot for seed storage. They have found that seeds must be thoroughly dried before storage or they will mold and spoil. The beans are kept in jars that are not tightly sealed as bean seeds need oxygen to remain viable.

I asked them about their farm name as it is unusual. Marti responded, "Well, when I got into registering goats, we needed a herd name and because the National registry is very old, there are few nice names available. So twice I was sent a form asking for ten or fifteen possible names and twice I was told "all these are taken". Finally Bernie said, "How about 'Two Wings'? It is a metaphor we like from the Baha'i writings.

In a statement on the equality of men and women, it begins like this:

'The world of humanity has two wings--one is women and the other men. Not until both wings are equally developed can the bird fly.'

Of course no one had used Two Wings before, so that was accepted as our herd name."

For photographs and their on-line catalogue, please visit their web site at: www.twowingsfarm.com

Shirley Bellows is the Vancouver Island Representative of Seeds of Diversity Canada. www.seeds.ca
She can be contacted at shirley@seeds.ca

This article was previously published in the Autumn 2007 issue of Seeds of Diversity (Vol 20-3). www.seeds.ca

On Farm Food Safety in British Columbia

by Sheri Nielson

There is a lot of discussion about food safety these days. The September headlines are still full of concerns about the on-going outbreak of *Listeria* related to deli meats. In Quebec, an outbreak of *Salmonella* in cheese was recently reported.

It's important to note that processed foods are not the only vehicle for harmful bacteria or viruses. Over the past decade, produce has been the source of an increasing number of outbreaks. Earlier this summer, tomatoes were implicated in an outbreak of *Salmonella* which resulted in a severe decline in tomato sales. It was later determined that the tomatoes themselves were likely not contaminated, but rather, more likely the jalapeno peppers which were included in uncooked, tomato based salsa dishes.

Because many vegetables are not cooked (heat kills bacteria and viruses) before they are eaten, growers of fresh produce need to take steps in production that will protect the food from microbial contamination.

Growers who follow organic production guidelines will have already taken some steps to protect their produce. For example, controls are built into procedures such as the use of thermally composted manure as well as the use of un-composted manure. While hot-composted manure can be applied at any time, un-composted manure must be incorporated, at least 90 days before harvest for crops that do not touch the soil and 120 days before harvest for crops that come in contact with soil. While organic standards provide guidelines for some of the steps necessary to protect food during production, there are some common food safety hazards that are not specifically addressed.

One of the big challenges in assuring that food is safe from microbial contamination is that the enemy is microscopic. One cannot look at a food and be sure there are no pathogens present. Nor will a sniff test or a taste test tell you if the food is free of harmful microorganisms.

Food safety is based on food science and when one understands how contamination can occur, it becomes possible to put controls in place to prevent it. In the 1960's NASA was looking for a way to make sure the astronauts did not contract foodborne illnesses while working on space missions - imagine the cost of having a crew-member too ill to work, or worse, imagine the video feedback.

Food scientists went to work on the problem. Pillsbury foods and the US Army developed a system to assess and control hazards and risks in food. It has become known as the Hazard Analysis and Critical Control Points system or HACCP.

Many food service, food processing and food retail operations have developed food protection programs using the HACCP model. All of these programs require that incoming product has some form of documentation to show it has been handled safely before arriving at the operation. This is why many buyers are now asking producers to demonstrate that they have a food safety program for their farms.

Food producers cannot be expected to go out and get a degree in food science in order to grow safe produce. And most small operations could not afford to bring in food safety consultants to help develop a program for their farms. Fortunately, The Canadian Horticultural Council's On-Farm Food Safety (OFFS) program provides the industry with user-friendly, cost effective tools to help producers document their actions and take steps to address food safety on the farm.

The Canadian Horticultural Council (CHC) has developed eight, commodity specific manuals:

- Asparagus, Sweet Corn and Legumes
- Bulb and Root Vegetables
- Fruiting Vegetables
- Greenhouse Production
- Leafy Vegetables and Cruciferae
- Potatoes
- Small Fruit
- Tree and Vine Fruit

...continued on page 12

...continued from page 11

The manuals are based on a comprehensive hazard analysis that uses the HACCP approach. These technical documents are vetted by a government review team as part of the Canadian On-Farm Food Safety Recognition Program.

Eleven BC farms participated in piloting the CHC manuals in 2007. Two of those participants were Certified Organic growers. Producers who go through the process for organic certification develop an important skill - documentation. Often the most difficult challenge for growers implementing the CHC OFFS program is learning to document specific practices. The growers with organic certification had no difficulty with that component of the program.

The CHC, a national, not-for-profit industry association, has a long and proud history of representing the dynamic and diverse sector of Canadian agriculture known as horticulture. Across Canada, CHC members are primarily involved in the production and packing of over 120 horticulture crops comprised of fruit and vegetable crops.

The CHC OFFS Program has been developed with the support of Agriculture and Agri-Food Canada, which has provided funding for the development of the program through the Canadian Food Safety and Quality Program, under the Agricultural Policy Framework, a federal-provincial-territorial initiative.

To cover the costs of producing and shipping the manuals on CD, the CHC charges a nominal fee of $10 for producers who are members of the CHC, or are members of an association that has a CHC membership. For non-members the fee is $1500 per manual.

In British Columbia, many large farms are part of associations who are members of the CHC. Hopefully, a provincial organization representing small-scale producers will soon join the CHC and thereby make the CHC OFFS program available to their members at a more affordable cost.

As more buyers begin to require evidence of safe food handling practices on the farm, growers now have another of the tools they need to meet the demands of the marketplace.

Producers who implement an OFFS program will have the well-founded confidence that they have taken care of the hazards that can affect the safety of the foods they produce. If contamination develops further up the food chain, a producer will have the documentation to demonstrate that they have done everything right and that reduces the chance that they are the source of the problem.

Anyone who produces food works hard and sleeps well. A food producer with an OFFS program in place will sleep even better. And so will their customers.

Seed Policy Interview Results

by Sarah Martin

Canada's present seed policy is eroding farmers' and communities' abilities to select, save and use seeds, while at the same time supporting transnational corporations' ownership and control of seeds. The Seed Policy Project's aim is to gather a broad based network that can create and mobilise around a truly public seed policy for Canada that supports seeds and seed keepers. The project's first step was to have conversations with 34 people across Canada who have an interest in seed policy, either from a practical hands-on perspective or have an interest in supporting growers and farmers.

The aim of the interviews was to identify opportunities for creating an effective voice for the public interest on seed policy issues as well as identifying common policy concerns and issues. The following is a summary of a larger report available at http://www.forumonpublicdomain.ca/files/SPP%20Report_Forum_version.pdf.

Over the last thirty years federal seed policies and laws have increasingly fostered corporate ownership of seeds. Although seed policy affects the entire food system these policy shifts have occurred with little fanfare or public discussion, leaving most Canadians unaware of the changes and the impact their food. As one respondent stated the whole of society is now open to being held ransom by a few transnational corporations.

What one participant described as a food system built on a "wobbly climate and scarce fuel" would benefit from a policy that discourages uniformity and encourages seed breeding and saving by a wide variety of people across a diverse range of communities, both rural and urban. Although sustainable and equitable agriculture should be central to any seed policy the present policy is leaving a food system more vulnerable by supporting dependence on fewer and fewer crops. Policies supportive of grower and farmer-led initiatives would contribute to a more resilient and sustainable food system based on encouraging biodiversity.

Canadian agricultural policy is focused on assisting the largest agriculture sectors and this includes public seed breeding. The requirement of matching funds for research has led to new partnerships involving industries not usually associated with agriculture and food production, such as biofuels, leaving less funding for seed research outside of the industrial model. While the idea of public breeding programs was generally supported a shift in seed research is needed in order to support sustainable agriculture and organic seed growers. Alternatively, it was suggested that the best way to develop seeds was on the farm and independent of government support or public breeding programs.

