

BC Organic Grower

Vol. 7, No. 3

Fall 2004



British
Columbia
Certified
Organic



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**COABC, 3402 32nd Ave.
Vernon BC V1T 2N1**

President's Report

by Patrick Mallet

My partner, Victoria, and I just bought a house together in Kaslo. It's my first house so I'm pretty excited and overwhelmed. The house dates from 1900 and we are only the fourth family to live there! It's known as the Augustine homestead for the two generations of Augustines who cared for the property for the first 85 years. People have been born and have died in our house.

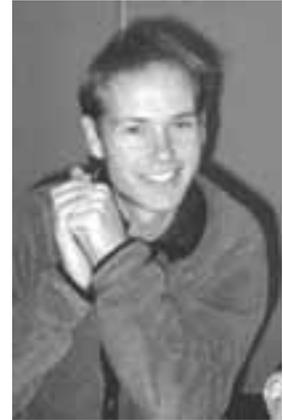
The house is set on 0.8 acres of vegetable gardens and fruit trees. Most recently it was home to an organic nursery business. Amazingly, the land has been gardened organically for the full 105 years! There used to be fields of strawberries and corn. Now there are great swathes of vibrant flowers and vegetables. I can stick my arm elbow deep in the red loamy clay soil without hitting a rock. Some of the fruit trees have to be getting on near a century. It feels a lot like we have become part of a living history and that we have a responsibility (and a desire!) to maintain the traditions and heritage that make this piece of land so special.

The reality is that I spent the first four days after moving in weeding. The garden had grown in and was a sea of pigweed and lamb's quarters. However, in the early morning, I found something therapeutic about weeding as the sun broke over the Purcell mountains to the east. And it was a treat to discover hidden gems under all the weeds – a gooseberry bush, beds of lavender and some purple bush beans ready for harvest.

Beyond the garden, the piece of land is dotted with fruit trees, mainly apples and pears. Old-time varieties like the Red Astrachan and Gravensteins. There's also a peach tree (the only one in town) and an apricot. Some of these fruit trees date from early in the century; others are rare heritage varieties, carefully cultivated from old trees around the region. One tree has seven different types of apples grafted on! Just for fun.

Kaslo was well-known at the turn of the centu-

ry for its fruit. The Kootenays was a major fruit growing region before the Okanagan got irrigation. Steam-powered paddle wheelers shipped the boxes of fruit down the lake where they were transferred onto the freight trains that delivered them across the country and even to Europe. Cherries and pears were the fruit of choice. Remnants of the pear orchards in the valley still remain, tucked between the fences of the properties now subdivided. The cherry trees grow wild all over town, creating a well-documented source of mid-summer food and sometimes trouble for the region's black bears.



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I think about how much the landscape has changed in the hundred or so years since the mining boom brought an influx of adventurous folks to the Kootenays to carve an existence out of the forest and the mountains. Good agricultural land is hard to find in the mountains. The acreages are small and the soil often rocky. Most of the other original homesteads in town have been sub-divided and most of the farmland lost or abandoned. I've been told there's a picture in the Kaslo Archives of the four original houses in upper Kaslo, surrounded by fields and forests. Those four houses are still in the picture, including ours, only the fields and forests have disappeared.

Kaslo isn't the type of place to make a living from farming. Good land is hard to find and it's too far from any major centre. But most people I know grow food in their gardens. There's a history of self-sufficiency born of isolation, infused throughout our community. On our new homestead, we have grand ideas for our own garden. But right now, I'm thinking about

getting through the summer without drowning in weeds, harvesting the bountiful crops and enjoying the flowers that we've inherited, getting in a good cover crop, and waiting until winter to plan next year's garden. And maybe if we can grow enough vegetables to satisfy our family's needs, we can sell a few things at the local Kaslo Saturday Craft and Farmers' Market. Who said I wasn't a farmer?

I hope your weeds are fewer than mine and that your harvest is abundant! I also want to congratulate Kirsten Kane on her appointment as the new COABC Business Manager, and to welcome Jilly Skelhon as the COABC Office Coordinator. Our organization is in good hands. ✓



Wasps have been a real problem this year! Photo: Venables Farm

Environmental Farm Plan Delivery

Organic Environmental Farm Planning is underway! COABC has signed a contribution agreement with the British Columbia Agriculture Council to allow COABC to deliver Environmental Farm Planning to BC organic farmers. EFPs are a method of assessing the environmental impact of your farming practices. They are voluntary and confidential, and can be completed by the farmer, or with assistance of an EFP Advisor.

The COABC EFP Advisors are arranging for EFP workshops around the province this fall and winter. At the workshop, you will receive EFP documents, meet the advisors and learn about Environmental Farm Planning. You will also be informed about the financial incentives to help farmers implement their plans. Plan to attend a workshop in your area. For more information, call the COABC office.

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.

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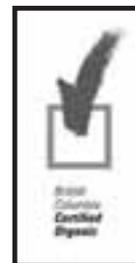
Cover Photo: Mad Dog Farm's garden.
Photo by Abra Brynne

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Climate Change, Plants & Pests

by Linda Edwards

We are inundated these days with the effects and projected effects of climate change on everything from hurricane activity to water levels both rising and falling, depending where you are. However, there is not much about the effects of this phenomenon on food crops and the pests and disease of these crops.

There are an increasing number of research papers on this topic but so far most are only speculative. Some deal with the effects of increased carbon dioxide and UV levels, some with changes in precipitation and/or temperatures and others with the effects of greater variation in weather patterns.

It is not all bad news. Elevated carbon dioxide will increase the growth and yield of most plant species (generally because of increased rates of photosynthesis) and/or increased water use efficiency. However, what effect will that have on plant pathogens and insect and mite pests? Research* done in one plant and pathogen system found that under elevated carbon dioxide, the disease in question became more aggressive (reflecting the relative amount of damage caused) to cultivars of the plant varieties which had been resistant but were unchanged in how they affected the susceptible ones. Spore production of the disease also greatly increased, resulting in an increased spread and severity of the disease.

Changes in temperatures and precipitation will mean changes in pest and disease complexes – some good – some bad.

A fairly large scale example of what a difference relatively minor changes in climate can make is the distribution of different types of leafrollers in tree fruits in the Okanagan and Similkameen.

From Penticton north in the Okanagan Valley and in many other parts of the world, there are two kinds of leafroller that are serious pests of several kinds of tree fruits. They are the Fruittree (*Archips argyrospilus*) and European leafroller (*Archips rosanus*). However, they are not a pest in the Similkameen Valley. This is in

spite of the fact that they have been introduced here by the hundreds/possibly thousands, every year for at least the last fifteen years. Two major nurseries in the Okanagan Valley sell nursery trees into this valley every spring. Time and time again, I have seen them laden with the egg masses and then the larvae of these two pests. The larvae even sometimes pupate. However, based on observations and rigorous monitoring with pheromone traps, no adults emerge. And there are none of these leafrollers ever found in the block in subsequent years.

There are two other species of leafroller: Threelined (*Pandemis limitata*) and Obliquebanded (*Choristoneura rosacena*). These have two generations a year and are very common in the Similkameen. Obliquebanded leafrollers are common throughout the Okanagan and in many other places. Threelined leafrollers are much rarer outside of the Similkameen.

Two other caterpillar pests common in the North Okanagan – the brown fruit worm and eyespotted budmoth – are also very rare in the Similkameen Valley. Why is this? I do not know. It would be a wonderful Master's or doctoral thesis for an entomology graduate student.

For various reasons, I do not think it has anything to do with parasites or predators. More likely there is some climatic condition that currently makes it impossible for these insects to survive here. But with climate changes occur-



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ring who knows what will happen in the future? I plan to continue to monitor the "worm" complex for changes.

This year in the Similkameen, we had a summer which was much hotter for a longer time than usual, followed recently by torrential rain-falls almost equal to our normal total precipitation for a year in one week. In my garden and in all of those that I am aware of, none had Colorado Potato beetles for the first time in memory. Tomato hornworms also didn't show

up. Wasp populations on the other hand have exploded. Whether these are just a one year phenomena or reflective of longer term changes remains to be seen. It would be interesting to know what changes others are seeing. The important thing for all of us to do is to not take anything for granted and be observant.

** Climate Change and Plant Pathosystems - future disease prevention starts here. G.B. Runion, New Phytologist (2003) 159:531-538.*



Canada Organic Regulation News

by Paddy Doherty

"We have committed over \$500,000 to this process over the next 18 months," said Michael Presley, Director General of Agriculture and Agri-Food Canada Food Value Chain Bureau during a meeting at the COABC office in early August. He also told us that AAFC is assembling a team to work fulltime on the organic regulation file. This was the best news we'd heard in months.

Once the Liberals called the election, everybody's agenda in Ottawa went sideways, including the organic regulation. Nobody wanted to second-guess a new Minister's priorities, and our friendly bureaucrats in Ottawa were overworked on other priorities.

Now that the election is over, enthusiasm in government for an organic regulation has increased. The Canadian Food Inspection Agency has committed to a Cost/Benefit Analysis and is assembling a team to draft the language of a regulation; and the Canada Organic Initiative Project has been renewed (Phase II) with generous financial contributions from Canada Organic Growers, Capers Community Markets, Cawston Cold Storage, Natures Path Foods, SunOpta Inc. and the Organic Sector Development Program.

