BC Organic Grower

British Columbia Certified Organic

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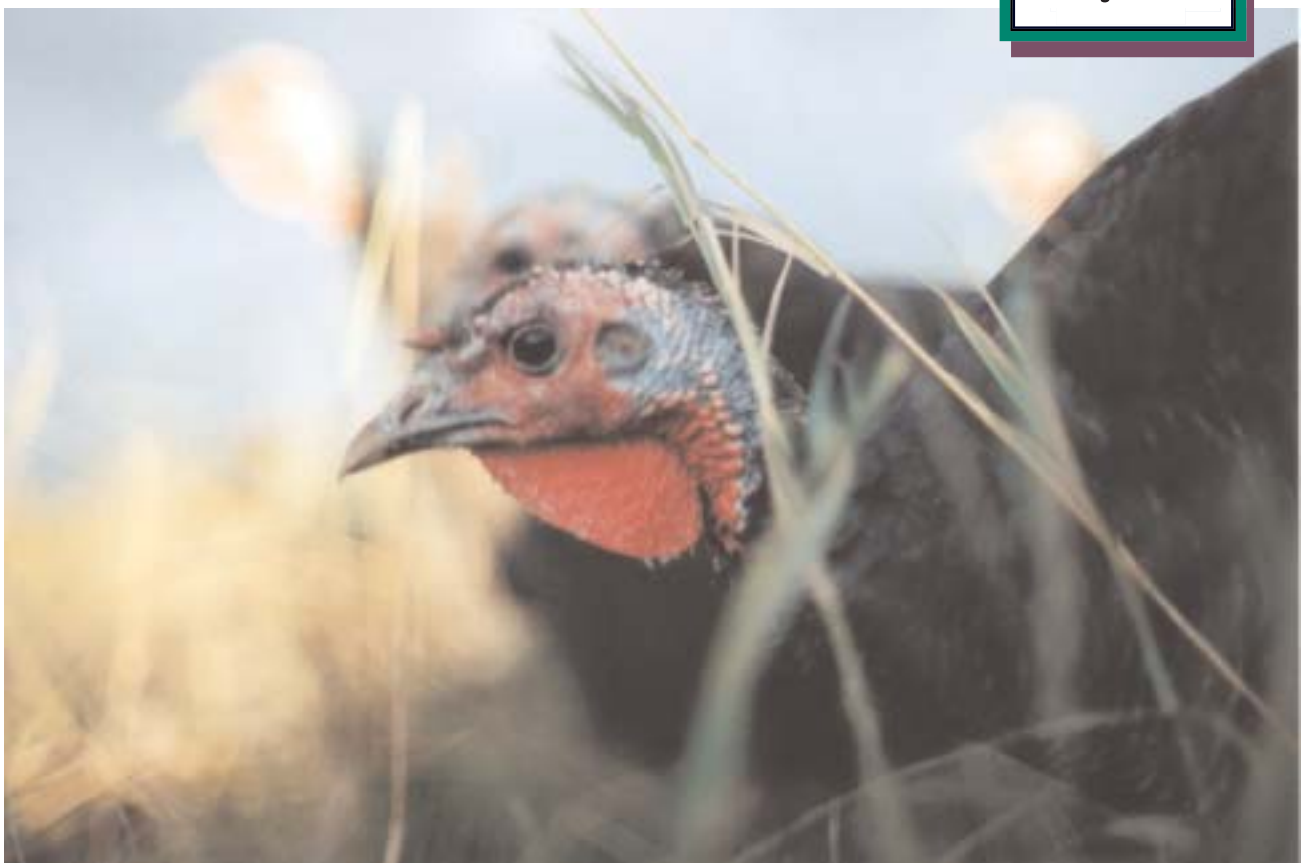

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Vernon BC V1T 9G1

President's Message

by Patrick Mallet

I'm not a farmer. That may sound odd coming from the new President of the COABC Board of Directors. My home garden grows a little every year but it's still something I do in my spare time. Most of the time, I'm at my computer, communicating by email and phone with many of the voluntary certification programs that are operating worldwide. My organization works with standard-setters and accreditation bodies to improve how certification functions, not just for organic agriculture but also for sustainable forest management, sustainable fisheries and fairtrade.

More than any other system I work with, I am drawn to organic agriculture. For me, it seems self-evident that food is a fundamental part of our existence that shouldn't be lumped in with other commodities, mass-produced and marketed for the lowest price. While price is important, the nutritional value of the food is more important, as is the health of the land. That is why I believe so strongly in organic management practices, both in the food I grow and in the vision I support through my work. I may not be a farmer but I am an advocate for organic agriculture.

For me, it seems self-evident that food is a fundamental part of our existence that shouldn't be lumped in with other commodities, mass-produced and marketed for the lowest price.

I am part of this movement because I believe in organic agriculture and what it stands for, and I want to see it grow and flourish in the future. In this respect, I am part of an emerging interest group in the BC organic community – the advocates. One thing I have noticed in the couple of years of being involved in COABC is how quickly the BC organic scene is evolving, both within COABC and in the marketplace. Only two years ago, there were thirteen regional certification bodies, persevering through the annual ritual of volunteer burn-out to carry out the certification of their farmer and processor members. Since that time, COABC helped to establish PACS, a BC-wide certifier that now accounts for nearly 40% of the certified operations in BC. Four regional certifiers have chosen to pass their responsibility on to PACS. Some of them are focusing instead on advocacy and producer support activities, while others have disappeared entirely. The producer organizations that have been able to continue are now able to focus on what interests them more – farmer education and training and the promotion of organic products to consumers. The result could be to attract many new non-farmer members like myself, who are drawn to COABC through support for the values espoused by organic agriculture.