Intellectual property rights and government policy has led to the creation of legal and illegal uses of seeds. Farmers have now become liable for how they use seeds, while corporations that sell seeds have (for the most part) been able to sidestep liability for damages such as the GMO contamination of non-GMO crops. In addition, plant breeders' research is now limited by the patenting of life forms such as germplasm. Thus, ownership of seeds (and parts thereof) is not only limiting innovation and plant diversity but also criminalising the use of seeds. The majority of respondents thought it was important that seed policy prevent the introduction of any new GMOs as well as protect non-GMO farmers from GMO contamination.

It is important to ensure that the proper conditions are in place to feed the future. This includes democratically strengthening food security and sovereignty through local or regional programs of seed saving and sharing which will counteract the present centralization of seed control. Seed policy must support robust regional food systems, while not limiting seed exchanges across borders and between growers.

The present seed policy has taken most of the control of seeds out of the hands of the public and has contributed to the erosion of skills both for growers and eaters. A return to skills, such as seed saving, must be supported in order to create a secure food future.

Key Principles for Good Seed Policy

From the issues raised above several seed policy principles can be distilled. Good seed policies should:

* Support biodiversity;
* Encourage seed saving on-farm and by communities;

...continued on page 14

...continued from page 13

* Support public seed research in partnership with on-farm research that is regionally focused;
* Recognize that a sustainable and healthy food system is supported by social and cultural factors that are as important as economic considerations;
* Defend seeds from GMO contamination; and,
* Recognize that the control of seeds is a public concern and defend society against those who would hold society to ransom through seed ownership.

In order to create and mobilise around a truly public seed policy for Canada that supports seeds and seed keepers it is recommended that the Seed Policy Project focus on the following tasks (in no particular order).

Seed policy resource
The Seed Policy Project should act as a forum to discuss the meaning and effects of seed policy, and as a platform to propose and support new directions in seed policy.

Public conversations
The stories of seeds must be shared in order to engage the public in our cultural histories and as an expression of our cultures today. The Seed Policy Project should personalize seed issues in order to connect growers and eaters and create network of support for a public seed policy.

Policy Objectives and Vision
The Seed Policy Project should forward a policy that reflects a sustainable and equitable use of seeds and protect seed keepers.

Next Steps
The Seed Policy Project's aim is to gather a broad based network of individuals and organizations (such as SOD and Certified Organic Associations of BC) in order to create and implement a truly public seed policy for Canada that supports seeds and seed keepers and nurtures food sovereignty. The first step was to start conversations with people across Canada on seed policy. The next step has already begun with folks and organizations across Canada committing to the task of building a truly public seed policy together. However, your suggestions and involvement are needed to strengthen this network. We look forward to your comments and participation!

A workshop on seed policy will be held at Food Secure Canada Meeting in November and the seed policy project will be represented at the annual Guelph organic conference in January and at Seedy Saturdays next spring.

Website address for the full report- http://www.forumonpublicdomain.ca/files/SPP%20Report_Forum_version.pdf

Seedy Saturday

by Sharon Rempel

Seedy Sunday or Seedy Saturday refers to events in which people get together to swap seeds, especially heirloom varieties, or varieties that have been in the family for years if not several generations. The word 'heritage' or 'folk seed' or 'heirloom' are used interchangeably but the variety is 'open pollinated' and may be a 'landrace'.

The idea of conserving heritage varieties of crops was in it's infancy in Canada in 1989. It was very difficult to find heritage varieties of vegetables, fruits, flowers and grains. Heritage varieties were non existent in seed catalogues in Canada.

The idea of 'heritage gardens' were also in their infancy in the west. Living history sites like *The Grist Mill at Keremeos* (garden creators Sharon Rempel and Cuyler Page) and *Point Ellice House* (garden historian Cyril Hume) were pioneers in bringing heritage varieties into public view.

Canada's Heritage Seed Program (HSP) now Seeds of Diversity Canada (SoDC) had been running since under the guidance of Heather Apple and COG (Canadian Organic Growers).

In 1989 Sharon Rempel was a B.C. director of the fledgling Heritage Seed Program and Chief Interpreter and Special Events Coordinator (and head gardener) at *The Grist Mill at Keremeos*. With a vision of building a regional community seed collection and a group of people to conserve the seeds she wanted to find a way to bring a large number of people together to share seeds and stories.

Inspired by Pat Mooney's book 'Seeds of the Earth' she realized that people had to become involved in keeping their 'folk' varieties alive. Corporations were buying up seed and regulations prohibiting saving and selling unregistered varieties were becoming more prevalent globally.

On February 14, 1989 the vision became a reality. Curator Roy Forster from the Van Dusen Botanical Gardens hosted Canada's first Seedy Saturday. Over 500 people attended the event!

The Heart of Seedy Saturday was and still should be the Swap Table. It was a place for people to sit and chat, swap their seeds and tell the stories of best cultivation for the plant, the story of how they got the seed, how the variety got it's name and also how to use the plant in cooking. Volunteers taught people how to label seed packets to ensure the integrity of the variety including it's name would be conserved. Small seed company owners have adopted many of the varieties into their collections.

The first Seedy Saturday participants included dozens of small seed companies including Dan Jason from Salt Spring Seeds who sold and traded 'open pollinated' seeds; USC Canada's Vancouver office person Mary Lindsay showing the 'Seeds of Survival' program; Cathrine Gabriel from Health Action Network; two living history sites including *The Grist Mill at Keremeos*. Heritage fruit groups like NAFEX and B.C. Fruit Testers and the University of British Columbia plant science department offered advice and technical help. In following years people from the Canadian Gene Bank and other conservation groups attended the event.

These diverse groups had an opportunity to meet each other and recognize they were part of a community who's goals included conservation of seed.

There were several 'themes' running through the event. For years the Vancouver "Nyala" Ethiopian restaurant provided refreshments at Seedy Saturday. Ethiopia is considered by Vavilov and others to be the Center of Diversity globally for bread wheat. USC Canada was running a project called 'Seeds of Survival' in Ethiopia and was Canada's first site to grow and interpret heritage wheat varieties. The idea of wheat being a global resource belonging to all was the theme. Sharon continued to maintain heritage wheat varieties through the Heritage Wheat Program and recommercialized 'Red Fife' wheat over the past 20 years.

A second theme was the idea that story and seed must be conserved together. That's why events must have a large swap table and area; the sharing of story is a vital part of the conservation of the variety's 'value' to the community, not just the genetic material in the seed variety.

Seedy Saturday is now in over sixty communities across Canada. The events are listed on the Seeds of Diversity website.

The UK's Soil Association began hosting Seedy

...continued on page 16

...continued from page 15

Saturday and Seedy Sunday events in 2001. The event is now in Wales, Scotland and throughout England.

Seed fairs are held throughout the world and 'seed' is a common language.

Sharon's two cents of advice to bring the event back to it's original roots:

1. Focus on the heart of the event; put in a big swap area and offer workshops and talks on seed politics, seed issues and seed saving techniques. Forget offering 'how to build a pond', cooking classes and 'naturscaping' workshops. Focus on seed and empowering people to conserve the seeds that are valuable to them.

2. Focus on building community not making money at the event.

3. Bring 'culture back to agriculture' and 'folk back to food'. Bring stories and songs about seeds into the event. How about a 'Seedy c.d.' for your community? How about a cook book about your regional varieties, the stories and recipes of the community?

4. Build a community seed bank. Forget putting seeds in the Nordic mountain gene bank. Keep your seeds as a vital rich part of local food systems and local food security.

Remember that 'the hand that holds the seeds controls the food supply.' May those hands be of the people of the earth who realize seed is not something to be commoditized and traded and horded but a living bank account belonging to all people.

Sharon Rempel www.grassrootsolutions.com

srempel@shaw.ca

(250) 298-1133 in Victoria, B.C.

A Greenhouse in a flash - a true story

by Robin Tunnicliffe

This is an amazing but true story: a greenhouse can be built in a couple of hours for a few hundred bucks!

Heather and Lamont (of Saanich Organics fame) and two friends erected a 100' x 12' seasonal cover for their tomatoes in 2 ½ hours. The entire structure cost $300 including the vapor barrier plastic.