Part 1 (general organic principles) of the Canada Standard has received a majority yes vote from the voting members of the standard committee. Out of 41 voting members, 33 ballots were returned; 25 members voted yes, 7 voted no and 1 abstained. The Canadian

General Standards Board has assembled a committee to deal with comments on Part 1. Part 2 (Guidance to Part 1) and Part 3 (Permitted substances list) must still go out for ballot. It is expected that the entire standard will be approved by the CGSB by the end of 2004. For more information, contact Paddy Doherty at paddy@quesnelbc.com or 250-747-3287 or visit the Canada Organic Initiative page at www.certifiedorganic.bc.ca



Systemic Food Poisoning

"There are two sets of regulations in the UK. There are those that the big corporations campaign against; and those that they tolerate and even encourage, because they can afford them while their smaller competitors cannot. This is why it is legal to stuff our farm animals with antibiotics, our vegetables with pesticides, our processed food with additives, and our water tables with nitrates, but more or less illegal to use any process that does not involve stainless steel, refrigeration and fluorescent lighting.

The clampdown on small food businesses, on the grounds that their produce might contain bacteria, has been accompanied by a massive rise in food poisoning cases since the 1970s: large-scale production and long-distance transport provide far greater opportunities for infection."

George Monbiot, writing in the Guardian Weekly, Sept. 3-9/04

All about garlic: an interview with Dan Jason

In the past few years, almost sinister, green snake-like coils with long, pointed heads have appeared on market stalls, looking more like something out of science fiction than an organic garden. These "garlic serpents" or "scapes" are an excellent way to add flavour to a variety of dishes or even to eat alone, like asparagus until the real garlic appears on the market some weeks later. More than a gourmet treat, however, the appearance of garlic scapes is a sign of a crop which is coming of age in BC.

*To find out what is happening in the world of garlic, Dan Jason is the man to ask. Dan is without a doubt BC's best-known garlic grower. He grows over 50 varieties of garlic which he sells through his mail order business, Salt Spring Seeds. He has also written several books on growing and eating whole foods. Much of this article is excerpted (with permission) from **The Whole Organic Food Book**.*

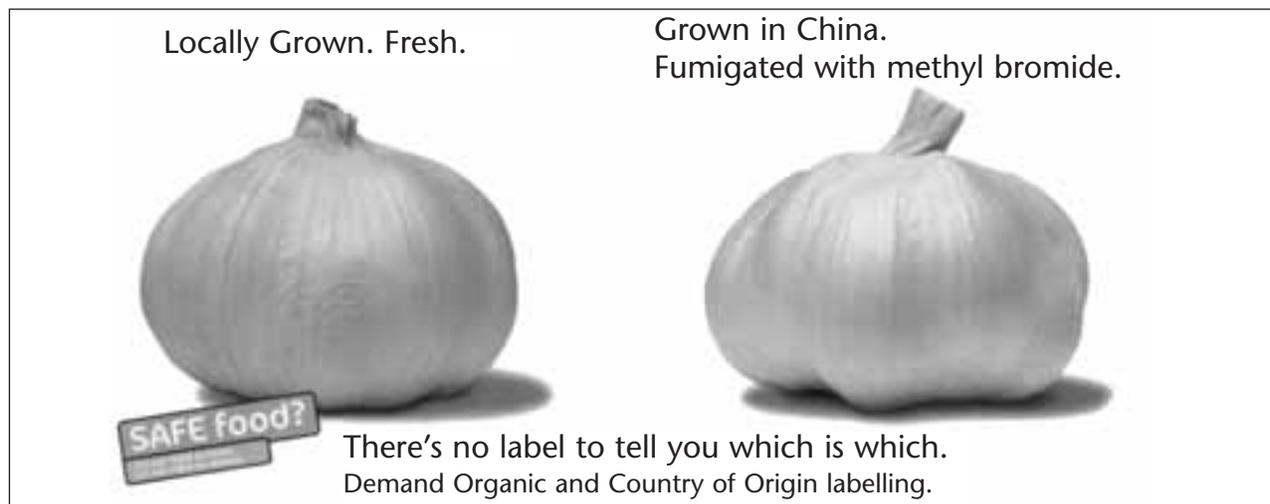
Garlic is both a whole food and a whole medicine. For the grower interested in self-reliance, it would be difficult to find an easier, safer, more useful or more potent plant than garlic.

Over 1,000 scientific and medically oriented studies have been published on garlic. Garlic improves nutrition, stimulates the immune system, lowers cholesterol, blood pressure and stress and attacks fungi, bacteria and viruses. To me, garlic is simply good food and good

medicine. I'm not a garlic fanatic and don't have it with every meal. But I do use it quite regularly and quite liberally. And I do believe that garlic, with its reliable boost to the body's vitality, comes closer than any other plant to being nature's complete medicine chest.

We are told of Egyptian slaves building the pyramids who attributed their vigour to the garlic they ate and refused to work when their ration was reduced. For me, personal anecdotes have supplanted historical or scientific ones. I've seen garlic applications remove growths on my skin when pharmaceutical antifungal preparations had no effect. And I've had times when I was sure that extra garlic in my diet, particularly in late fall and early winter, saved me from the colds and viruses all around me. Added to this are the dozens of testimonials from friends on garlic's wondrous feats. All in all, garlic has convinced me of its powers to heal.

Then there's the alchemy of garlic in the kitchen. Here again I find that, in a very simple way, garlic bestows a unique depth to food. Many dishes taste quite bland without it; garlic enhances most. With the exception of salt, it's by far the most often listed ingredient in recipes around the world. Unlike salt, the threshold at which it becomes "too much" is not precarious. Indeed, it's hard to go wrong with garlic. And there are countless ways to go right.



Varieties

For those who think garlic is garlic, I can say it is simply not so. Garlic varieties differ in size, shape and colour; they differ in strength, pungency and texture. As for taste, my garlic cohorts and I are having a great time creating a vocabulary suited to the subtle but notable distinctions among them.

The commercial garlic best known to consumers has small cloves clustered piggyback-style in concentric layers with no central stalk; this kind of garlic is often referred to as a "nonbolting" or "soft-necked" garlic. By contrast, rocambole garlics are "hard-necked," with cloves placed adjacent to each other around a thick central stalk. Rocamboles are a pleasure to use because their cloves are very large and easy to peel. Elephant garlic is not a true garlic but a member of the leek family. It is in demand because of its size and excellent storage quality. It's not as robust in flavour as regular garlic and has a characteristic bitterness, although it is good for baking. Some regular garlics certainly grow as large as elephant garlic.

Soil Preference

Garlic prefers a sunny location and will do well in many types of soil. However, like its cousin the onion, it appreciates rich, well-drained, sandy loam with plenty of humus. For poor and acidic (below pH 5.5) soil, you'd do well to dig in compost or aged manure along with wood ash, dolomite lime or crushed oyster shells. A caution, however, against too rich a soil, which may cause the tops to overdevelop. I've found that soils that are only moderately fertile yield the finest garlics. You may know that garlic repels some pests. For this reason it is often recommended as a companion for roses, tomatoes and cabbages, something you might consider when choosing its location in your garden.

Planting Time

The best time to plant garlic is between August and December, though I most often recommend late September or October. Planting any time in this period will give the plants the earliest pos-



sible start in spring and result in a harvest of large bulbs the following summer. Garlic puts down an extensive root system in the fall and winter, then sprouts green growth in early spring. Spring sowings work, but they give the plants less chance to size up before shorter days trigger bulbs to form. Garlic needs a minimum of 100 days to mature.

Planting in the fall will help make garlic the carefree crop that it can be. Moisture in the soil is generally enough for the entire growing period, and one rarely has to water garlic unless May or June are unusually dry. The fall headstart ensures garlic will stay ahead of the weeds in spring.

Sowing

Garlic can be planted in single or double rows or in intensive beds with five or six plants across. To begin, break apart the bulbs without peeling any of the skin. Plant individual cloves, wide part down, about five centimetres (two inches) deep so that the pointed end is slightly below the soil surface. I usually leave 10 or 12 centimetres (four or five inches) between plants but cloves can be planted even more closely in rich soil.

Maintenance

A mulch will encourage root growth in winter. In cold climates, snow serves as a mulch. Mulching material such as straw or grass clippings will also slow weed growth in the spring. Repeated applications of mulch will minimize weeding as well as keep the soil moist and friable. If possible, avoid mulching with hay containing viable seed: garlic does not appreciate competing with weeds for light and nourishment.