This centralization of certification under COABC and movement of some members towards advocacy is only one of the ways that COABC is evolving. Last year, COABC completed a strategic plan that represented one of our most thorough consultations with the members and licensees, about our collective priorities for action. That plan has helped COABC to develop and fund exciting new initiatives in marketing, research needs and certification procedures, that will benefit the entire COABC family (see page 12). All of these projects, along with the rapid growth of organics in the BC marketplace, bring additional work and increased profile to COABC. Our continued success is due to the tireless dedication of a few phenomenal staff and volunteers. However, the Board recognizes that we are often forced into reactive positions, responding to the latest crisis that falls into our laps. One recent example is the increased focus on food safety which could have the effect of restricting animals on organic farms. The ad hoc nature with which we continue to operate the organization is becoming increasingly untenable, both for staff and volunteers.

We now have an opportunity to step back from our day to day management to determine how

well we are carrying out each of our priority activities and how the organization should be structured to deliver these activities most effectively. Through the combined efforts of Paddy Doherty and Anne Macey, we have been able to secure a grant from the BC Government for $35,000 for restructuring of COABC. This financial support gives us an opportunity to take COABC to the next organizational level, to put us on a firmer financial footing with a more stable organizational structure. The Board has agreed to use a portion of this funding on a feasibility study to develop a number of possible business models for COABC. In the late Fall, we will apply most of the funds to start the transition to a new business model – one that is better able to address the growing importance of organic agriculture in BC and that can adequately deal with the increasing range of issues we are required to oversee. As the BC organic scene evolves, COABC has to evolve with it. This restructuring will have important ramifications for what the organization looks like in the future and how well we serve the needs of our members and licensees. As with all of COABC's activities, we strongly encourage your participation and input. I am excited to be part of COABC at this time of transition and look forward to working with both the farmers and the advocates over the coming year.

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Organic Potato Marketing

An application from Fraserland Organics Inc. to the BC Vegetable Marketing Commission to become a designated agency in the lower Mainland (District 1) has been approved.

This gives Fraserland the right to market organic potatoes under the Board's oversight, but does not affect organic potato producers outside of the District. All other organic vegetable producers are exempted from agency marketing.

In its written submission to the hearing of the BCVMB, COABC noted that Fraserland Organics is currently certified with Oregon Tilth (when Fraserland was first certified there was no COABC certifying body which could guarantee entry into the USA where Fraserland markets the bulk of their production). In its letter of support for Fraserland's application, the COABC suggested that the BCVMB might follow the example of the Milk Marketing Board and require that all potatoes traded through the Fraserland Agency be certified through the BC Certified Organic Program. BC is currently working on USDA recognition and expects this to be achieved in the near future, at which time COABC intends to more actively promote certification within BC's own accreditation system.

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Nutrient Management

by David Patriquin

Many believe that yields in organic farming are low because you cannot use fertilizers. Farmers making the transition to organic farming worry that they will not be able to provide enough nutrients for their crop, particularly nitrogen (N). That is not necessarily so! Apply proper organic nutrient management and overcome fertilizer withdrawal anxiety.

Organic farming seeks as much self-sufficiency of nutrients as it is possible to achieve in order to minimize negative impacts on the environment (and to cut production costs). However, nutrients can be imported when it is required.

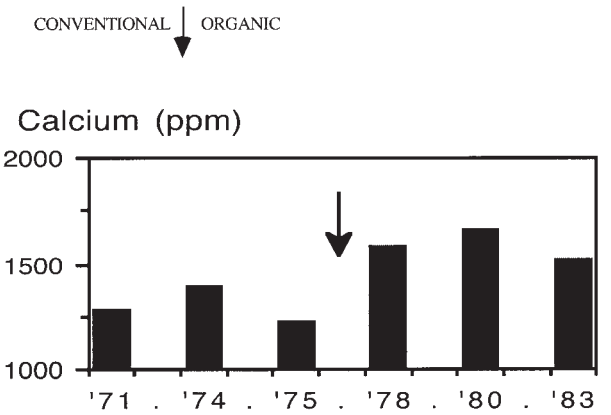
What it is very important is the form of those nutrients imported, which is established by certification codes. In general, only natural organic materials and minerals are permitted.

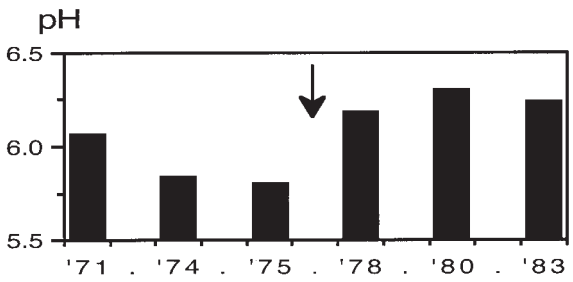
Generally, anything produced on an organic farm can be used with the restriction in most codes that fresh manure cannot be applied to food crops within six months of harvest.