Heather got the idea while eating lunch with a farmer from Pemberton at the COABC conference this spring. Heather figures that next time, they could get the structure up in 1 hour!

Materials required:

1. 2 ¾" – 20' pvc pipe, schedule 40 for the ends
2. 23 ½" -20' pvc pipe, schedule 40 for the ribs, spaced 4' apart
3. 50 -4' rebar hammered into the ground
4. 1 bale of twine to storm-lash the plastic to the frame
5. duct tape to seal the plastic to the doorway ribs

PVC slips over rebar. Twine is tied to the rebar and lashed over the structure in an x pattern

The structure itself isn't strong enough to support the weight of tomato plants so they have a free-standing trellis system. Heather used the trellis to reinforce the ends of the greenhouse. If you don't have a trellis, you'll have to reinforce the ends with guy wires.

The important thing to remember with this greenhouse is that it is a summer-only structure and it will not weather a fall or winter storm. Pack it up in early October and then set it up again the next spring!

Marketing Grain 101

By Mark Bernard

The marketing of organic grain is very different than conventional grain, in that most of the time organic grain is sold or has a guaranteed market before it is harvested and sometimes before it is planted. So in writing this article at this time of year it could be considered late for this season or really early for the next season of grain production. Either way I hope that you are able to take information that is relative to you and your operation.

Price may likely be the biggest issue raised when I am talking to a farmer. Organic grains or produce have always brought a premium over conventional products. The question still remains of how much of a premium and what is the end price. There are quite a few factors that will influence price and set the price of the grain that is for sale.

First, there is no way you will be able to survive if you sell grain under your cost of production. This being said you need to know your cost of production. For every farm cost of production will vary and most of the cost of production information released on the internet is developed as benchmarks or guides for you to base your farm on. Being aware of all cost involved will provide the farmer with the most accurate basis from which to set prices.

Second, you must be able to convince the buyer on the reasons your product is worth the price. The quality of the grain will adjust the price, given the intended market. Also the quantity has a big factor in deciding the price. This may include having the grain cleaned to a certain grade or having a protein test completed on samples first. Having adequate storage for grain allows you to have options and possibly wait for a better deal but, when storage is utilized then this will add to the cost of the grain as you will auger the grain in and out and may require aeration.

Next, know your buyer. Most buyers will want to buy at a low price while the seller is awaiting the high price. Develop a relationship with your buyer early; understand the desired grain quality and work toward achieving that. Invite the buyer, if possible, to the field to see the crop growing. Depending on the buyer, some of the byproducts (manure, for example) may be able to come back to your farm. Also, be aware of the amount of grain that is grown by other farmers in your area destined for the same market but may be in too small of quantity to ship affordably. This has the potential of saving the buyer or seller(s) some additional costs.

Plan early for the growing season. Talk to some potential buyers and other farmers about what types of crops you will be able to grow in your given rotation. Flour mills or feed mills will require consistent supply and need to plan well in advance. So find out what they are interested in and let them know your intentions, allowing them to plan better production.

Price is only one of the many components of marketing organic grains but is usually the first thing talked about. It is important to have a well rounded approach to selling your grains starting with producing the best quality product that is possible. In upcoming newsletters we will try and touch on other topics including different types of organic grain production.

One project of the Maritime Organic Grains Network is to create an inventory of the Maritime organic grain acreage. This inventory will create the ability for all farmers and processors in the region to plan better. Livestock producers and grain processors will know where grains can be sourced and providing the opportunity to plan for years in advance.

Mark Bernard is the PEI Research Coordinator for Organic Agriculture Centre of Canada (OACC). He would be happy to answer your comments or questions. Please email mbernard@nsac.ca or call 902-893-7256.

Biological Control of Greenhouse Diseases

by Mario Lanthier

They eat the food released by plant roots. That is how beneficial microbes survive in the soil, said Melanie Jones. In the process, they stimulate many features that are useful to the host plant.

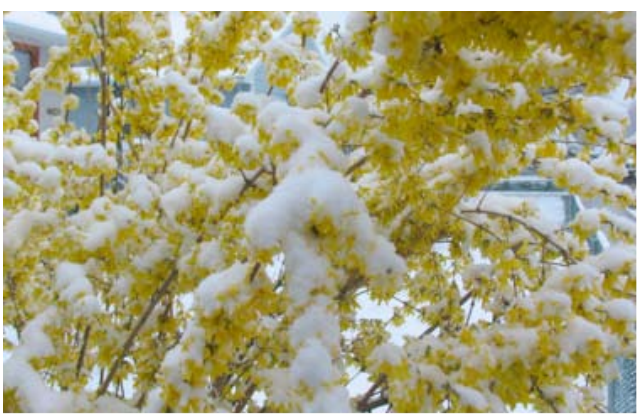
Dr. Jones is a professor of biology and associate dean at the University of British Columbia – Okanagan. "The region around the root, called the rhizosphere, is rich in nutrients" she added. As much as 40% of the photosynthates manufactured by the plant are leaked through the roots. "This food supports a large and active microbial population capable of exerting beneficial, neutral or detrimental effects on plant growth."

Dr. Jones was speaking at the workshop "Biological Control of Greenhouse Diseases" held in Kelowna, B.C., on April 19.

The 1-day event, to hear from researchers on the latest developments on the topic, was attended by 42 persons, most being growers of vegetables, ornamental flowers and forest seedlings. Participants came from all over the Okanagan but also from the Kootenays and the Lower Mainland, no small feat considering the unexpected snow storm that blanketed the province that morning.

Support funding was received from COABC (Organic Sector Development Program) and Agriculture and Agri-Food Canada (Pesticide Risk Reduction Strategies Initiative).

On April 19, the whole province woke up to an unexpected snowstorm which blanketed all plants, including this Forsythia in bloom. In the Okanagan, many orchardists lost a major portion of their crop, including apricots and cherries.



Common greenhouse diseases

Powdery mildew, gray mould, damping-off and root rot are common diseases of greenhouse crops around the world. "Lean to recognize the early signs and symptoms and have a plan to help your crop escape infection" said Ron Howard, from Alberta Agriculture & Rural Development in Brooks, Alberta.

Dr. Howard is a recognized plant pathology research scientist and co-editor of the must-have text book "Diseases and Pests of Vegetable Crops in Canada" (available from the Canadian Phytopathological Society at the website http://www.esc-sec.org/disease.htm).

Ron Howard

Gray mould is caused by the fungi *Botrytis cinerea*. It can infect a wide range of host plants. It is favoured by cool temperatures and high humidity, usually starting on damaged or dying plant parts then moving to healthy tissue. Management is achieved by controlling ambient humidity and removing dead plant parts.

Powdery mildew is caused by various fungi. It is commonly seen on many ornamental flowers and cucumbers. This pathogen is favoured by high humidity and warm temperatures. Management is achieved by using known resistant cultivars and providing good air circulation.

Root and stem rot are caused by different pathogens. Pythium is very common in greenhouse production of vegetables and flowers. It is favoured by

...continued from page 19

water logging, poor soil quality and stressed plants. Management is achieved by strict irrigation management, balanced fertilisation and using biologically-active soils.

Ron Howard

Biocontrol of leaf diseases

"Using biologicals will require a lot of thought and understanding, because different products are effective on different diseases" said Janice Elmhirst, speaking of commercial biofungicides recently registered in Canada. She has worked in plant pathology for over 20 years and is currently the owner of Elmhirst Diagnostics and Research, based in Abbotsford.

Dr. Elmhirst tested various products against powdery mildew of roses. The best results were obtained with Rhapsody ASO (based on a strain of *Bacillus subtilis*, also sold as Serenade) and PreStop (based on a strain of *Gliocladium catenulatum*). Results were significantly better than untreated and similar or significantly better than Nova, a standard synthetic fungicide. For grey mould on geranium, both PreStop and Rhapsody controlled the disease as well or better than the synthetic fungicide Captan. The work was done in collaboration with Dr. Zamir Punja from Simon Fraser University and funded by Agriculture and Agri-Food Canada.