When weeding, practise shallow cultivation to avoid disturbing garlic roots near the soil surface. Other than weeding, garlic needs little care once it's planted. An occasional dose of fish fertilizer or seaweed solution will boost leaf and bulb growth. Because most growth occurs

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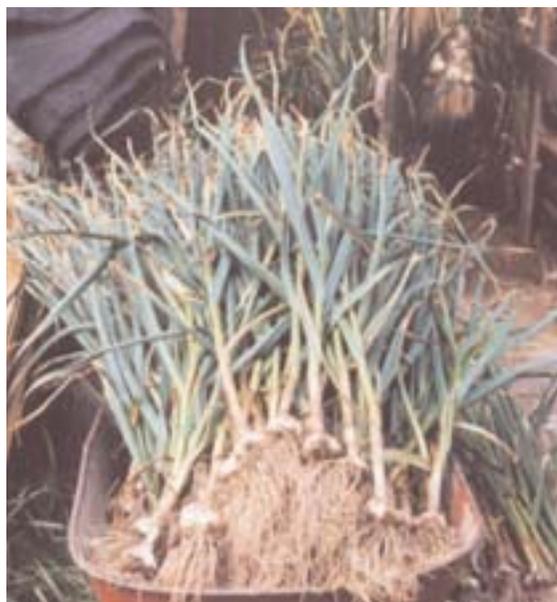





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before the summer sun starts to dry out the soil, garlic normally doesn't require much irrigation. To allow for optimum underground bulb curing, avoid watering for a few weeks before harvest, which is usually around the end of July. If flower heads form at any time (usually in June), cut them right back so that the plants put all their energy into bulb growth rather than seed formation.

If garlic does flower, the bulbils that may later form in clusters at the top of the stalk can be used as an alternative way of multiplying your crop. (A few varieties have bulbils that form partway up the stem.) Bulbils planted in the fall of one year develop small, undivided bulbs or bulbs of tiny cloves by the next fall. These must be dug and replanted to produce full-size bulbs in the following year.



garlic at Dragon Mountain Farm

Harvesting and Storage

Most garlics grow about waist-high and come to maturity toward the end of July or in early August. However, plants started from store-bought garlic may mature as late as September in the first year. The best time to harvest garlic is when at least half to 80 percent of the foliage has turned yellow. For braiding, it's best to harvest when stalks are still half green. Stalks of some varieties will fall over when mature. If mulched well, plants can be pulled easily by hand. Otherwise, dig them up carefully to avoid puncturing. Sometimes a fork plunged into the soil near but not against the plant is all that's needed to loosen for pulling.

Some sources recommend curing garlic in the sun for two days to two weeks, bringing it in or covering it if dew or rain is expected. I used to leave my harvest outside for several days, always with success. But given the atmospheric changes of recent years, and hearing stories of friends' garlic frying in the sun on excessively

hot summer days, has made me wary. I now hang my fresh-pulled garlic to cure in the large loft of our barn. Bulbs curing with insufficient airflow may mildew as their moisture leaves them, and individual cloves exposed to the sun may turn green.

After curing for 10 days to two weeks, the dirty outer skins of the bulbs and lower stalk will

slip off easily. The cloves on good bulbs will still be held together neatly by a white, purplish, bronze or brownish paper-thin skin. Remove the dirt gently, but leave as much skin as possible intact. The roots can be twisted off or cut at this point. Garlic plants with pliant stalks can be now braided or hung in bunches. Alternatively, cut the bulbs off the stalk, leaving 2.5 centimetres (one inch) of the top to facilitate later clove separation. These can be hung in mesh bags.

Whatever the method, garlic should be kept in a cool,

airy room for optimum storage. Save the biggest cloves from your biggest bulbs for planting, which you can do almost at once. The rest are ready to eat. For a month or two they are milder and sweeter than when they've cured a while, providing special delight in the middle of summer. Use bruised, punctured, exposed or otherwise suspect cloves first. Don't store your bulbs in a refrigerator as the cold causes cloves to sprout, changing their flavour and texture. We keep our house garlic in open baskets in a cool room. The cloves you save for eating will last almost until the next summer's crop. Smaller, less oily varieties will last longest. While you wait for the year's harvest, you can enjoy garlic leaves, flowering tops and the bulbils that form within the flower. They are excellent, though relatively unknown. They can be used fresh, refrigerated for long periods, or frozen, and cooked in many of the ways you'd use the cloves themselves.

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Yield

Each clove you plant ends up being a bulb, so a variety will multiply by the average number of cloves per bulb. Bulbs of rocambole varieties often weigh more than 85 grams (three ounces), so a 7.5-metre (25-foot) row of garlic can easily yield six kilograms (14 pounds) of garlic.

Marketing

The big picture is that 99% of the garlic we get here is imported, almost all of it from California or Mexico. Ontario garlic growers recently got up in arms over reports that Chinese garlic was produced with prison labour, and were successful in stopping Chinese garlic in that market. It is, however, still available at very low prices in BC, not to be confused with the "Chinese" variety being grown in the Fraser Valley which has a nice oiliness and is good for cooking. The imported garlic has been irradiated as well as treated with sprout inhibitors and fungicides so

that it will keep without sprouting for six months. (Don't try to plant it!)

The important thing in marketing local garlic is the quality. Imported garlic is selling for \$1/lb while ours is \$5/lb. But you can go to local restaurants, ask what kind of garlic they are using, point out how hard it is to peel, and just demonstrate that our quality is way superior. But garlic people have to do their own footwork.

Outlook

To anyone who appreciates garlic, whether for cooking or medicine, the taste and texture of homegrown or local garlic is noticeably superior than what's available commercially. Given that garlic is one of the easiest garden crops to grow, it is likely that the current rise in popularity of homegrown garlic will continue.

The Whole Organic Food Book, Dan Jason, Raincoast Books, 2001



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by Lee McFadyen

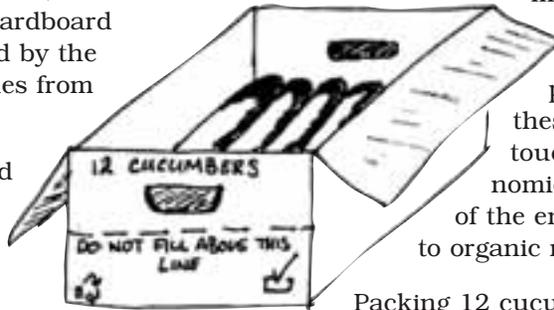
Packaging! Every farmer needs it. Many farmers curse it. It is expensive, easily damaged, takes a lot of storage space, and is usually used once before hitting the recycle bin, or worse, the garbage dump. All that cardboard must be managed by the farmer and by the end purchaser. That cardboard comes from the forest. Newly cut forests.

Once upon a time the farmer packed into a container that would adequately protect the specific product and evenly fit on a pallet.

Farmers who choose to use organic methods usually want to minimize their impact on the overall environment and try to be conservative with packaging, using every box to the maximum. This is environmentally responsible, a basic tenet of organic methods.

Farmers are now being asked to jump to the corporate will. For reasons unclear to this

farmer, some retailers now demand that cucumbers be packed 12 to the box, a box that comfortably and safely carries 24 cucumbers to market. Add to this their unwillingness to pay for the extra packaging. Perhaps these retailers are out of touch with certain economics and are unaware of the environmental aspect to organic methods.



Packing 12 cucumbers to a box instead of 24 means: Purchasing double the boxes, providing double the storage space, making up twice as many boxes, twice as much labeling, double the lifting onto trucks, pallets, etc., double the handling costs at shipping time, and of course there is all that double handling when the product reaches the retailer. Most important, environmentally, it does not make sense or show environmental awareness. Many consumers are really concerned about the strain packaging is putting on our natural resources and when they purchase organically grown have faith that packaging will be done in a responsible and environmentally sound manner. It is not enough to say, "It's recycled."

Organic farmers, in our race to become 'mainstream', 'acceptable', 'credible': do not lose sight of our basic tenets. Do not let the corporate agenda overrun us. Be responsible with our packaging. In the end, the consumer will thank us for it. ✓

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About Plastics

by Cathleen Kneen

Arguably one of the most useful and certainly one of the most widely used of the inventions of modern chemistry is the class of chemicals known as phthalates. According to the industry website, they all break down rapidly in the environment and in living organisms. The larger-molecule phthalates are used primarily to make vinyl plastic flexible, in everything from children's toys to flooring to medical devices.

The smaller-molecule phthalates are used in both industrial and consumer applications: as fixatives for perfume, slowing down evaporation and making the scent linger longer; making nail polish flexible and screwdriver handles less brittle; and in the time-release coatings on pills. They are used in lubricants, adhesives, weather stripping, and safety glass.

While the industry insists that these chemicals have been proven safe, critics such as Physicians For Social Responsibility, Our Stolen Future (Theo Colborn et. al.), and the Children's Environmental Health Coalition point to serious flaws in the research studies quoted by the industry. Animal studies, using relatively high doses, have shown that phthalates can damage the liver, the kidneys, the lungs and the reproductive system, especially the developing testes. Of course the industry insists that these are irrelevant since the exposure from your food packaging is orders of magnitude smaller. There is, however, mounting recent evidence of harm at very low levels of exposure. In addition, exposure is never limited to only one form of the chemical, since they are almost omnipresent.

An article entitled "Poisonous Packaging" in the January/February 2004 issue of *Organic NZ* from New Zealand written by a retired scientist, points out that phthalates can affect human health in parts per trillion, the equivalent, as Theo Colborn says, of a six-mile long, 600-

tanker car train full of tonic water, with one drop of gin in it.

Phthalates can be absorbed through the skin, inhaled as fumes, ingested when they contaminate food or when children bite or suck on toys, and a few years ago were the cause of an uproar about their use in IV devices. The journal *Environmental Health Perspectives* describes phthalates as an ubiquitous environmental contaminant, absorbed through the skin and lungs as well as from food containers. Of particular concern are the effects on the developing fetus, as exposure is associated with reproductive and developmental harm.