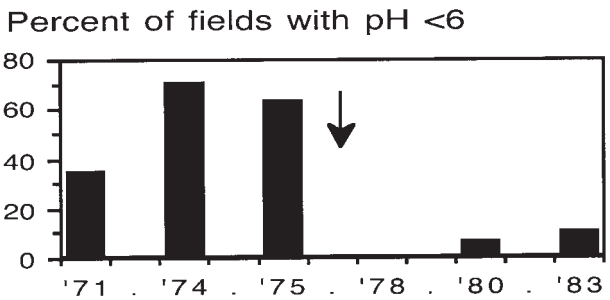
Nitrogen

In the initial stages of transition, there is often a shortage of N. This occurs because insufficient N is being brought into the farm as organic materials and by nitrogen fixation in legumes, and/or because the organic N that is already present is not mineralized (made available) when needed.

N is contained in a great variety of organic materials. So how do you know what type of N supplements to use and how much to apply? You can start by assuming that the amount required is the same as that required when using synthetic N, e.g., a crop may need 100 kg/ha of urea N. That number is then divided by an







A Benefit of Organic Management: Lower Lime Requirement

Farmers commonly report that lime requirement decreases after conversion to organic management.

These data obtained from Tunwath, a mixed farm in the Annapolis Valley which Basil and Lilian Aldhouse converted "cold turkey" to organic management in 1976, illustrate the point. Between 1964 and 1976, lime application averaged 915 kg per hectare per year. After conversion to organic management. calcium content and pH of the surface horizon (0-15 cm) increased , even though no further lime was applied. Apparently, some of the lime that had leached below the surface horizon during conventional management was brought back to the surface by earthworms and deep rooted crops and weeds; reduced leaching was also a factor.

By 1980, the system had reached a new equilibrium, and Ca and pH began to decline but more slowly than before; the new lime requirement was only 300-400 kg per hectare per year. Coarser grade limestone could then be used, allowing slower release and longer intervals between applications.

"availability factor" that indicates how much of the N in the organic source is available to the crop in one growing season. For example, if it is only 40% available, divide by 0.4 and the amount required is 250 kg/ha of the organic N.

The availability factor varies with percent N of the amendment. For most materials of 7% N and greater, the N availability in the first season is close to that of synthetic NPK (100%). For materials of 1 to 7% N, I have found that the availability factor can be estimated roughly by multiplying the % N by 12.5. (This applies to Nova Scotia).

This will do for the first shot at organic production. With time however, and in order not to overfertilize, you need to consider how much background (soil) N is available and how that changes over time as you use organic fertilizers, i.e. how much of the N in organic amendments is "carried over" to subsequent years. Determining the appropriate fudge factors for these calculations is partly a matter of using published numbers and partly a matter of doing simple tests to calibrate your own system. I have found that as a first approximation, you can estimate, the N available from an organic amendment in year 2 as 10 to 20% of that not released in year 1, and the N available in year 3 as 5 to 10% of N not released in years and 2.

For example, if we used a material of 3% N to provide 100 kg N/ha to a vegetable crop, the availability factor for Year 1 would be 3 x 12.5 or 37.5%. We would then apply 100 (0.03 x 0.375)= 8889 kg/ha of this material, containing a total of 267 kg N. 100 kg N are released the first year, leaving 167 kg; the carryover effect in the second year would then be 10-20% of 167 kg = 25 kg" N (assuming 15% availability); and in the third year it would be 11 kg (assuming 7.5% availability). N not released by the third year goes into the humus (stabilized soil organic matter).

In addition to N released from amendments, the inherent fertility related to soil organic matter levels should be considered. Roughly, under Nova Scotian conditions, 20 kg N/ha are released for each 1% of organic matter in the soil. A soil of 3% OM will provide 60 kg N/ha per season, and a soil of 5% OM, 100 kg N.

Such calculations can be used to estimate the approximate quantities of organic amendments required for good yields. However, each field, and crop will be a little different, and farmers are encouraged to experiment with N applications, e.g. by deleting amendments from a strip, and trying 25% more and 25% less than the normal rate on other strips. A simple method of checking how nutrient supply varies between fields is to grow ryegrass in pots containing soil from the different fields. One part of the test soil is mixed with one part of vermiculite and one part filler (Perlite), pots are seeded and the plants are allowed to grow for one month; they are then clipped and weighed. The comparison of dry weights provides an indication of difference in the inherent fertility of the soil between fields.

Fear of not having enough N leads to overcompensation and applying too much. Excess N may be indicated by foliage that is very dark green, excessive succulence, lodging, the size (large!) and species of weeds (lambs quarter), and in an

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abundance of pests such as aphids and fungal diseases.

N self-sufficiency is possible in the long term. This is particularly true for mixed farms where N can be obtained by growing legumes and grasses which the livestock converts in manure to be composted and applied to the crops.

On stockless farms this is more difficult to achieve, and even after many years, farmers tend to rely on some high N supplements (such as bloodmeal or fish fertilizer) for a quick turnover of N to the more demanding crops.

The minerals

It is not possible to be self sufficient in other macronutrients (P, K, Mg, C, S), and some will have to be imported. The amounts required can be greatly reduced through efficient recycling. Deep rooted cover crops can help recycle nutrients from depth in the soil. If N is managed properly, "nitrogen surges" which increase leaching losses of calcium, magnesium and potassium can be prevented.

In the longer term, potassium (K) shortages are often the most critical on organic farms. Potassium deficiencies make legumes "sluggish". Deficiencies can also increase pest and diseases.