The trial results were submitted for extension of the product labels. Dr. Elmhirst also discussed uses of the product Actinovate (based on a strain of *Streptomyces lydicus*) and Mycostop (based on a strain of *Streptomyces griseoviridis*).

Biocontrol of root diseases

"The commercial biological fungicide PreStop has the most potential to reduce root rot and damping off caused by *Pythium* on greenhouse cucumbers" said Zamir Punja when presenting his research data. "But the product must be applied as a preventative treatment". Dr. Punja is a professor at Simon Fraser University.

In one set of experiments, cucumber seeds were placed in rockwool blocks, followed by a specific biocontrol treatment then inoculated after 48 hours with *Fusarium* or after 10 days with *Pythium*. Compost from greenhouse plant waste material significantly reduced plant mortality due to *Fusarium* and results were similar to Benlate, a standard synthetic fungicide. Two other composts (windrow composted dairy solids and vermicomposted dairy solids) also reduced plant mortality, but not significantly. The results highlight the variability between composts, a factor which must be considered before making widespread recommendations to growers. Commercial biological fungicides were also tested in a series of trials over 2 years. Under high disease pressure in a growth chamber, the product PreStop (*Gliocladium*) significantly reduced *Pythium* (58% mortality vs 92% mortality in control) and *Fusarium*. Under low to moderate disease pressure in commercial greenhouse conditions, all products tested were effective (PreStop, RootShield and Mycostop).

Dr. Punja noted that seasonal differences in growing conditions affected the severity of the disease and the efficacy of the biological control agents.

Dr. Punja making his presentation to the room of greenhouse growers

Biocontrol in Cuba

In the early 1990s, the collapse of the Soviet Bloc virtually ended food, oil and fertiliser imports into Cuba. "The country had to learn how to feed the population with limited petroleum inputs" said Deborah Henderson, a director of the Institute for Sustainable Horticulture at Kwantlen University College, in Langley. Dr. Henderson also owns a crop management company in the Fraser Valley.

To achieve food security, Cuba converted from conventional agriculture to a semi-organic system dependent on local resources and low external inputs. To help biocontrol of crop diseases, over 200 facilities were built across the country for artisanal production of biocontrol agents, and 30 brewing factories were converted for industrial production of high-quality products based on *Bacillus*, *Beauveria, Metarhizium* and *Trichoderma*. The end result has been a drastic reduction in the use of pesticides by the country's farmers.

Dr. Henderson is heading an effort to build a small production facility for native biocontrol products for use in British Columbia.

The Cuban "organoponico", or urban garden, is now an important source of fresh produce in the cities and provide paid employment to over 350,000 persons country-wide. These gardens, built on empty city lots, are managed along agroecological principles.

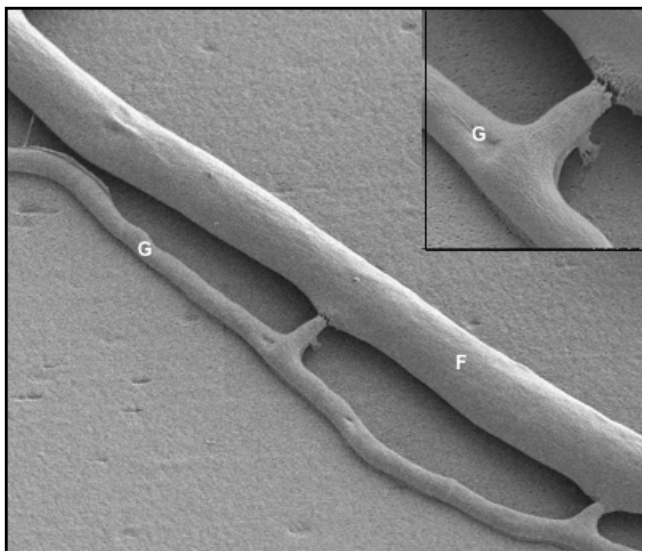
Deborah Henderson

Mechanisms of disease suppression

Workshop participants were served a special treat: Zamir Punja, the editor-in-chief of the Canadian Journal of Plant Pathology, a highly respected scientific publication. Dr. Punja is also co-author of numerous papers on biocontrol of plants diseases, including for greenhouse cucumber production.

Disease suppression has been considerably studied with composts. Different mechanisms are at play. Most commonly, beneficial micro-organisms colonize the roots of the host plant to feed on root exudates, in the process outcompeting root pathogens. This mechanism is known as "general suppression". Less commonly, specific beneficial micro-organisms secrete enzymes or abiotic inhibitory factors which are directly antagonistic to root pathogens. Researchers study these "super-hero microbes" and select strains which can be formulated into commercial products.

A view under the microscope illustrates biocontrol of plant pathogens. A strand of the beneficial microbe *Gliocladium* (labelled "G") has punctured the cell wall of the root pathogen *Fusarium* (labelled "F"), in order to feed on the cell contents. The commercial product PreStop, made from *Gliocladium*, has just received OMRI approval.



Syama Chatterton and Zamir Punja

...continued on page 22

...continued from page 21

Root bacteria

"Greenhouse systems show considerable promise for the use of beneficial rhizobacteria" said Louise Nelson. "They offer consistent environmental conditions and a high incidence of fungal diseases".

Plant growth promoting rhizobacteria are soil bacteria that colonize plant roots and enhance plant growth. They offer an environmentally sustainable approach to increase crop production and health. One example is the use of rhizobial inoculants for legumes to enhance nitrogen fixation, a practice that is over 100 years old.

Dr. Nelson is an Associate Dean of research and strategic planning at the University of British Columbia – Okanagan. She examines disease-suppressive soils to identify naturally-occurring bacteria that promote plant growth and suppress disease pathogens. She has worked so far with field crops but is now examining the efficacy against pathogens of tomatoes.

"We can expect more commercial products to become available" she concluded. "The success of these products will depend on our ability to manage the rhizosphere and enhance survival and competiveness of the beneficial micro-organisms. We are still in our infancy in understanding how these biologicals work".

Mycorrhizal fungi

"About 95% of plant species naturally form mycorrhizal associations" said Melanie Jones. She explained that specialised fungi attach to plant roots in a mutually beneficial symbiosis. The plant transfers photosynthate materials to the fungus. In exchange, the fungus helps with nutrient uptake, prevention of water stress, reduced uptake of toxic metals and resistance to pathogens.

Dr. Jones, from the University of British Columbia – Okanagan in Kelowna, is researching the diversity and influence of ectomycorrhizae on nutrient uptake in B.C. forests. "The mycorrhizal fungi extend hyphae into the soil far away from the roots" she said. "I have measured 300 cm of hyphae per centimetre of plant root".

Continuing on the same topic, Carolyn Scagel commented that in agriculture, the most benefits are seen when plants are inoculated in earlier crop stages. "Less inoculum is needed and the fungus grows as the roots grow".

Dr. Scagel is a research root physiologist at the U.S. Department of Agriculture in Corvallis, Oregon. Her trials have documented many benefits from using mycorrhizal fungi in greenhouse production:
- In seed propagation, it confers higher tolerance to damping off and abiotic stresses.
- With unrooted cuttings, it improves rooting because of more rapid root induction and higher root numbers.
- With bulb and corm propagation, it results in a higher number of corm and higher number of flowers per plant.

"But mycorrhizae will not solve all problems" she cautions. "The benefits are most obvious under stress conditions, when placed side-by-side with untreated plants. Application and effectiveness varies with the production system, the plant species and the inoculum source".

Mario Lanthier
CropHealth Advising & Research, Kelowna, British Columbia, V1W 4A6 www.crophealth.com

Good Rotation Makes Healthier Grains

By Joanne Thiessen

Crop rotation is known to have many benefits, especially in organic production, and researchers at the University of Manitoba are adding another one to the list – crop rotation can affect nutrient content in grains such as wheat.

Martin Entz, Soleil Turmel and Keith Bamford of the Department of Plant Science at the University of Manitoba compared the concentration of ten mineral nutrients in wheat grown organically and conventionally in two different crop rotations over first 15 years of the Glenlea Long-Term Rotation Study, located just south of Winnipeg. Preliminary results indicate that including a perennial alfalfa stand in a grain crop rotation boosted the concentrations of certain nutrients in wheat grain.