All this lends urgency to the call by Lee McFadyen on the previous page to reduce the amount of packaging used by organic growers for the health, not only of the planet, but also of the human population. ✓

Phthalates can affect human health in parts per trillion

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Potatoes do it

by Cathleen Kneen

Taking a leaf from nature, some innovative entrepreneurs have developed food packaging which is not just biodegradable but actually edible. The material is currently being used for take-out food in place of styrofoam in Britain and New Zealand.

Made from potato starch and designed to break down within six weeks of use, potato plates are tasteless but safe to eat, their creators say. "I've eaten hundreds of them," Richard Williams from Potatopak New Zealand said. "We don't sell them as a food and they are a bit bland. But all the ingredients are approved." Retail World (a magazine for supermarkets) reported that a fish and chips retailer deep-fried a potato plate and found it tasted "just like prawn crackers". The potato plates cost about 10% more than the plastic equivalent. The potato starch is a by-product of potato processing, and the waste from the manufacture of the plates is fed to worms and fish.

In 2003, two PEI entrepreneurs signed a \$5 million dollar joint venture with the German firm APACK AG which produces such biodegradable compounds at its facilities near Nuremberg, to manufacture and sell all APACK AG products in Canada. Their packaging, which will, naturally, use PEI potatoes, can be baked, frozen and microwaved. It is expected to be available some time this year. The containers will break down after about two weeks, compared to 100 years for polystyrene containers or polystyrene bags. Of course, that would mean you couldn't leave your leftovers lying around in the fridge for months at a time, because the container would dissolve.

Along with potato starch, cornstarch is a popular base for experimentation to replace plastics. Cargill Dow LLC, for example, is using a biodegradable resin derived from bacterially fermented cornstarch to create a clear film with twist retention equal to that of cellophane which is being used to wrap organic candy. And Ag-West Biotech in Saskatoon reports (with a completely straight face) experiments to make a cornstarch-based container for pesticides. ✓

New Organic Supermarket

Whole Foods Market opened its first Whole Foods Market location in Western Canada on September 15 with a 38,800 square foot store at Park Royal in West Vancouver.

Founded in 1980, Whole Foods Market is the world's largest natural and organic foods supermarket. In fiscal year 2003, the company had sales of US\$3.1 billion and currently has more than 155 stores in the United States, Canada, and the United Kingdom. The Whole Foods Market motto is "Whole Foods, Whole People, Whole Planet" and its stated goals are "to find success in customer satisfaction and wellness, team member [employee] excellence and happiness, enhanced shareholder value, community support and environmental improvement."



Lasers for Labels: Down with Glue!

The American company Duran Wayland Inc., which specializes in farming equipment, has introduced a new labelling method for fruit and vegetables. The method uses a laser to "write" on a surface, which eliminates the need for adhesive labels. A comparable method is already used for bananas to identify these as organic products for sale in supermarkets. Detailed information about the origin or processing can also be "burnt in".

The new equipment can label 14 articles a minute. A study has shown that this method of conveying information has the consumer's blessing, reports the Dutch magazine *BioFood*.

www.durand-wayland.com/laser_coding/index.html

View from the OSDP Table

by Hermann Bruns

What is OSDP, you ask? It stands for Organic Sector Development Program established in 2002 when the Agri-Food Futures Fund (AFFF), a joint federal/provincial initiative, allocated \$1 million for the purpose of developing the organic sector in BC. The objective was to help fund production capacity research, marketplace development initiatives, and environmental stewardship projects

Over the past two years six organic farmers have been part of the committee reviewing quarterly applications for funding from across the province. While the committee often finds it easy to agree, there are occasional intense discussions about which applications to approve. We are now entering the third and final year of the fund and thought it would be a good time to review what has been accomplished and where we could go from here.

Twenty-six projects, accounting for about \$480,000, have been funded since inception of the OSDP. Fourteen of those were COABC-initiated, while the remainder came from independent applicants. The proposals have been as varied as our sector, addressing topics such as soil health, compost tea, the Canada Organic initiative, supply management, even record keeping.

At \$106,000, the COABC initiative to develop and implement a marketing plan and promotional campaign for BC Certified Organic foods has been the most expensive project approved so far. Many of the rest have been much smaller scale, applying for less than \$10,000. For a complete list of projects funded so far, click on the OSDP link at www.CertifiedOrganic.bc.ca.

The OSDP fund is set to expire in July, 2005. With less than a year to go and over \$500,000 left to spend we plan to apply to the AFFF for a program extension. At the same time I would like to encourage people to send in applications. The next application deadline is November 19th, 2004. In particular we would like to see more projects aimed at increasing the production of organic foods in BC.

So as you are bringing in the harvest, give some thought as to what factors are limiting your farm's production capacity and/or profitability. Are the losses to pests and disease too high? Do you or your employees lack the necessary production expertise? Are you finding it difficult accessing suitable markets, financing, equipment, or sufficient labour?

Once you've identified your farm's production constraint, try to find others facing similar limits, get together and send a project proposal to the OSDP to address those limits. For the best success, check out the tips for successful OSDP applications. The OSDP review committee needs your applications to prevent the remaining funds from reverting back to the AFFF.

Hermann Bruns has served as an OSDP committee member for the past 2 years. He and his wife Louise (Wild Flight Farm) have been growing a wide variety of organic market vegetables in Mara since 1993.



The Science of Compost & Plant Health

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Professor Emeritus, Ohio State University

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Tips for successful OSDP Applications

Describe the issue or problem clearly.

Without a clear idea of the problem and the state of organic agriculture in your area, we have a harder time justifying a funding approval.

Detail the potential benefits of your proposal.

Cite the results of other studies or published reports and describe how your work will build on those or explore regional variations.

Ensure that the benefits go well beyond your own farm/business.

This point can't be stressed enough! We will not approve projects benefiting only a few farms. Being public money, these funds have to provide benefit to as wide a segment of the BC organic sector as possible.

Involve as many farms or businesses in the project design as feasible.

If, for example, you are proposing on-farm research of some kind, try to conduct the same trials on several farms in different regions of BC.

Gather meaningful expressions of support for your project.

Cash and/or in-kind contributions accompanied by letters of support speak the loudest.

Carefully follow application guidelines on website.

This may be obvious but we have difficulty approving applications that are incomplete or filled out in a slapdash manner.

Make sure your proposed budget is accurate.

This is also a common mistake! Too many applications contain budgets with glaring inaccuracies, unrealistic (inflated) costs, or have ignored the in-kind and cash matching requirements for this fund. Please check the website or application guide for details.

Consult the OSDP Secretary if you have any further questions.

Don't feel discouraged by the paperwork. If, after consulting the application guide, you still have questions feel free to contact Kirsten Kane by phone or email.

Some Approved Applications

KOGS: Feeding our Communities

Winter speaker series and exchange between farmers; identification of regionally appropriate cover crops; on-farm research trials. Also identifying local market opportunities where 95% of food products are imported into the region. \$8800 for Production/Market Dev./Environmental

Organic Practice Influence on Various Herbs

Organic production systems for high quality herbs are not well developed. Opportunities for extending the growing season by combining field and greenhouse production will be explored. \$13,594 for Production Capacity

Record Keeping Tools

This project will develop and disseminate model record keeping systems for the harvesting, packing, storing and shipping of organic produce, to help producers meet the COABC Standards for traceability. \$3000 for Production

Root Seller Project

Dawson Creek organic distribution, templates open for use: CSA Calendar; Distribution Day Check List, procedures; Inventory; Order Forms; Order Procedure Check List. \$4000 for Production/Market Development

(Stellar) Seeds Workshops

Two three-day workshops focusing on the technical and practical aspects of seed growing. These workshops will lead to a better educated seed growing network in Bc, and help expand market opportunities for BC Growers. \$5200 for Production Capacity

COG Transition Handbook

Production of Canadian Organic Growers' manual on *How to Manage the Transition to Organic Farming*. A practical, accessible, step-by-step Handbook to guide farmers in the process of converting their operations from conventional to organic farming. \$16,960 for Production Capacity

Compost Tea

Promotion/research of compost tea applications for organic tree fruit production; applicable to other organic food crops in British Columbia, such as vineyards, field vegetables, and greenhouse vegetables. \$19,000 for Production Capacity

***Kristen Kane, OSDP Co-ordinator • 3402 32nd Ave, Vernon, BC V1T 2N1
Phone: 250.260.4429 • Fax: 250.260.4436 • email: office@certifiedorganic.bc.ca***

Growing Seeds for Organics

by Patrick Steiner

In early July a keen group of growers from across the province gathered for two days of intensive tutorial and in-field learning about the art and science of seedgrowing. Dr. John Navazio of the Organic Seed Alliance in the U.S. shared his knowledge and his passion about organic seed production and plant improvement.

Early in the workshop John told us that all seedsavers are, on one level, plantbreeders. He qualified this by differentiating the seedsavers' work from the highly specified plant breeding done by professionals with PhDs and research assistants. The seedsavers' work is broad-sense plantbreeding, and can have measurable and dramatic effects on the quality of plants and the specific traits they exhibit.

John's course gives experienced and aspiring seedgrowers a theoretical grounding in the biological and genetic basics that help seedgrowers make important decisions in the field. These decisions have ramifications for many plant traits, like drought resistance, cold tolerance, disease resistance, colour, shape, etc. John reminded us that to save seeds is to participate in evolution. To simplify a Darwinian concept, evolution is a two-step process: 1. variation arises, 2. natural selection occurs. Plant breeding and seedgrowing can accelerate this process through artificial selection, or in other terms "directed evolution".