Potassium is a problem because it leaches easily, and because there are few acceptable materials available that can be used. Potash (potassium chloride) is not allowed because of the toxicity of the chloride. A commonly used supplement is Langbeinite or "Sul-Po-Mag" (sometimes available locally only by special order). On mixed farms, the largest losses of K usually occur during manure handling; these can be greatly reduced by appropriate management.

Rock phosphate is often used to provide extra phosphorus (P), applying it to barn gutters to or to compost heaps to catch ammonia and activate the P. Although rock phosphate is a natural mineral, it can be problematical because of high levels of heavy metals in some rock-P (which is not stated). With the use of organic fertilizers, the P found in the soil becomes more available. Phosphorus should not be a limitation to organic production in operations importing organic amendments to provide N. In fact there is more danger of an excess of P accumulating because organic materials such as manure and fish wastes have an excess of P compared to N compared to plant needs, and soil losses are minimal.

Residues, tillage and crop rotation

The methods used to incorporate residues, cultivate weeds and prepare seedbeds have important effects on aeration, drainage, and modes and rates of decomposition not only in the current year but for at least the following year as well; these processes in turn affect nutrient availability, pests, diseases and weeds.

The single most important factor in developing a system that functions effectively and efficiently over the short and long term is the institution of a regular rotation of crops and associated practices.

Diagnosis

With organic management, soil nutrient pools change more slowly than they do under conventional management, and soil analyses are needed only every 3-5 years. In soils, large amounts of P may be retained in the soil organic matter. Soil tests that measure the inorganic P fraction do not necessarily indicate the P reserve in organic matter, which is made slowly available through mineralization. Similarly, soil tests may not measure slowly available potassium. To diagnose deficiencies in nutrients, I strongly recommend leaf tissue analyses over soil analyses.

modified from an article in The Organic Times. ✓

A profile of First Nature Farms

by Cathleen Kneen

It was a bitter winter night in 1987. Jerry Kitt, who was keeping the weather station for Agriculture Canada in Goodfare, Alberta, clocked it at -51.5 degrees, the coldest temperature recorded since 1914. Jerry and Sam Kitt had been raising cattle and pigs on the ranch just east of the BC border for about 6 years at that time, and when Jerry went out to do the chores there was one wild turkey apparently frozen to the fence post it had been sitting on all night. But when Jerry went to pick it up, it popped its head out and inspired a new enterprise on First Nature Farms, raising Merriam Wild Turkeys.

Free-ranging chickens take a stroll in the yard at First Nature Farms

Of course hardiness doesn't sell meat, and this new kind of turkey was a particularly hard sell at first. The wild turkey is small and thin with small breasts and thighs; it is also more expensive because the wild turkey is not an efficient meat converter (it takes about 8 months to get to 9 lb whereas domestic take 4 months to get to 16 lb dressed). However, chefs in hotels in Calgary, Edmonton and Vancouver were receptive, along with Hills Foods who are still a customer. The high point was probably when Team Canada took their Merriam Wild Turkey to the Culinary Olympics three years ago in Germany and won the gold medal.

A bigger challenge for Jerry and Sam was integrating the poultry (they also raise chickens and domestic turkey) into the farm operation. Their goal is a holistic enterprise in which maintenance of wildlife habitat and enhancement of water and land quality has a place alongside care for the physical and social needs of all the animals on the farm (including the two-legged ones). In fact, last year they took a holiday from the wild turkeys, though customer demand has them back in the business this year again.

Their goal is a holistic enterprise in which maintenance of wildlife habitat and enhancement of water and land quality has a place alongside care for the physical and social needs of all the animals on the farm.

"As a family farmer," explained Jerry, " I realized that all my time was being consumed by the farm not the family, so I looked at all aspects of the farm and saw the wild turkeys. For one thing, the price was up to $5/lb and even at that it was borderline as to whether they were even profitable." Then there was the time involved. "Starting right from the end of March I was collecting, cleaning incubating eggs, and then washing incubator trays and weighing eggs, a very time-consuming job. The eggs take 28 days to hatch, and then you have to watch the poults carefully as they are very sensitive to changes in their environment, much more so than chickens. There is a strong instinct to pile on each other, they're sensitive to loud noises, thunderstorms, even people with loud vehicles. When you look at it naturally, there are 8-10 little poults and they say, oh, lets crowd under mom, that's safe and warm, but when there are a couple of hundred it doesn't work." As soon as the poults are roosting at 3-5 weeks of age, the problems diminish, and at 5-6 weeks old they leave the brooder and go outside to a large mobile pen.

Jerry claims he got the design for the mobile pen in his sleep. "Back in the 70s," he explained, "the Alberta government had publica-

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tion called the Farm Guide. I was looking through it and they were talking about how animals contribute nitrogen to the soil, 3 cows, 10 sheep, or 5000 chickens, and I always thought, can you imagine driving by a field and seeing all those thousands of chickens in a field! – that vision of chickens in a field stuck with me 20-30 years. Then as an organic farmer I wanted to raise animals out of confinement, out on pasture, and have the manure go directly where I needed it. I guess I kept thinking how to raise these birds outside and still provide them with the shelter they need and have the pens mobile so the birds could always go on fresh ground and have the operation of moving them very simple. I built prototypes and finally found one that worked perfectly." (You can order the plans for the pens from First Nature Farms for $150.)