The two crop rotations used during the nutrient study were a perennial-based rotation of wheat, alfalfa, alfalfa, flax; and an annual rotation of wheat, pea, wheat, flax. Each of these rotations was grown under both conventional and organic management. In the organic systems, crop rotation was the only source of fertility; no animal manures or other products were applied. In the conventional systems, crops were fertilized to soil test recommendations.

Zinc and copper concentrations were higher and phosphorus concentrations were lower in wheat grown in the organic rotation that included alfalfa than in any of the other rotations. Nitrogen and sulfur concentrations were lower in wheat grown in an annual organic rotation than in the perennial organic rotation or in either conventional rotation.

Concentrations of other nutrients, including potassium, calcium, magnesium, iron, and manganese, were not affected by crop rotation or organic vs. conventional management.

While the reasons for these differences in nutrient content are not always clear, the researchers point to crop rotation and the effect of different crop rotations on soil nutrient levels as likely being major factors.

In the annual organic system, where the only source of nitrogen was one grain legume crop (peas) in a four-year rotation, soil N levels were very low, resulting in lower plant uptake and a low N concentration in the grain. In the perennial organic system, on the other hand, the nitrogen supplied by a two-year stand of alfalfa provided an adequate supply to the annual crops in the rotation.

This does not mean that all organic annual crop rotations are nitrogen deficient. According to Entz, an annual rotation that includes legume green manures on a regular basis can supply enough nitrogen for the other crops in the rotation. The frequency of the green manure crop will depend on the region, the amount of biomass produced by the green manure, and the nitrogen requirements of the other crops. The annual rotation in the Glenlea study was modified in 2004 and now includes a fababean green manure.

The alfalfa hay crop in the perennial rotation caused other differences in nutrient content as well. Harvesting alfalfa hay removed large quantities of phosphorus from the field, and since this P was never replaced, soil P levels became very low in the perennial organic system, limiting plant uptake of P. Phosphorus removal from the annual organic system, on the other hand, was much lower and therefore P was not limiting in this system. A low phosphorus concentration in wheat is not considered to be problematic from a nutritional perspective, as it is readily available in many foods and unlikely to be deficient.

Low levels of available soil P in the organic perennial rotation may have been the cause of higher zinc and copper concentrations in wheat grown in this system as well. When available P levels are low, plants such as flax, legumes, and cereals associate more closely with mycorrhizal fungi, a naturally occurring soil micro-organism that forms mutually beneficial relationships with plant roots. These fungi increase the uptake of certain nutrients, including the trace minerals zinc and copper. While it is possible that these trace minerals were simply "diluted" in the higher yielding conventional crops, the differences between the two organically managed rotations seem to indicate that crop rotation was at least partially responsible for this phenomenon.

As consumers continue to seek out healthier foods, the nutrient content of organic products will likely enter the spotlight more prominently. Knowing how crop rotation and soil nutrient levels affect the nutritional value of crops is a key component in comparing the quality of organic and conventional foods.

Joanne Thiessen Martens is a Research and Extension Associate with the Organic Agriculture Centre of Canada working in collaboration with Dr. Martin Entz at the University of Manitoba.

The Seed Map is a project of USC Canada and the ETC Group. This teaching and advocacy tool is designed to show the state of global agro-biodiversity today. When you order a Seed Map, you get an easy-to-understand, full-size (26"X39") colour world map and access to an interactive website. Maps are free if picked up from the USC office in Ottawa, or order your map at www.usc-canada.org or 1-800-565-6872 ext.228 (613-234-6827 in Ottawa).

The See

FOOD, FARMERS AND

The way to safeguard our food supply in the midst of climate chaos is by u
that rural peoples have bred and nurtured over 10,000 years.
But rural communities are under intense threat from indus
the North's trade policies and tec

FOOD AT RISK

CONFRONTING CLIMATE CHAOS

By the end of this century, the Earth's temperature will increase 1.8 to 4.0 degrees Celsius and average sea levels will rise dramatically. This means that – long before the century's end – our planet is headed for a biological meltdown that will massively alter global food production.

AGRICULTURE – especially in drylands, mountain regions, and seacoasts – must adapt to dramatically different growing conditions. Farming communities in the South – who have contributed least to global greenhouse gas emissions – are among those who will suffer most.

THE GUARDIANS OF BIODIVERSITY – more than a billion small farmers, fishers and livestock keepers – are key to adapting our food systems to climate change. Genetic diversity created by them is the world's most vital resource for developing crops and livestock that can survive hotter, drier conditions and resist migrating pests and diseases.

WHO NEEDS SMALL FARMERS?

Agriculture still depends on the genetic diversity nurtured by the South's farmers. Our dependence will increase with climate chaos.

- In the mid-1990s the South's crop genes annually contributed US$7 billion to the $18 billion US maize crop.
- Genes from Mexican farmers' varieties rescued the North American wheat crop from stem rust in the 20th century.
- US wheat and barley farmers lost US$3 billion between 1990 and 2002 due to a scab disease. The only defence has been found in a Chinese variety.
- Genes from an Andean tomato are worth US$8 million per year to food processors.

WHAT IS FOOD SOVEREIGNTY?

"Food sovereignty" is the term adopted by Via Campesina – the world's small farmers' movement – to describe everyone's right to define and control their own food systems. Food sovereignty means that land and resources will be controlled locally rather than dictated by international trade regimes and agribusiness. It means the right to nutritious, culturally-appropriate food grown under just and ecologically sound conditions. Without food sovereignty, farmers cannot respond effectively to climate change.

WE'RE LOSING DIVERSITY WHEN WE NEED IT MOST

Crop and livestock genetic diversity have been lost through the spread of industrial monocultures and agribusiness monopolies. It is not so much the loss of a single species like rice or wheat, but the loss of genetic diversity *within* species that weakens our response to climate change.

- 20% of the world's livestock breeds are at risk of extinction.
- 75% of the world's marine stocks are at imminent risk. All wild fish and seafood species will collapse by 2048 if current trends continue. Over 100 million people rely on small-scale fishing for income and food.
- 90% of our food energy comes from only 15 plant species and 8 animal species.

Overall, we have lost at least 75% of world crop genetic diversity. We lose a unique livestock breed every month. But we are losing farm cultures twice as fast. More than half of the world's languages have become extinct over the past 100 years. When languages disappear, we also lose critical knowledge of ecosystems that could help us address climate change.

- 75% of India's rice crop is planted with a dozen varieties. Once there were 30,000.
- 80% of Mexico's maize varieties grown in the 1930s are gone.
- 90% of the 10,000 wheat varieties grown in China a century ago have been lost.
- 90% of US fruit and vegetable varieties have disappeared in the last century.
- Just four companies control breeding stock for industrial chicken broiler production worldwide, relying on an extremely narrow genetic base.

One unique livestock breed disappears every month

Crop genetic diversity is disappearing at 2% a year

SAVING AND BANKING DIVERSITY

On-farm seed conservation and plant breeding ("in-situ" conservation) depends on communities that use and maintain diversity on a daily basis. Women play a major role in seed selection, managing experimental plots for new varieties and seed saving. Community-managed seed banks protect local food systems and allow crop diversity, associated knowledge and practices to continue evolving in their original habitat. Networks to strengthen local seed conservation and farmer breeding programs are growing. Civil society, farmers' organizations and social movements are also resisting privatization of biodiversity and challenging corporate monopoly.