In the environment selection never sleeps.

Environmental challenges are always in effect, creating responses in the plant that manifest as genetic variation. It is the seedgrowers' work to observe and identify these responses and make selection decisions that tweak crop traits in a certain direction (i.e.

pest tolerance, late bolting, redder leaves, etc.). This is what is meant by directed evolution. The human/crop/environment interplay has and always will shape our crops. If you are interested in exploring these concepts, an excellent resource is Carol Deppe's book, *Breed Your Own Vegetable Varieties*.



Patrick Steiner cuts carrot seed

"Broad Sense" Plantbreeding – the Farmer's Arena for Crop Improvement

For centuries, farmers have participated in "broad sense" plantbreeding, selecting crops that expressed traits favourable for their partic-



Patrick Steiner (centre, in straw hat) with participants in the seedgrowing workshop, discussing broccoli seed in Stellar Seeds' garden.

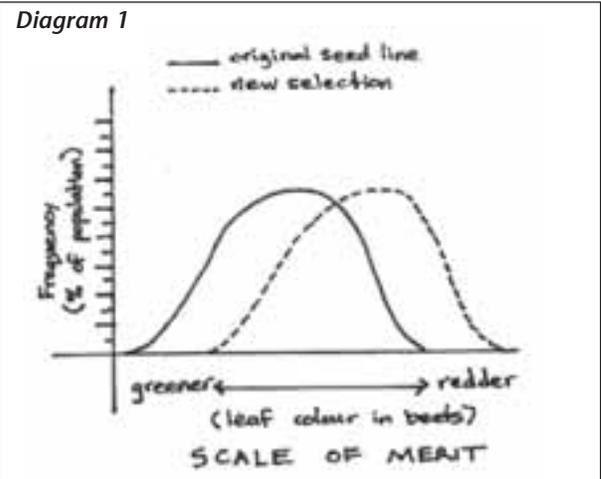
ular needs. This type of in-field plantbreeding always maintained plant populations with lots of genetic variation to ensure the crop's ability to meet many environmental or cultural challenges. John urged us to always think of seed-

growing and plant health in terms of populations, not single plants. One tool we can use to analyze plant populations for specific traits is the bell-shaped curve.

All populations, and each specific trait, fit a bell-shaped curve. The y-axis always represents the frequency, or "% of the population". The x-axis represents the "scale of merit", which is essentially the specific trait you are looking for. An example we used during the workshop came from a patch of Bull's Blood beets I am growing. As we looked at the beets closely we saw that there was quite a bit of variation in leaf colour. Some leaves had vibrant deep red leaves, others had leaves that were red but less intense in colour, while others had leaves with quite a bit of green.

If we fit these onto the bell-shaped curve it would look like the diagram to the right. A relatively small proportion of the population would have greener leaves, a small portion would have intense red leaves, while the majority fall somewhere in the middle – intermediates dominate.

Recognizing this, the seedgrower can participate in the directed evolution of the plant. If I eliminate all the green-leaved plants from my population, and keep only the redder-leaved beets, I will move this particular line of beets towards redder leaves overall. A bell-curve representing the newly selected population would show the "bump" of the curve had shifted right,



continued on page 18...

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...continued from page 17

towards the red end of the scale of merit. Pushing the bump in this way, we can mark our progress towards the plant traits we are selecting for.

John was eager to tell us how quickly we can bring about a change in our seed line this way. It may take as little as two generations to notice a remarkable difference. How do we know there is a difference without the theory of the bell-curve? Always retain some of your original seed, and several years down the road plant rows side by side of the original seed, and your new, selected seed. You should see a difference. This type of side-by-side comparison can also help you spy problems that may be arising. Perhaps in selecting for red leaves, you have inadvertently selected plants with undesirable traits. Recognizing that genetic variation is crucial to healthy plant populations, John reminded us never to select too narrowly for one single trait, we must always consider a series of traits that we want in the plant, and again, think in

terms of populations, not individuals.

Through keen observation and plant selection we can grow seeds that will produce plants with greater resistance to disease, or with any other number of traits we desire. John Navazio pointed out that all of the big multinational seed companies have expressly stated that they do not and will not breed plants for organics. Thus it is left to the local, regional seed companies and to farmers to take on this task. What might breeding for organics mean? Perhaps selecting plants for faster emergence and better weed competition, perhaps disease resistance, perhaps improved nutrition or taste.

At a workshop of this type it is inevitable that we will hear about the tragic loss of genetic diversity in agriculture. But John argued that we need not despair, the incredible thing about genetic diversity is that it is always manifesting anew, always expanding. Remember Darwin's premise: variation arises. When does it arise? In response to environmental challenges. The needs of our future agriculture may present



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new challenges like tolerance to high levels of UV light, hotter temperatures, increased air pollution or more virulent disease strains. As farmers and seedgrowers we can meet these challenges by using good field observation and a basic knowledge of plant genetics to grow seeds that meet our changing needs.

During the workshop participants used the morning to delve into the basic biological principles behind seed development, to talk about the fundamentals of growing good quality seeds, and the physical boundaries to be observed in ensuring varietal purity. John also explicitly outlined the numbers needed in a plant population to ensure good population genetics and avoid problems like inbreeding depression that can result in poor quality seed.

Afternoons were spent touring two area farms that grow organic seeds, giving participants an opportunity to ground some of the theory and to question both John and the farmers about the practice of seedgrowing. Seed swapping, resource sharing and the delights of Crannog Ales made for an excellent evening and at the close of the workshop all participants were eager to apply their new knowledge on their own farms and properties. One mode of communication for workshop participants is a listserve that is open to the public. If you are interested in sharing information or queries about organic seedgrowing visit www.yahoogroups.com and join the listserve titled "bcseedgrowers". ✓

North Okanagan Organic Harvest Festival

The North Okanagan Branch of Community Futures Board of Directors has decided to focus their efforts on the Organic Sector this year. Lucky for us, this means a grant of \$15,000 to put on a festival devoted to exposing our farmers and processors in the North Okanagan, Shuswap, and Kelowna to new markets.

The festival, which will take place Saturday, October 9th in Polson Park in Vernon, will feature a farmers' market, entertainment, Activities for children, displays, self-guided farm tours and four free public seminars: **Introduction to Seed Saving** with Patrick Steiner, **Transition to Organic**, and **Chemical Free Lawn and Garden Care** with Rochelle Eisen, and **What is Organic** with Bob McCoubrey.

The emphasis of the festival will be on Certification, and to this end, we are extending invitations to participate to those in non-COABC Certification Programs in the area. As well, local businesses that supply Certified Organic products in the Valley will also attend.

The money comes from Western Economic Diversification, and includes wages for a temporary full-time co-ordinator. Keira Keough, a local Business Administration Student, has filled this position, and is hard at work putting

the whole thing together. Invitations to participate have gone out to licensees and businesses, and so far there has been a lot of interest in the program. We were able to hand out flyers advertising the event to the thousands of visitors to the COABC IPE booth, and were gratified by the excitement generated.

The Community Futures initiative also includes logistical support for a survey to assess the business needs of NOOA members, which will be key in determining future projects for the area. In addition, Keira will be developing a template for planning the event, in order to transfer the event to other regions, or develop it on a larger scale in the future.

Best of all, the initiative has been structured to achieve maximum results for COABC and the local CBs, with minimum outputs required in planning the event. Little or no admin is required of COABC, NOOA or PACS, as Community Futures will look after the bulk of the admin, and handle the financials.

Truly manna from heaven. COABC is grateful to North Okanagan Community Futures for their vision in putting Organics front and centre, and for providing this opportunity for our members. ✓

Pear Slug (*Caliroa cerasi*)

by Linda Edwards

It is that time of year when many cherry and pear blocks, usually from the top down, look brown and dry and then defoliate.

While most insect pests decline under organic production, there is one that definitely can increase, become a major problem in cherries and pears, and spread throughout the neighborhood. It is very susceptible to most pesticides so is never seen in conventional blocks. It also attacks ornamental *Prunus* species.



The larvae which feed on the leaves, skeletonizing them, are truly sluggy looking – hence the name. They are covered with olive green or black slime for the first four instars. The fifth and final larval stage is yellow-orange with no slime. Actually, it is an insect that is a member of the sawfly family. The adults are shiny black wasp-like insects about 15 mm long which tend to go unnoticed.

This insect overwinters as a pupae in the soil. The first generation emerges late spring/early summer. The adults lay their eggs on leaves. These are tan and circular and resemble a blister on the leaf. The larvae hatch out in about 10 days and feed for three weeks before dropping to the ground to pupate. There are at least two generations a year. Populations definitely increase from one year to the next if left unchecked. Trees can be almost completely defoliated by this pest at high populations. They can also feed on the fruit under these conditions. Trees heavily attacked for even one or two years will decline in production in subsequent years. So what to do? Application of lime sulphur to the larvae is very effective – 2% solution. On cherries, the spray can always be applied to the larvae after the crop is off.

For pears it can be more difficult. The lime sulphur will control the pest but it can also russet the fruit. We have found that if we immediately follow up the lime sulphur spray with a water spray, the russetting is minimized but the treatment is still effective.