The Kitts' mobile pens are huge: designed and built on the farm, they are 46 feet by 96 feet, 8 feet high at the peak, with an arch-rib structure covered with fishing net. They can hold up to about 800 birds, depending on type and size, and have a sheltered area where the birds can go to roost. Chickens need more shelter than the wild turkeys, about 15-20% of their pen area is covered. Water and feed are enclosed in the pen. Jerry has an ingenious system of watering which involves a water tank on an old truck fitted with a float valve which provides water to the pens by gravity feed. The truck has to be moved once for every two pen moves. The whole process is simple: "I just disconnect one hose connection, hop in my tractor, drive up to the pen, connect three chains to the pen and then slowly back up with the tractor, pulling the pen. If am moving turkeys I can have them all on fresh clean ground in 3-5 minutes, water, feed, fence and birds. The chickens take longer because they tend to be more lethargic. They don't like to be moved in hot weather, the best time of day is early morning before they are fed when they tend to be more active and the worst time is in the afternoon, especially if it's hot, they just want to lay down. I also have a couple of people at the back of the pen who will stop me if there are any problems."

While the wild turkeys are ready to run to new ground when they hear the tractor starting up, with the chickens at least two other people are needed behind the pen to make sure the birds are actually moving. This fits with the experience of other farmers using the Joel Salatin "chicken tractor", a much smaller pen which needs to be moved daily. They report that the chickens hate to be moved, and some have had substantial losses probably due to the stress. Also, possibly because the small pen size restricts their movements, the standard White Rock cross birds show feet and leg problems. Jerry uses the regular white broiler chicks (local hatchery calls them KFCs) that dress at 4.5 lb

Chicken runs and sow feeding her piglets on First Nature Farms

average. He is careful with their diet, and has always used the protein mixes from In-Season Farms along with wheat, peas, oats, flax which they purchase locally. The feed smells so good, one time Jerry actually made pancakes with it – they weren't a hit, though, because he forgot he had added #1 grit to the feed!

How often the pens are moved depends on the age of the birds: for the small ones, maybe once a week or 10 days, while large birds could be moved every day – unless, of course, the pen is sitting on a piece of ground that needs the manure.

This is, of course, the main point of the enterprise from the Kitts' point of view. "The birds are like little farmers," says Jerry. "They scratch the ground, cultivate, seed with any seed left in the ground from the year before, harvest anything that happens to be growing, and of course fertilize. The turkeys especially actually eat the grass. If they are on the pasture in July or so, by the time September comes the pastures are nice and lush and the cattle or bison really love it."

A small herd of pigs moved around the farm behind one electric wire provide "intensive cultivation" wherever it is needed. When the pigs are finished, the land will come back without seeding but lately the Kitts have been seeding clover and alfalfa. Jerry admits that the ground is a little rough to begin with, but adds "We are the only ones that have a problem with ground that is not flat, all other species seem to know how to walk on it, and perhaps it creates even a better ecosystem with little hills and north sides and south sides."

At the moment they have 6 sows and about 50 feeder pigs, and as you might expect there is no farrowing crate in sight. The pigs always have shelters wherever they move. In the winter the farrowing sows are moved into the heated brooder house, where they have lots of space to build their nests and nurse their litters. The sows seem to know not to interfere with each other, "they get a bit grumpy and the other ones will give her some space". The piglets are "hardened off" at weaning, by which time they have learned the art of fluffing straw to keep warm on those cold northern nights.

The pigs are Jerry's favourite animals to raise. They are very social animals, they have strong family bonds, and because they have lots of space and all the chores are done by hand, there are no aggressive animals at all, the neighbour kids can walk into any group of pigs. The only problem is getting organic straw, since most organic farmers correctly turn it back into the soil rather than baling it for sale. Getting hay is a similar problem. The Kitts' farm goal is to maintain and enhance natural biodiversity (the farm is surrounded by beaver ponds and lots of wildlife) and their motto is "keep it green side up" – i.e. let the ground naturally grow and then graze it off. Balancing the numbers and varieties of animals with the land and its needs is the key to sustainable livestock farming. ✓

Canada Organic Initiative

by Paddy Doherty

The Canada Organic Initiative (COI) Project was developed by the Certification Organisations of British Columbia (COABC) in order to provide impetus toward the establishment of a (mandatory) regulation for managing the marketing of organic products in Canada. The object of the COI is to follow-up on recommendations from the National Strategic Plan for the Canadian Organic Food and Farming Sector.

Funding for the COI came from the Organic Sector Development Program (Agriculture and Agri-Food Canada and BC Ministry of Agriculture, Food and Fisheries) and generous financial support from Capers Community Markets, Cawston Cold Storage, Nature's Path Foods, Pro Organics Marketing Inc. and Wild West Organic Harvest/Simply Organic. Paddy Doherty was hired to facilitate the COI on an 18-month contract beginning January 2003.

At the Guelph Organic Conference in January 2003, an ad hoc Organic Regulatory Committee (ORC) was formed. The ORC was given the mandate to develop and implement and organic regulatory system for Canada.

The ORC has begun consultations with Agriculture and Agri-Food Canada (AAFC). Leading this project for the AAFC is Bill Breckman. These consultations will eventually include the entire Canadian organic sector. Organic consumers, producers, processors, handlers, and retailers should inform themselves of the implications of an organic regulatory program and make their views known to their regional or sectoral representative (ORC members). A list of the ORC members is available on the COABC website along with other information about the Canadian Organic Initiative.