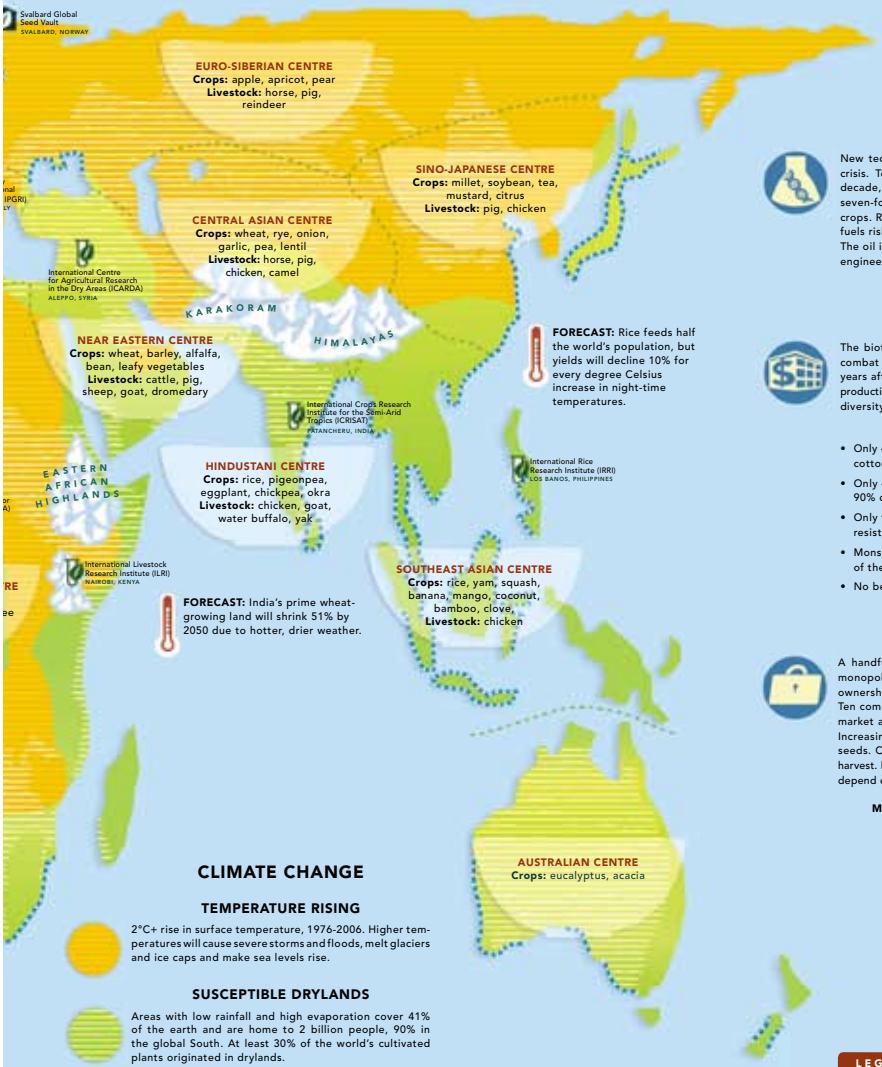
Approximately 6 million seed samples are stored in temperature-controlled gene banks around the world ("ex-situ" conservation). But even high-tech gene banks fail during power outages, war or natural disaster – and collections aren't always accessible to farming communities.

In 2007, a gene bank for the world's seeds opened in Norway's Arctic – a "doomsday bank" of last resort.

d Map

) CLIMATE CHAOS

using and adapting the plant and animal genetic diversity
. Most of this diversity is in the global South.
strial farming, agro-chemical monopolies,
chnological fixes.



CLIMATE CHANGE

TEMPERATURE RISING

2°C+ rise in surface temperature, 1976-2006. Higher temperatures will cause severe storms and floods, melt glaciers and ice caps and make sea levels rise.

SUSCEPTIBLE DRYLANDS

Areas with low rainfall and high evaporation cover 41% of the earth and are home to 2 billion people, 90% in the global South. At least 30% of the world's cultivated plants originated in drylands.

HOTTER AND DRIER

Susceptible drylands that have also experienced a 2°C+ rise in surface temperature, 1976-2006. Crop yields will drop dramatically where dryland agriculture depends completely on rain.

MOUNTAIN REGIONS

Climate change means more precipitation at high altitudes. Climate extremes will lead to more plant disease and pest outbreaks.

COASTAL COMMUNITIES THREATENED

Rising sea levels threaten more than 630 million people who live on coastal lowlands – where two-thirds of the world's largest cities are located.

This map was produced in 2008 by USC Canada and ETC Group.

WE GRATEFULLY ACKNOWLEDGE FINANCIAL SUPPORT from the International Development Research Centre (IDRC), the Canadian International Development Agency (CIDA), CS Fund, HKH Foundation, Lillian Goldman Charitable Trust, Ford Foundation and Marin Community Foundation.

TO ORDER MAPS, CONTACT:
USC Canada info@usc-canada.org www.usc-canada.org
ETC Group etc@etcgroup.org www.etcgroup.org
Available in French and Spanish.

ONLINE MAP: A digital version of this map with sources will be updated periodically at

www.seedmap.org

THE CORPORATE THREAT

CLIMATE JUSTICE, NOT TECHNO-FIXES

New technologies are being promoted as a quick-fix for the climate crisis. Techno-fixes do not address social inequities. Over the next decade, the market for agrofuels (crop-based energy sources) will grow seven-fold and is already shifting marginal lands from food to fuel crops. Rather than being a "green" response to climate change, agro-fuels risk destroying biodiversity and compromising food sovereignty. The oil industry is now investing in synthetic biology (extreme genetic engineering) to create artificial life forms for fuel production.

GENETIC DIVERSITY OR GENETIC ENGINEERING?

The biotech industry promotes genetically engineered (GE) crops to combat climate change and feed hungry people. Yet, more than 10 years after GE seeds were first planted, they have not increased food production, just company profits. Contamination from GE crops threatens diversity in farmers' fields.

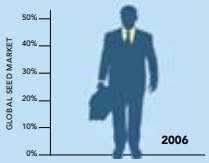
AFTER TEN YEARS OF GE CROPS

- Only 4 industrial GE crops commercialized (maize, soybean, canola, cotton).
- Only 4 countries (USA, Canada, Argentina, Brazil) account for over 90% of the global GE crop area worldwide.
- Only two GE traits commercialized – pesticide tolerance and insect resistance.
- Monsanto's GE seeds and genetic traits accounted for almost 90% of the total area devoted to GE crops in 2005.
- No benefits for small farmers, consumers and biodiversity.

WHO OWNS SEEDS?

A handful of multinational seed and agrochemical corporations are monopolizing (via patents) the first link in the food chain and claiming ownership over genetic materials developed by farming communities. Ten companies control more than 55% of the world's commercial seed market and six companies control 72% of the global pesticide market. Increasingly, patents prohibit farmers from saving and exchanging seeds. Corporate labs are developing Terminator seeds that are sterile at harvest. If commercialized,Terminator will threaten 1.4 billion people who depend on farmer-saved seeds.

MONOPOLIZING THE FIRST LINK IN THE FOOD CHAIN



10 companies control more than 55% of the world's commercial seed market

LEGEND

- Major centre of food origin/diversity
- Predicted impacts of climate change on agriculture
- Centre of food origin/ diversity boundary
- International gene bank collection
- CGIAR gene bank collections (Consultative Group on International Agricultural Research)
- Areas that have experienced a 2°C+ rise in temperature between 1976 and 2006
- Susceptible drylands: low rainfall and high evaporation
- Susceptible drylands that have also experienced a 2°C+ rise in temperature between 1976 and 2006
- Coastlines most vulnerable to sea-level rise
- Major mountain ranges

BC SEED ISSUE

By Patrick Steiner (excerpt from his handbook Small-Scale Organic Seed Production)

Direct-Sales Marketing

Selling seeds directly to the end consumer is the approach practiced by most organic vegetable seedgrowers in Canada. Carolyn Herriot is an example of a Canadian grower who combines seedgrowing with another on-farm business. For many years she operated a nursery that brought in approximately 70% of her income. Most of that came within a short period during the busy spring gardening season. Throughout the rest of the season she tended her plants, harvesting and later marketing their seeds through her seed company, Seeds of Victoria. The extra economic return she garnered from this made up the other 30% of her income.