The optimum time to apply the lime sulphur is when the eggs have all hatched. The eggs are quite easy to see – plump little round, brown mounds on the leaves. When they have a hole in the middle of them, they have hatched. If the middle is black they are parasitized. The large slugs will die as readily as the small ones so just waiting until they are a fair size usually ensures most/all are hatched.

It can take a couple of days for the sulphur to take effect, especially if you have followed up with a water spray. Just when you think it hasn't worked, they all start shriveling, and the damage to the pears is minimized. The best part is that if you get a good kill, it is usually at least a couple of years before they build up again. Also at low levels the parasite seems to be more effective.





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Spinosad update

by Linda Edwards

Dow, the company that owns spinosad, has made a submission to the Canadian regulatory body to have everything that Success is registered for to be registered for Entrust. Both contain the biological pesticide spinosad. Success contains carriers not allowed in organic production. The carriers in Entrust plus the spinosad have been evaluated and approved by OMRI. Success is registered and Entrust will be when it is approved for use in Canada for a wide variety of crops and pests. These are:

Horseradish, radish, Oriental radish, rutabaga, turnip: cabbage looper, imported cabbage worm and diamond back moth.

Sweet corn: European corn borer

Leafy vegetables (a long list including all lettuces, spinach, cresses, rhubarb, celery, fennel and Swiss chard): cabbage looper, imported cabbage worm and diamond back moth.

Eggplant, ground cherry, peppers, tomatillos and tomatoes: European corn borer, Colorado potato beetle, cabbage looper, imported cabbage worm and diamond back moth.

Brassicas (broccolo, brussel sprouts, a wide range of cabbages, kale, mustard greens): cabbage looper, imported cabbage worm and diamond back moth.

Snap beans: European corn borer

Pome fruits (apples, pears, quince): leafrollers and eye-spotted budmoth.

Stone fruits (apricots, cherries, nectarines, peaches, plums): leafrollers and eye-spotted budmoth.

If your crop and/or the specific pest you wish to control is not on the above list, it will be illegal to use Entrust on that crop or for that purpose. However, once a product is registered for use in Canada, there is a process called Minor Use registration for extension of its use. How to become involved in that process is described in the last issue of the BC Organic Grower.

A submission has already been made for inclusion of cherry fruit fly for stone fruits and there

are plans to request inclusion of thrips for nectarines. This is the major pest for organic growers of nectarines. Entrust is registered for thrips in the US and is very effective against this pest.

It is also working so well for organic cherry growers in the Washington area that organic wholesalers and retailers are reporting literally tons and tons of that fruit have been exported into Canada this season with no problems with claims because of cherry fruit fly. The handlers have told us they would prefer to buy Canadian cherries but there is almost no product available.

The second item is in regard to the bait formulation using spinosad, GF-120 Naturalyte Fruit Fly Bait aka GF-120, which is also registered in the US for control of cherry fruit fly. It is made up of spinosad and attractants such as molasses, and has also been approved by OMRI for organic use. This is actually the most interesting spinosad formulation for many of us. It has enormous potential.

The bait is squirted onto the lower part of a cherry tree. After the flies emerge, the females must feed for a minimum of 6 days before they begin to lay their eggs. Research to date indicates that this is more than enough time to attract and kill them. Two years ago a researcher for Washington State University, Dr. Tim Smith, began assessing the effectiveness of this bait for control of cherry fruit fly. He tested it on single, highly infested backyard trees and in orchards as big as 17 acres. The results were phenomenal – no larvae found in any fruit and greatly reduced fly catches.

The BC Okanagan Kootenay Cherry Growers Association, which is made up of both organic and conventional cherry growers, applied to the organic trust for funding to hire Dr. Smith to carry out testing of the project for another year to standards which would satisfy the Canadian regulatory body. This was funded and another year of research has now been done. The fifty percent of funds needed to match the trust

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money came from a per box levy that the cherry growers voluntarily pay to their association for research such as this.

The report is being prepared on this year's results but the unofficial word is that GF-120 worked as well as last year. Apparently many cherry growers in the US, both organic and conventional, also used it and were very pleased with the control they achieved.

If this product proves to be as effective as it seems, *and* if/when it is registered in Canada, it could be applied to a single backyard tree with a back pack sprayer – maybe even a spray bottle. It can also be applied in orchards by using a backpack spray rigged on the back of a ATV. Time required was 2-3 minutes per acre. The amount of actual spinosad applied per acre is 1 gram. In the US, it has a 4 hour reentry period and can be used up till harvest. There it costs \$15/acre.

No negative effects against humans or beneficial organisms have been found. Next update in the winter issue of the BC Organic Grower. ✓



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Aquaculture update

The Standards Review Committee has been working on developing standards for the production of organically grown fish. Some COABC members feel that this is an impossible task, and we should not be 'wasting our time' on such an endeavour. Others are neutral and the rest feel that we should be embracing every division of food production, believing that organic methods are a real and workable tool to help address environmental problems caused by various aspects of farming.

Whatever your stance is, please try to keep an open mind. Controversy is not new to organic methods, and if we had buckled to those who said it 'couldn't be done' in the past, we would have no standards at all.

At this point we do not know if COABC will adopt a standard.

A brief overview of the process

 Over two years ago the SRC was approached by POSA (Pacific Organic Seafood Association) to review standards they had prepared and asked to further the development of a standard which they hoped would be ratified by the COABC.

 Nathan Pelletier was employed by MAFF as Organic Aquaculture Specialist, Aquaculture Development Branch, MAFF, to assist the SRC with research and act as a liaison between members of POSA, CARR, (Coastal Alliance for Aquaculture Reform) and other interested parties.

 Nathan assisted the SRC to prepare four draft Standard documents which were posted on the COABC Aquaculture web site for review and comment.

 Nathan also organized visits to sites where organic methods were being applied to aquaculture, and a day of workshops in Nanaimo. Nathan consulted with CARR to invite speakers from the scientific community who had serious concerns about aquaculture and how organic methods may be applied to it.

 CARR organized a second day of workshops. They invited their specialists, Nathan attended and representatives of POSA sat in. During this workshop the fourth Draft Document was reviewed and areas of concern were red flagged for further review.

 After this workshop we worked on addressing the areas of concern.

 At the COABC AGM in Naramata the SRC presented the draft document in a workshop.

 Rob Ferrier, Finfish Aquaculture Analyst, MAFF, was hired to continue the work after Nathan's contract was completed.

 Work continued on developing the standards, considering the concerns from the Naramata workshop.

 Early last summer CARR decided to withdraw from the process, feeling that we were not addressing all of their concerns.

 POSA decided to continue to develop their standard and implement certification. POSA members want to continue

working with the SRC and hope to see the COABC ratify an Aquaculture standard in the future.

 JoAnne Sandhu, MAFF, suggested a Pilot Project to determine whether the application of the Draft Standard was workable.

 Nathan developed a Rationale for a Pilot Project.

 The Rationale was adjusted by Rob Ferrier and is still under discussion, as the SRC feels that the adjustments to the Draft Rationale do not address concerns raised at the Naramata workshop.

 June, July, and August have seen no work on aquaculture.

As the farming season draws to a close the SRC is becoming active again. The Rationale for the Pilot Project will be reviewed and finalized.

For more information visit the Aquaculture site at the COABC web site
www.certifiedorganic.bc.ca ✓

Body Care Standard - not yet

An interested party approached PACS about certification for their health care product. A standard was submitted to the SRC last year and Tracey Schimpf has done further work on it, however, it is still a long way from being a standard. Not only does the SRC need to review it, but it has to be presented to the Board and be accepted. The earliest this might happen is spring of 2005.

In the meantime, COABC needs to decide whether or not we want to certify health care products. This is a controversial issue (as is most of the work of the Standards Committee). Watch future issues of the BC Organic Grower for more on this.

Want to change the standards?

If you are interested in having changes made to the COABC Standards, please submit your request to the COABC office by email: office@certifiedorganic.bc.ca. Submissions may be faxed if necessary.

Please reference the existing standard, including paragraph numbers, and indicate the change. Include your rationale for changes. Large-scale additions to the Standards require in-depth submissions with comparison to other existing standards. For further information, contact the Standards Committee representative for your Certification Body.

Deadline for submissions is November 1.

Submissions are compiled & put out for comment by Dec 1. Comment period is Dec 1 through Feb 1. SRC finalizes recommendation to Board by AGM in February. The new Board makes a decision and ratifies changes by April. Standards are circulated and come into effect Jan 1 of following year.

Mad Dogs and Englishmen

"Mad dogs and Englishmen go out in the noon day sun..." which is why they are so well suited to farming. Mad Dog Farm, located between Nelson and Castlegar, is run by Jeremy and Nettie Lack with their three young daughters and two Cairn terriers. Despite the fact that they immigrated from England only four years ago, Mad Dog Farm has become a major and reliable supplier of high quality organic product to the diverse West Kootenay markets.

When they arrived in September 2000, Nettie and Jeremy found 28 acres of mostly wild bush on which three donkeys had been pastured. The monumental task of clearing the land was accomplished through the wise investment in a DR Mower with a 40 pound blade that could cut down and chip trees up to 1 1/2 inches in diameter. Sheep were then pastured on the land planned for vegetable cultivation and finished off what the mower could not do, eating down the ubiquitous blackberry bushes and other brush until the land could be worked. Before they had even arrived on Canadian soil, the Lacks had tracked down and purchased from Alberta this flock of Katahdin Sheep, with 14 ewes, 2 rams and 8 different blood lines.