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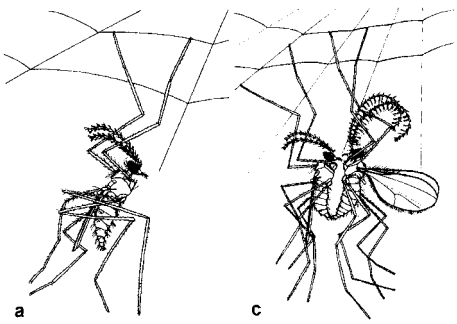
A practical spin-off

by Linda Edwards

Do you think science in general and entomology in particular is boring? This may make you think again.

The other day I received a publication describing "the rather spectacular and risky mating behaviour of Aphidoletes aphidimyza" which also gave evidence that the females produce a sex pheromone to attract males".

Remember Aphidoletes aphidimyza? The BCOG Vol 4 # 4 (Fall 2001) carried a profile of this wonderful aphid predator under the title The Serial Killer of the Predator World. A. aphidimyza occur naturally, but are also reared in insectaries for use in greenhouses. They can be purchased for field releases as well. They have been expensive to produce in insectaries because of low mating rates and consequently limited reproduction. However, scientists* recently found a strong correlation between the availability of spider webs and mating. They have also discovered that the females produce a pheromone that attracts the males.



Aphidoletes aphidimyza female hanging in spider web (1a), and face-to-face mating behaviour of male and female (1c).

After an observation outdoors of a couple of A. aphidomyza mating on a spider web, the researchers introduced spiders into cages, allowed them to spin webs and then removed them. A number of other articles - twigs, wire, cotton string etc. were also put in the cages, along with pupae of A. aphidomyza. The adults emerged at dusk. After letting their exoskeletons harden for a few minutes they flew to the spider webs. It is not known how they find them in the dark but some sort of chemical information from the webs (spider sex pheromones ?) is suspected. Other experiments were conducted that showed that once on the webs, the female A. aphidimyza released pheromone into the air which attracted the males to them. Matings lasted 2-3 minutes. The males then flew away while the females kept hanging in the web for several hours. Observations (using both humans and video cameras) showed that the males are attracted only to virgin females. The females are monogamous and quit releasing pheromone after mating. The males mate many times. They even try to mate with males that have just mated. It is assumed that the latter are contaminated with the sex pheromone of the female. A few of the insects landed on the other materials in the cage but matings were observed only rarely on these. Spider webs were definitely preferred. The insects also hung in the webs during their inactive daylight hours.

But isn't a spider web a dangerous place for an insect like A. aphidimyza to be? After all, a number of related insects are often found as prey in spider webs. Well, A. Aphidimyza seems to have developed a range of adaptations in order to (more) safely use the webs for mating. They generally land very gently and only on their front feet. This makes very little movement and therefore does not attract the spider. There is very little movement during the pheromone release. The face-to face mating behaviour also seems to minimize movement. Most of the time, they are able to land in and leave from spider webs without being caught. But how did such behaviour evolve? Perhaps the risk for A. aphidomyza of being eaten by the spider might be compensated by the benefit of being "protected" by the spider from other and presumably worse predators.

The authors suggest that cost of mass rearing of these aphid predators could be reduced by increasing mating behaviour (and therefore egg laying) by having spiders spin webs in mating cages before introducing A. aphidimyza. A practical spin-off from the unravelling of the sex life of a tiny insect.

**Morphology of putative female sex pheromone glands and mating behaviour in Aphidoletes aphidimyza. by J. van Lenteren, M. Schettino, N. Isidoro, R. Romani and J. Schelt, a group of Dutch and Italian scientists. Published in Entomologia Experimentalis et Applicata 102199-209, 2002* ✓

COABC - Organic Sector Development Program

Approved Project Summary to May 26, 2003

Note that some of these (numbered C) were generated by COABC as per the Strategic Plan; the others (numbered I for "industry") were submitted by Certifying Bodies or others. Many of them address more than one of the goals in the Strategic Plan, so the ratio of funding assigned to the achievement of each goal is noted at the end of the project description, eg. "Production/Market Development/Environmental Stewardship (40/40/20%)" means that 40% of the grant total is for Production Capacity Development, 40% for Market Development, and 20% for Environmental Stewardship. These percentages do not refer to the matching funds ratio which is generally 50/50. As a result of the Research Needs Assessment (scheduled to be completed by mid-June) new proposals are expected to focus on Production Capacity.

C-001 IFOAM

The goal of the project was to attend the Exhibitions of the IFOAM event and promote the organic sector by:

- educating and informing visitors about organic agriculture and its benefits to consumers, their communities and the environment
- providing visitors with a taste of organic products and an opportunity to meet producers
- providing resources to increase access to organics within their own region of the province
- providing promotional items to continue the awareness of organic agriculture after their visit to the IFOAM event.

$19,914 (actual): Market Development 100%

C-002 Marketing Plan (Phase 1)

This first phase of the project identified existing market research; undertook consultations to identify and clarify allies, collaborators, competitors; explored market options and possibilities; and conducted focus groups and tests to identify and evaluate effective strategies, messaging, and approach. It provided a detailed strategy (see C-06, Phase 2).

$4,147 (actual): Market Development 100%

I-001 Organic Attitudes and Beliefs:

The objectives of the project were:

- to describe and analyse British Columbia certified organic farmers' attitudes, beliefs and practices;
- to compare current certified organic farmers' attitudes, beliefs and practices with the ones held by organic farmers at the beginning of the 1990s;
- to describe and analyse organic consumers' attitudes, beliefs and practices related to organic food and compare them with the farmers'.