Customers at her nursery always asked her for growing advice, so she decided to write a book, detailing seasonal gardening tasks and giving tips for succesful growing. It was a huge success and made her aware of the critical need for offering education about gardening and many other issues relating to food, health and environment. Carolyn now plans to devote half of her time to seedgrowing and the other half to the development of a Centre.

When it comes to the cost of growing seeds, Carolyn points out that it doesn't cost much to grow seeds - she collects her seeds in brown paper bags, uses hairdryers and bowls, sieves and screens from around the house to clean them, and stores them in recycled plastic tubs. The biggest expenses come in marketing those seeds, she says. Printing seed packets is a big expense, as is a catalogue. Developing a website was an initial expense that she feels has paid for itself many times over. Almost 80% of her seed sales come through her website, and she will discontinue creating a print catalogue, moving to a strictly on-line catalogue. Additionally she sells seeds through about ten retail outlets in her area, and at Seedy Saturday events.

Similiar in scale to Seeds of Victoria is Greta's Organic Gardens in Ontario, a regional organic seed company. Proprietor Greta Kryger uses many of the same marketing models as Herriot. Seedy Saturday events are a large part of her sales, and her website is another major source of revenue. Kryger hired a website promotion company to improve the ranking she receives on search engines, and noticed an immediate effect. Within the first six months sales doubled over the previous year.

For Kryger, advertising is one of the biggest expenses for marketing her seeds, but has found that advertising through the classified sections of regional and national farming/gardening magazines is affordable. She has explored the idea of doing retail sales through seed racks, but finds the cost of developing racks prohibitive. In cases where stores already have seed racks, she finds it economically feasible to work with them and create retail sales opportunities.

While many of her customers are backyard gardeners, Kryger also claims that there is strong support among Ontario and especially Quebec market gardeners for locally grown seeds, and she has many customers who are commercial growers. Some have expressed interest in buying bulk seed quantities from her, and because they are typically small-scale farms, may only need 100 or 200g of something. She says small-scale seedgrowers can easily meet those demands.

Marketing as a co-operative: The Siskiyou Example

A common challenge small-scale seedgrowers face in marketing seeds to larger seed companies is the size differential between the company and the small farm operation. To pool resources and offer a more complete program to seed companies the Siskiyou Sustainable Co-operative, a group of growers in southern Oregon, has developed an effective marketing model that helps their members sell seeds to companies across the U.S.

Siskiyou member Don Tipping recognized the desirability of seed contracts as a way for farmers to diversify their incomes. As an established seedgrower himself he had spoken with one of North Americas larger organic seed companies who said, "We have a whole stack of people that want to grow seeds for us, but how do we know if we can trust them? We don't know what quality seed they will produce." Even this relatively large seed company can't just fly out to every farm that wants to grow seeds for them. So growers at Siskiyou decided to develop a program for teaching members how to do it properly, and guarantee that growers were observing important things like isolation distances and paying attention to diseases or other quality issues. The cooperative became the intermediary between the grower and the seed companies, able to assure a high level of quality control was being observed.

Through conversations with several seed companies, SSC member Maude Powell discovered that they liked the idea of working with a group that had a coordinated marketing effort, where they would be able to communicate with one person representing numerous growers. Because the Siskiyou Cooperative members are mostly very small-scale, it saves the seed company the time and energy of dealing with a slew of small contracts with multiple growers.

Based on this, the Siskiyou cooperative applied for grant money to develop a quality assurance program and marketing program.

The quality assurance program had five components, guaranteeing customers of the best quality seed possible.

1. All growers are certified organic
2. All seed is independently tested for germination rates by accredited seed labs
3. All seed is pathogen tested by the Oregon Department of Agriculture
4. A GIS pinning system is used to map seedcrops and ensure adequate isolation distances between farms/seedcrops. (This anticipates growth of co-op members, since currently the distances between member farms are large enough that pinning is irrelevant)
5. Growers have access to technical assistance. (Grant money was secured to hire Don Tipping to be available for phone calls and email consultations to other growers. He was picked because he was the most experienced seedgrower in the area. Additionally, the Organic Seed Alliance would help train Don, and he could refer to them for any questions he may have.) Maude Powell notes that technical assistance is the most important component of the quality assurance program.

In the first year, the Siskiyou Co-operatives' marketing program would aim to sell seeds for 9 growers, and hired Powell as the marketing coordinator. She spoke with each grower, totalled the available acreage for seedgrowing, found out what they liked to grow and what they had experience at growing. By going to the EcoFarm conference and the Organic Seed Alliance conference she was able to meet industry representatives and approach them about seed contracts. She also cold-called seed companies, explained who she represented and found it relatively easy to establish relationships and get seed contracts right away. In this case she was able to state that some of the growers had previous experience growing for Seeds of Change and FedCo Seeds. She could also point to the cooperatives' Quality Assurance program. In this way they were able to land seed contracts with companies like Johnnys Seeds.

Powell negotiated contracts for many of the Siskiyou Co-op members. Seed companies found it simpler and advantageous to initially speak with one principal coordinator. The companies could later speak with individual growers throughout the season about concerns or issues for specific seed contracts.

Powell noted that the cooperative can now get more contracts than they can actually accomodate, meaning there is lots of room for expansion for individual growers or for other growers to join. Why don't members grow more seeds then, I asked? She explains that most growers have a balance of seed and food crops growing on their farm, and are not necessarily looking to increase seed production. In her case, she feels she earns more money per acre through seed contracts than market production, but she values the social contact with her local community that she gets through marketing produce, which doesn't happen when growing seed contracts. Powell grows about a 70:30 ratio of produce to seeds, and is moving towards a 60:40 ratio.

While having a marketing co-ordinator requires payment on the part of co-op members, Powell claims most have found it worthwhile. If a grower negotiates a contract on their own s/he gets the full sum of the contract. If Powell negotiates a contract on behalf of a grower she gets a percentage of that contract sum. "Particularly for new growers, a marketing coordinator can provide a bit more leverage with the seed company. It gives the grower more credibility because they are part of an established group with a good reputation. Other growers just prefer going through a marketing coordinator because it saves them the time and effort of marketing seeds themselves", she says.

Siskiyou Co-operative considered the idea of direct marketing it's own seed, essentially establishing themselves as a seed company outright. But through advice from others they have decided not to do so for the time being. The level of coordination involved in running a seed company, and the investment needing for everything from insurance, testing, overhead, capital expenditures and so on makes it quite difficult, Powell explains.

The time and expense involved in selling seeds is a challenge for all of the people profiled in this chapter, and different solutions to that challenge have been developed by all.

Events and Announcements

Organic Agriculture Symposium: Fundamentals for Professionals
October 28 and December 2, 2008
The Organic Agriculture Centre of Canada (OACC), with funding from Agriculture and Agri-Food Canada's 'Advancing Canadian Agriculture and Agri-Food' (ACAAF) program, is hosting a symposium for agricultural professionals across the country to learn more about organic agriculture and research.

This is a two part symposium scheduled for October 28 and December 2, 2008. Day one will provide an introduction to organic agriculture, including production economics, marketing, regulations, certification and standards. Day two will provide information on organic production, including horticulture, grains, and livestock.

Regional locations are being set up across the country where you can attend and network with other local agricultural professionals. All the presentations will also be broadcast live online in both French and English.

The conference program is still being finalized and registration will begin in August.

More details will be coming soon!
Also, visit our website for updates at http://www.oacc.info/symposia/welcome.asp

If you have any questions please contact Kristen Lowitt, Research Symposia Coordinator with the Organic Agriculture Centre of Canada at klowitt@nsac.ca

November 26/27 The Investment Agriculture Foundation of British Columbia Foundation and AAFC are delivering a two-day ***Value Chain Workshop*** for producers and processors who are not part of a value chain yet. There will be 2 modules presented this fall and 4 more in 2009.

You Are Invited To Eat BC! Registration is now open at www.eatbc.com and includes opportunities for restaurants, farms, processors, grocery stores, hotels, distributors and much, much more! For more information about Eat BC! please phone Jaclyn Laic at 604-575-4944 or by e-mail, jaclyn@dccnet.com.