The next job was to amend the sandy soil and this was to be accomplished, in part, with the addition of a variety of livestock. Soon the farm was populated by Muscovy ducks, laying and meat chickens, geese, pigs, and turkeys in

addition to the sheep. The composted manure continues to be an important part of the soil fertility program.

Among the various cover crops used to build the soil was corn, which was cut down just as it came in to flower, chopped and then added



Fava Beans: green manure and market crop at Mad Dog Farm

back into the soil for organic matter. Fava beans were another key, though expensive, part of their soil fertility building, planted with one inch spacing in four inch rows. The soil fertility program evolved through careful and regular evaluation of the soil (the smell and feel test) as well as of the cultivated and uncultivated crops, alias "weeds". Their three pound Romaine lettuce seemed to indicate that they were on track with their fertility program! At this point in the evolution of their farm, soil amendments are added judiciously, after careful assessment of soil and crop conditions. They have developed a mix of nutrients, including trace elements, that can be added to their drip irrigation system to give stressed plants the extra boost they might need in the height of July heat.

At the same time that the farm land was being prepared, the Lacks were carefully assessing the market possibilities. Starting with only an acre or so and adding an additional acre each year, they soon developed a system of "200 bunch" plantings. Each crop is planted in a row that can produce 200 bunches, or the equivalent for non-bunched produce. They learned that in a location like



Kahtadin sheep at Mad Dog Farm

the West Kootenays, with small markets spread in diverse communities, 200 bunches is a manageable amount of any one crop to sell. A wide diversity of crops is the other key to their market success, finding that it helps build solid relationships with buyers when they can offer 5 or six crops on any given week.

To determine which crops to grow and when, they have been assessing the shopping habits of Kootenays residents, paying particular attention to what they don't buy as well as what they do and what time of the year they buy which crops. They have also learned the timing of the arrival of USA organic crops into the local markets in order to plan for the inevitable impact of competition and price. This careful attention to the movement of product in the marketplace means that they have never had a crop go unsold; even when a buyer backs out they are able to find a new outlet within half a day. Their current inventory of crops includes a range of lettuces, celery, peppers, chard, spinach, parsley, tomatoes, beans, early collards, fava beans, kale, broccoli, cauliflower, summer and winter squash, carrots, potatoes, Chinese and Japanese greens, various mustards, beet root, Japanese turnips, and radishes. Within these crops is also a great variety. They plant 12 varieties of broccoli; they are planted at the same time for greater efficiency but the range of varieties means that they have broccoli ready to harvest over a much longer period of time but not in a volume to overwhelm the local market possibilities.

Much of what the Lacks learned about farming comes from studying the habits and tools of peasant farmers around the world. Their farm infrastructure is kept as simple as possible, with the favourite tool being the wheel hoe which allows them to weed a plot in a couple of hours that used to take a whole day. The two unheated greenhouses are used for year-round growing. One of the greenhouses has a landscape fabric floor which was cut out inside each of the boxed beds. The fabric is attached up the inside wood walls of the beds, thus



Frustration Lettuce – finally going to seed!

allowing unfettered access to the soil for the crops and helping to extend the life of the wooden frames by protecting them from irrigation water.

The best investment for the farm, in the Lacks' opinion, is their new cooler. Though it is only 12 by 12 feet with a 10 foot ceiling, it allows them to move three times the product with the same amount of labour. But most importantly, it makes a great difference psychologically, solving the age old problem of harmonising mother nature's timing with that of the marketplace. Their personal high quality standards are also easier

to maintain with the addition of the cooler since they can harvest the crops at their peak and store them until the market is ready. As an example, they were able to move 1 1/2 tons of summer squash in July of this year, due to their ability to store the crop. And with a young family and diverse livestock, they can better accommodate their needs with those of the ripe crops when there is someplace to safely store the produce.

Luckily, the Lack family has a long history of enjoying and rising to challenges. They have found that market farming has a lot more challenge, variety and need for planning than they expected. During their short time on the farm, they have tried many experiments and learned as many lessons. Among the most important ones are don't be in a rush to plant and don't be afraid to try things. They will also pull an entire crop if there is poor germination or even poor taste. Despite the horrified response of one of their main buyers, the Lacks have been known to pull a 400 foot row of 8 foot high cherry tomato plants due to poor taste. They

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will not compromise their own high quality standards for a single crop in order to protect their reputation for the long-term, knowing that a poor crop will jeopardise their market much more quickly than good products will build it.

Like many of the peasant farms they studied around the world,

Mad Dog Farm is a highly diversified farm, including the weeds. Not only have they learned that the weeds are a good clue to the state of the soil, they have found that a certain amount of weed presence is good for the cultivated crops, including providing

an alternate home to such pests as thrips (red pigweed and lambsquarter) or hover flies (wild daisies). The Lacks also thrive on the unpredictability of diversified farming, having learnt that acceptance, and expecting the unexpected, are essential characteristics of farmers.

In 2005, Mad Dog Farm will add 3 acres to their crop production, bringing the total to 7. They are also converting the whole farm to heirloom varieties of both livestock and crops. They have found that hybrid varieties do not offer the taste nor adaptability of traditional varieties. They have begun saving their own seed, following the long-held tradition of pick-

The Lacks built the cooler in the place left after the removal of a decrepit building centrally located on their farm. The land is not level on this site but rather than excavate and risk damage to the large trees in the area, they choose to invest an additional \$3000 to have a raised wall concrete foundation to counter the sloped ground. The building erected is the size of a double car garage (24 by 16 feet) and houses the cooler as well as an adjoining prep and storage area. The cost of the building, including cooler, compressor, fan, all electrical and plumbing, came in at just under \$15,000.

The DR Mower continues to be a part of weekly life on Mad Dog Farm, due to its reliability and usefulness. It can be stored under a tarp each winter and yet still start with the turn of a key, each and every time. Among its duties are mowing the grass areas surrounding the vegetable plots and creating new paths for the electric fences that are moved and used to rotate the livestock pastures. More information about the DR Mowers can be found on the Country Home website (based in Vermont): www.countryhomeproducts.com

ing the best of the crop to produce the next generation. They have christened a champion lettuce and seed bearer "Frustration" due to its extraordinary resistance to bolting, despite their best attempts to induce it. This lettuce, planted in April in the greenhouse, survived a week of temperature in the 40s (Celsius) in July and still produced sweet, succulent leaves. It

was not until Jeremy removed the lower leaves and loosened the roots that they caused "Frustration" to send out her first flower on September 2nd. They are also in the midst of planning for 2005 a melon trial of diverse heritage varieties.

Like Frustration, the Lacks are tenacious and

look forward to a farming experience that will continue to change with the seasons and offer constantly new challenges at Mad Dog Farm. ✓



greenhouse crops at Mad Dog Farm

Industrial Organics?

by Cathleen Kneen

The opening this month of a Whole Foods Market in Vancouver is yet another sign of the growth of the market for organics. Ineed, organics has moved into the mainstream, to the dismay of many of the founders of the organic movement, and the delight of others. This mixed reaction has been reflected in passionate debate in the pages of the BC Organic Grower and meetings of the COABC and its member groups. So, as my granny would have said, is this a Good Thing or a Bad Thing?

The 'mainstream' of food in North America is a system which has been industrialized. By this I mean that both production and distribution are carried out by large-scale enterprises which follow the model of factories producing commodities. California vegetable farms are thousands of acres; dairy farms milk several hundred, sometimes even thousands, of cows. Cargill and Tyson between them slaughter about 70% of the beef in Canada. Loblaw/Weston by itself controls 38% of the retail food trade in the country. Wal-Mart is poised to become the largest food retailer on the continent (it is already number one in the USA). And the oft-quoted statement that 70% of our food is genetically engineered reflects the percentage of food that is processed (using GE corn, soy, or canola).

Our social infrastructure: housing, transportation, schools has been built around this model. Outside of some privileged neighbourhoods, walking to school is not an option: it's just too far. Houses don't have root cellars any more – indeed, many don't have space for a vegetable garden. And the increasing pressure of cuts to social services, jobs, and real wages is making it harder and harder for people to take the time to shop for and prepare whole foods, increasing their dependence on pre-processed foods (and the supplements and medicines they necessitate because they don't provide adequate nutrition).

I don't like this system. It produces edible commodities instead of wholesome food. It does not provide a decent living wage to workers in the system, whether on the farm, in the factories,

or flipping hamburgers. It is degrading the land, air, and water, and destroying the biodiversity upon which we depend in the long run.

Of course radical foodies like me are not the only ones to see the flaws in this system. Many conventional farmers are moving to less destructive (and incidentally less expensive) practices for pest control and fertility. And at the other end of the system, more and more consumers are looking for foods that do not carry such a heavy chemical or environmental burden: 'organic', 'natural', 'fair trade'. Inevitably, the mass marketers are addressing this demand. The results are certainly positive: fewer harmful chemicals are being used and thus the damage to the environment and human health is being diminished; and people have easy access to better food (prices are lower and they are available where most people go to shop anyway). On the other hand, 'industrial organics' is a watered-down version of the real thing.