$2,100 (budgeted): Production/Market Development/Environmental Stewardship (40/40/20%)

I-002 KOGS: Feeding our Communities

This project will increase production capacity among KOGS members (novice and experienced), increase access to local markets and broaden the base of support for organic food in the Kootenays. It will harness the knowledge base that exists among KOGS members through a winter speaker series and exchange between farmers. The research will seek to identify regionally appropriate cover crops and enable farmers to address specific questions or management problems through on-farm research trials. Research will also be undertaken to identify local market opportunities and link farmers to those markets.

$8,800 (budgeted): Production/Market Dev./Environmental (33/33/33%)

Of the total Fund ($1,000,000)

45-65% of the fund is allocated to projects addressing Production Capacity

30-40% of the fund to Marketplace Development and Promotion

5-10% of the fund to Organic Environmental Stewardship

Next Deadline for Proposals: July 17, 2003

I-005 Soil Health Assessment:

To identify current approaches to soil health monitoring by organic farmers, including the use of the required standard laboratory soil test, alternative soil tests and sensory observation, and to identify other factors which impinge on soil management decisions (e.g. information and support resources, research results, economics); and to facilitate the development of a bio-regionally adapted soil health assessment strategy in collaboration with organic farmers in the Similkameen Valley and local soil resource people (university and public institution researchers, organic community members identified as 'soil experts').

$10,000 (budgeted): Production/Environmental Stewardship (50/50%)

I-016 Organic Practice in Herb Production

This project will provide useful technical information to the expanding organic herb production sector. It will research best cultural practices for rosemary and lavender for field and greenhouse production, assess varieties suitable for organic production of essential oils of these herbs, investigate organic methods of managing pests affecting them, and research the use of their essential oils for development of an organic spray for managing aphids, white flies, and mites.

$13,594 (budgeted): Production Capacity 100%

I-019 Recordkeeping Tools

The outcome of this project will be the development and dissemination amongst Certified Organic Producers, of model record keeping systems for the harvesting, packing, storing and shipping of organic produce, to help Certified Organic producers to meet the COABC Standards requirements for traceability of their produce from the marketplace back to the field where it was grown. The project will identify the

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best practices available for recordkeeping, ensuring they are user-friendly yet comprehensive.

$3000 (budgeted): Production 100%

I-020 Root Seller Project

This project will support the Root Seller Natural Food Buying Club, the only visible outlet in Dawson Creek and area for BC Certified Organic products, to implement its business model, promoting BC Certified Organic products, encouraging local growers to produce for the local market, and exploring more partnerships and alliances in the community, helping to ensure that people who are food insecure can volunteer at the Root Seller so as to have access to organic produce.

$4000 (budgeted): Production/Market Development (25/75%)

I-022 Canadian Farm Writers Conference

The conference will result in additional media awareness of organic agriculture, its opportunities and challenges, and result in positive media coverage throughout the country. New contacts will be developed through the interaction between the organic sector and CFWF members.

$3000 (budgeted): Market Development 100%

C-01 Rural Capacity Building through Organic Agriculture Project (RCBTOA):

The project seeks to encourage further production, processing and marketing of organic food in rural British Columbia by providing technical information, IT training seminars and access to enhanced electronic information to farmers.

$14,478 (budgeted): Production Capacity 100%

C-02 Canada Organic Initiative (COI)

To work with the Canadian Organic community and the federal government to establish consistent regulation of organic products across Canada to ensure fair market access and bolster consumer confidence. The entire national process has stalled over the past several months primarily because of the absence of a national body and voice, as well the funds to move forward on specific issues critical to the existence and success of a national program (see page 10).

$20,000 (budgeted): Production Capacity/ Market Development (50/50%)

C-03 COABC Spring Seminars

COABC held a Spring Seminar on Feb 14, 15, 16 at Camp Alexandra in White Rock BC.

Feb 15 was filled with concurrent workshops of interest to the organic community. The COABC collaboratied with the Lower Mainland Horticultural Improvement Association to produce the LMHIA Short Course Organic Seminar during the Pacific Agricultural Show in Abbotsford Feb. 20-23.

$10,000 (budgeted): Production Capacity 100%

C-04: Research Needs Assessment

This project will identify specific areas of research needed to help increase the supply and quality of locally-grown, certified organic foods for local and international consumption. It will also provide guidance to the OSDP committee and potential applicants as to the type of research projects that are most pressing in the Organic sector.

$28,000 (budgeted): Production Capacity 100%

C-05 Improved Farm Planning Tools

This project will develop and improve/revise forms used by the certification program in evaluating compliance to the standards, and farm planning tools used by producers in making production management decisions. These “forms” and “tools” are not mutually exclusive since producers must submit a farm management plan with their certification applications – this plan is considered to be a farm planning tool and can be produced as a template/form to accompany certification applications.

$8000 (budgeted): Production Capacity 100%

C-06 Marketing Plan 2-Development and Implementation

The Marketing Plan project will result in the development of a comprehensive marketing plan

for the COABC to effectively meet the needs of the BC Organic Sector. A major component of the plan will be the design and delivery of a multi-faceted promotional campaign throughout the entire distribution chain.