COO Update
The amended **regulation** is not yet ready but should be shortly. Consultation with key people in sector across the country is being organized. It is the regulation which will give CFIA the authority to demand compliance to the Canada Organic Standard for interprovincial and international trade.

Final design of the **logo** has not been decided.

Third ballot results were positive with minor revisions needed. Once done a revised interim version of the **Standard** will be published. This version will not include the fourth ballot results, as the meetings to generate this foruth ballot have not even taken place yet.

A **stream of commerce** policy generate by sector representatives outlining a planned enforcement strategy which will help maintain uninterrupted commerce through a period of adjustment during the initial implementation phase has been sent to CFIA Legal Services for approval.

COO has been completing accreditation of **foreign accreditors** and believes by the date of implementation 61 of the 63 countries they have identified as shipping product to Canada will have Canada-approved certification.

Gap analysis has been completed on both the Canada-EU standards as well as the Canada-US standards and discussions are taking place on how to equability address the difference.

The **Canadian Border Services Agency** will not be verifying organic certification on shipments until the Electronic Data Interchange (EDI) is ready.

There will be a consultation on **bulk shipment labeling requirements** for produce shortly.

Prepared by Rochelle Eisen on behalf of the COABC's COR committee

Events and Announcements

Interested in having some type of production expert speak in your area and need a little assistance? There is funding available through COABC's Regional Seminar Series Program. Contact Rochelle 250.547.6573 extension@certifiedorganic.bc.ca to learn how to access these funds.

COABC Conference and AGM 2009
February 20, 21 and 22, 2009
Tradex, Fraser Valley Trade and Exhibition Centre
1190 Cornell Street, Abbotsford, BC
'From field to table.....BC organics'
The COABC Conference and AGM will be taking place Feb 20-22, 2009 and this is something you will not want to miss! We are inviting all members and the public to attend.

The conference and AGM is a perfect opportunity to learn something old – by understanding the age old tradition of giving back to the land and discovering the forgotten wealth of nature. You can learn something new about organic systems if that is what you are interested in. Or learn something organic if you are considering going 'certified organic'. There is something for everyone!

The highlights of the conference will be the trade show, presentations, workshops, an organic feast, a silent auction and so much more.

Be sure to mark the date on your calendar and watch for more information to come.

BLOWOUT SALE
"Do you need ***plastic bags with the Checkmark logo on them***? We have large labeled bags 10lb capacity (11"x27.5" for a **BLOWOUT price: 250 bags for $12 plus s/h or 1000bags for $40 plus s/h.** Regular plastic produce bags will be available in 2009 however with rising costs the new price will be over $40 per 1000 bags"

Contact the COABC Office for more information.
Phone: 250-260-4429
Fax: 250-260-4436
office@certifiedorganic.bc.ca

Food Safety Workshops *(Lunch is provided)*
For Food and Beverage Processors of British Columbia, Canada

Food Safety is on everyone's mind today. Processors are encouraged to take advantage of the programs, funding, and services available to them now. (*Market players are demanding comprehensive food safety plans – without comprehensive food safety plans opportunities to participate in the market place may be reduced – Insurance costs may escalate.)* Food safety workshops provide a valuable education tool. What's more they are an opportunity to network, and gain access to information that could enhance your bottom line. Your valuable time is a factor in the workshops design. You'll get: "One Stop" shop for questions regarding opportunities available to you; a forum to gain information on current and incoming labeling regulations; and direct access to the following organizations that will be on site for you.

Workshops are **free**. **Lunch** is provided. To confirm your seat and provide advanced notice to our lunch food service providers, register ASAP for a workshop in your region.
Dates and Locations
October 20, 2008 Kamloops
October 22, 2008 Cranbrook
October 27, 2008 Richmond
October 28, 2008 Duncan
January 19, 2009 Courtenay
January 23, 2009 Vancouver
January 26, 2009 Quesnel
January 30, 2009 Langley
For more **information** or to **register** for a workshop – Call toll free: **1-866-619-7372**
www.ssfpa.net info@ssfpa.net

COABC

ORDER FORM

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

Farm Name: _____
Contact: _____
Address: _____
City/Province: _____
Postal Code: _____
Phone: _____
Date ordered: _____
CB + Certification No.: _____

PST Exemption

☐ BCAC Farmer ID Card #: _____
If no BCAC Farmer ID #:

☐ Certificate of Exemption must be provided for PST Exemption for each purchase. Form available at: http://www.sbr.gov.bc.ca/documents_library/forms/0453FILL.pdf or request the form from the office.

Item	Units	Unit Price	Quantity Discount	Quantity	Total
Plastic 10 lb apple bags/vented	250/wicket	$12.00	4 wickets $40.00		
Stickers 1" round	1000 pc roll	$11.00	10 rolls $90.00		
Stickers 1 1/4" round	1000 pc roll	$11.00	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.
Have you signed a new Consent to use Official Marks Declaration Form (revised July 2006)? Y/N
Have all your labels been reviewed by your CB? Y/N
With which products will you be using the packaging materials? _____

_____

Promo Materials: available to everyone	Member $	Non-member $			
Cloth Aprons with 3 pockets	$12.50	$12.50	PST taxable		
NEW 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 or L*	$10.50	$10.50	PST taxable		
Natural T-shirts (Plain) S M L XL or XXL *	$6.50	$6.50	PST taxable		
Organic Tree Fruit Management	$32.00	$39.95	No PST		
Steel in the Field	$25.00	$25.00	No PST		
Livestock Nutrition	$12.00	$12.00	No PST		
			Sub-total (before taxes and shipping):		

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

GST # 887782431 RT 0001

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.

Letters to the Editor

Letters to the editor are welcome. Letters must be under 500 words. We reserve the right to edit for length.

To the Editor:

I read an article in the *Seed Savers Summer Edition* that opened my mind to difficulties that we may be creating when we require use of certified organic seeds.

Briefly, putting organic standards in the hands of the government gives most influence to the industrial companies who make the most money, and can afford to invest in changed standards. Requiring certified organic seeds (only from the list of legal, registered varieties mind you) puts the chemical/GMO/seed industry in charge of what we can grow organically, and severely reduces the diversity of seeds available to certified organic growers and eaters.

That's the broad bit I got from it. I highly recommend that everyone read it.

The article is available at:
http://grain.org/briefings/?id=207

Genetic Resources Action International is an international non-profit organization that promotes the susstainable management and use of agricultural biodiversity based on people's control over genetic resources and local knowledge.

Peter Johnston

Husky Mohawk Community Rebate Program

COABC is involved with the **Husky Mohawk Community Rebate Program** in order to raise additional funds for the organisation. Husky forwards 2% of the loyalty card users' purchases to COABC in the form of a rebate. All COABC members were sent a card in 2005 and a small amount of members have been using the card resulting in an average rebate of $125 per quarter. We still need more help to raise funds using this loyalty program.

If you would like to receive a card or additional cards, please contact the COABC office at (250) 260-4429 or email us at office@certifiedorganic.bc.ca

CLASSIFIED

FOR SALE: Waterfront century farmhouse on beautiful 5 acres near Tatamagouche, Nova Scotia. Land has approx. 300 feet of tidal waterfront, southern exposure, fruit trees, organic neighbours! $189,000. E-maildjans@ns.sympatico.ca.

FROM FIELD TO TABLE

CERTIFIED ORGANIC ASSOCIATIONS OF BC

CONFERENCE & AGM

FEBRUARY 20TH-22ND, 2009

- PRESENTATIONS, WORKSHOPS, AND THE PACIFIC AGRICULTURE SHOW

- FRIDAY FEATURE NIGHT & SATURDAY ORGANIC FEAST

– COABC MEMBERS, THE PUBLIC AND AGRICULTURE ENTHUSIASTS ARE INVITED TO ATTEND

- AT TRADEX, FRASER VALLEY TRADE AND EXHIBITION CENTRE,

1190 CORNELL STREET, ABBOTSFORD, BC

For MORE INFO – CHECK THE COABC WEBSITE AND/OR EMAIL DONNA@DSEVENTS.CA