We must recognize that any standard or label is a tool for distancing: giving confidence to a purchaser who has no direct contact with the producer. Indeed, there is a built-in contradiction in the development of an organic standard, if one considers that the relationship between producer and consumer is a critical element of the organic idea. Despite the best efforts to ensure that the organic ideals are embedded in the standards, it does seem to be possible to produce in an industrial model according to the letter of the law. (Note that this is not an issue of size; there are relatively large organic farms which hold to both the letter and the spirit of organic production.)

More troubling is the relationship, or lack of relationship, between producer and consumer, which is an inherent aspect of the industrial system. The effect is that consumers believe that they are supporting the organic movement (and their own health) by purchasing products labelled 'organic' in the supermarket, while in fact they are contributing to only a piece of the

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organic vision, the piece that eschews synthetic and harmful substances. The other elements of organics – the connection between producer and consumer, the long-term (even loving) attention to balance and harmony, the relationship of the eater to the local landscape and its indigenous organisms through the food they eat, and the consequent strengthening of health – of all these, the most important elements arguably are missing.

I don't for a moment buy the argument that small-scale, locally focussed, organic agriculture cannot feed the hungry multitudes of the world. Indeed, it is the only thing that will, in the long run. However, I also don't think that

we will transform the industrial system overnight, or maybe even not in my lifetime.

So in the meantime, let's welcome Whole Foods and the organic sections in the Superstore and encourage our growers to supply them with the finest produce. But let's also concentrate on building the direct relationships with organic consumers that will foster a deeper understanding and commitment to the organic vision. People who eat the food we produce are partners as much as customers, and should be able to be an integral part of the organic community. The development of a 'supporter member' option would be a good step towards this goal. ✓

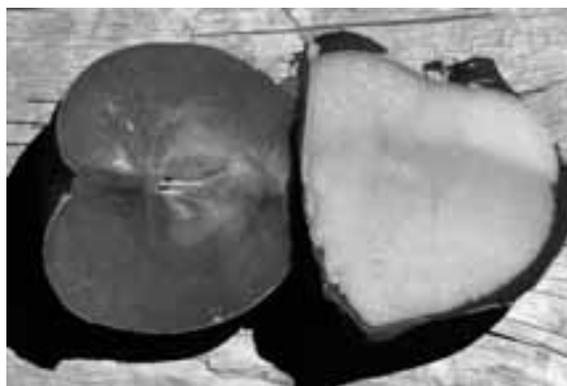
Albert Etter - Apple breeding pioneer

by Harry Burton

This year's Saltspring Island Apple Festival will be a tribute to Albert Etter, the greatest apple breeder in the 20th century. Albert Etter (1872-1950) achieved all his breeding successes in the early 1900's on his homestead in Northern California, at Ettersberg, near Garberville. He was an eccentric visionary, who was a self-taught strawberry and apple breeder. He believed that great new varieties could be created through unlikely crosses involving "primitive" germplasm. He sought out exotic, bizarre plant materials for his breeding program with incredible success. He created at least 19 apple varieties that we know of, most of which are quite outstanding. But even more amazing, he claimed to have created at least 30 red-fleshed varieties, of which we know less than 15 today.

Unfortunately, he gained neither financial success nor recognition for his great work. It must have bothered him that the world paid so little attention to his great new apple creations. Perhaps he was just way ahead of his time.

He began to focus on apples in the late 1920's. He was fortunate to obtain scionwood for Surprise, a bright rosy pink-fleshed heritage apple variety from the remote wilds of Turkestan. Although not highly rated in *The Fruit and Fruit Trees of North America* (1869),



Red-fleshed Grenadine (left) and white-fleshed Macoun (right)

which was an eastern publication, Surprise grew much better in the California climate, and it became the basis for Albert's red-fleshed apple breeding program.

Etter's red-fleshed apple varieties are most likely open-pollinated seedlings of Surprise.

The Albert Etter red-fleshed varieties exhibit quite a colour variation in red all the way from pink showing under the skin to solid red flesh. But even more important, they taste great. The blossoms tend to be much pinker than other apple varieties, but there is no indication of red in the wood or the leaves.

Some of these varieties include Pink Pearl, Pink Pearmain, Blush Rosette, Thornberry, Rubiyat, Christmas Pink, Grenadine and Pink Parfait.

His white fleshed apples include Wickson, Etter's Gold, Crimson Gold, Humbolt, Alaska Etter, Jonwin, Waltana, Katharine, Amber, Leilah and Delilah. A typical example of Etter's outstanding apple creations is Wickson Crab, which produces a juice of about 25% sugar. Albert envisioned this apple as the catalyst for a local champagne industry.

However, since the mindset of the 1940's was not leaning towards change, it became difficult to introduce new varieties. Albert gave scionwood for 40 of his best apple varieties to California Nursery Company (CNC) with the hope of introducing the best to the public. Unfortunately, only the Pink Pearl was in any way successful, and is still available to this day. CNC has discontinued or lost the 39 other varieties.

Fortunately, Ram Fishman, of Green Mantle Nursery in Etterberg, California, has taken on the task of rediscovering as many of Albert Etter's apple varieties as possible. He has catalogued at least 15 red-fleshed varieties. Ram tracked down any red-fleshed apple trees he could find, attempting to differentiate, catalogue and propagate any red fleshed apple trees they found. This was no easy task since the varieties were not only scattered throughout their local area of Ettersberg, but appear to have been growing in parts of Oregon, where Etter had colleagues who probably shared his scionwood. In addition, Ram had the difficult task of trying to match the Albert Etter given variety names such as "Hoover Redflesh", to the currently discovered red-flesh variety.

To Ram Fishman we owe a great deal of thanks. Not only has he revived these varieties,

probably with little financial reward, but in some cases, he has saved these varieties from extinction. Rubiyat (a red-fleshed variety), for instance, was a decrepit fragment of a tree when Ram discovered it and fortunately, his first attempt at grafting succeeded, for by the following year, the original tree had been, in Ram's words "bulldozed over by some pesky cows".

Albert Etter Information: Greenmantle Nursery, Ram and Marissa Fishman, 3010 Ettersberg Road, Garberville, CA 95440 USA ph. 707-986-7504 ✓

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Letters to the Editor

A few days ago I was asked what threatens food security in B.C./Canada, from a farmer's perspective. I spent the first eighteen years of my life growing up as the fourth generation on our family farm. Returning to farming at Mariposa when I was twenty seven, I am delighted to watch my grandchildren grow up here, where their father was raised. It is a healthy environment to raise children and gardens are wonderful place for us all to grow in.

This should make me very optimistic. Sadly, the many factors that may affect food security hit the farmer hard. Factors such as a secure land base to farm on, the impact of cheap food imports in the marketplace, the apparent inability of many consumers to see how important it is to buy locally grown, are all affected by the most immediate threat, the constant pressure from many purchasers to push the price to the farmer down. And this is the threat that concerns me most and dampens my optimism.

Farming is an expensive endeavour. Each year the cost of many essential inputs increases, each year the price paid for the end product decreases. The farmer is caught in a cycle of producing more from the same land to end up with almost the same income. This is wearing on the farmer and the land, particularly so when the farmer is producing vegetables. Animal factory farms are the ultimate extension of this cycle.

One of the basic tenets of organic farming is sustainability. This cycle of increasing costs and diminishing returns does not bode well for organic farmers. Canadian farmers cannot compete with imports from countries where the land can be farmed 12 months of the year, or where labour codes do not guarantee the worker a basic living wage. The environmental cost of eating food transported thousands of miles, often by air is immense. It is not sustainable. It is an illusion.



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The pretty picture of organically grown exotics in the grocery store perpetuates the illusion of plenty. Stop and think how vulnerable the supply is. Vulnerable to transportation disruption from strikes, fuel prices, terrorism, a shift in the political agenda of the exporting countries, a change in the internal food needs of exporting countries, natural disasters, you get the picture, (I hope).

I am well aware that there are many people who really cannot afford to purchase organically grown food. This could be addressed, in part, by retailers buying sound, cosmetically imperfect fruit and vegetables which often end up on the farmer's compost heap, and in turn, feed the soil, but really could feed people, children, at a reasonable price. This would help support a higher price for the illusion of perfection in food, for those who can afford to support the illusion.

My sincere hope is that the ever increasing costs of farming and the decreasing return to farmers can be addressed. I would like to think that the young people who are eager to produce Canadian food or the 'local' are able to support themselves in their worthy endeavour.

Last week some city friends of ours came and helped us

harvest squash for a few hours. We all had fun, laughing as we worked. After their farm 'experience' they were exhilarated, tired, hungry and all stated that they had a new understanding of the challenges farmers face, and how physically hard the work is. Perhaps all non farming people should spend a little time on the farm each year, helping out, learning about the reality of food production.

I understand that outlets like farmers markets can give farmers adequate financial returns. However, far more produce is grown than can be sold here, and many people do not have access to these markets.

If you read through this, bravo! If you decide to support Canadian producers, hooray, hooray! If you decide to offer them an adequate return for their efforts, then you are becoming part of the solution, instead of part of the problem. Farmers know what they need and it is demoralizing to be constantly brow beaten, when the crop is market ready and perishable.

Submitted by Lee McFadyen, on behalf of all farmers (without their permission) who are trying to make ends meet.

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