In order to design and implement strategies and marketing program components that effectively reach and influence the target market to purchase and repurchase BC Certified Organic foods, a thorough understanding of the characteristics of the target market is required. Thus, primary market research will be conducted at the beginning of the project.

$100,000 (budgeted): Market Development 100%

For information on any of these proposals, or for the Organic Sector Development Program in general, please contact Kristen Kane, OSDP Co-ordinator at the COABC office.

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Local Seed Production

by Patrick Steiner

Another planting season has come and gone with more than the usual challenges in the seed supply. Talking with other growers I found that everybody was shorted on their seed orders, or received back-ordered seed too late to plant, or no longer found their favourite varieties listed in the major catalogues. Mary Ballon of West Coast Seeds confirmed that supplies are erratic. Delays at the border make seed availability less than secure. And seed quality can be an issue too, the best Fernleaf Dill she could find (from California) had a 35% germination rate! She found this unacceptable, and rightly so.

BC organic growers need access to quality seed, in quantities that can be used commercially. They need this seed to be available when they plant, regardless if that is February or October. And they need access to varieties that work for them, this is critical to success in farming. The best way to ensure we can meet these needs is to increase seed grown by BC farmers for BC farmers. Seed security begins at home.

In Europe and the U.S. organic farmers have pioneered successful models of regional seed production for regional use. They all involve a coordinated effort to have local farmers add seed growing as a component of their farm production. These seeds can then be made available for sale through local seed companies, or via alternate means (for example: postings on the COABC listserve, or the winter issue of the BC Organic Grower).

Seed Quality

The most common doubt expressed by growers for using locally grown organic seed is quality. How can they trust such a vital component of their production to something that hasn't received the golden seal of approval by [your favourite seed dealer]? To me the issue of seed quality is very exciting, because I believe that we can grow seed in BC that will be equal to or better than the seed commercially available, especially within the context of organic agriculture. Conventional seed breeding has focussed on hybrid varieties specifically selected to thrive in highly mechanized production systems, with specific chemical fertilizer inputs, under regular pesticide and fungicide regimes. These are obviously not the conditions on BC organic farms. In theory, seeds grown and selected under organic field conditions will perform better for organic growers. But does this hold in practice?

Let's take a look at plant vigour, which is often associated with hybrids and/or modern cultivars. Dr. John Navazio, a well-respected plant breeder who focuses on organic seed production

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describes an observation he did for plant vigour. "In a lettuce trial I just completed, I planted out 20 varieties. Some of the lettuces were from the best seed houses in Europe, some were from various American companies. Four of the 20 were from [an independent, small-scale, organic seed grower]. Guess what I found? The four most vigorous varieties were all [the organic seed growers']." This trial shows that small-scale growers can successfully grow seeds and select for vigour, improving the quality of their seed to be equal to or better than many commercial seeds.

...at Stellar Seeds' gardens

Selecting for vigour if you grow your own lettuce or other transplants is pretty straightforward. When you have a seedling tray full of starts, don't simply prick out each one for transplanting. Select the ones that germinated fastest and sized up quickest. If you use these to grow seed from, and do it consistently over a number of years you will improve the genetics of your seedline in terms of vigour.

Disease and pest resistance are other important traits often associated with modern cultivars and hybrids. Yet it is estimated that one fifth of the world's agricultural production is lost to pests and disease every year. Why? As I already mentioned. many modern seed crops are grown under conditions where fungicides and pesticides are routinely used, sheltering plants from attack and effectively making them less resistant to pests and disease.

Additionally, modern plant breeding methods generally confer single-gene resistance to pest and disease. This method is highly effective, but short-term. While these plants are effectively immune to a particular disease, that disease is evolving and adapting, eventually overcoming a single gene defence mechanism. When every plant in a field shares this single gene as its first line of defence the result is widespread crop loss.

The type of selection traditionally used by farmers for centuries when growing seeds relies on multiple gene resistance, and can be practised by each one of us in our fields. It relies on good observation of our crops and selecting ones for seed that appear strongest or healthiest, especially under adverse conditions such as pests, disease, or drought. The result are crops that are not 100% resistant to pests, but have a strong and diverse genetic base that allows plant populations to overcome disease or hold it to a tolerable threshold.

Practical Pointers

Keeping in mind that most of us have planted our fields, what can an interested person do this season about growing seed? One approach is to consider the root crops you may have growing. These are biennials (meaning they won't produce seed until their second year of life), and you can start planning now to use some of your roots to grow seed with next year.

Step 1: Start by employing all the techniques you use to grow a good crop for market – good bed preparation, adding compost, proper spacing, thinning, weeding, watering, etc.

Step 2: When you harvest your crop in the fall, select some as roots you will use for seed production. The selection process is important. Start by considering the "plant architecture". For example, only select an onion that displays the ideal shape for that particular variety. If it is supposed to be round, put aside the oblong or funny-shaped ones for eating. Likewise, discard the onions with thick necks that won't dry down and store well. If you're saving carrots discard any that are forked or cracked. If it's a Nantes variety it should have a blunt tip. Colour is a consideration, too. Beets that are oddly coloured

or cankered should not be saved for seed. Size is also a factor. Large onions produce a greater quantity of seed than small onions. And so on – the simplest rule is that if you do nothing else, always throw out the "uglies". This process can be done by anyone who has experience with growing crops – don't be intimidated.

Step 3: Give yourself a good sized population of plants to work with. It improves your odds of selecting in the right direction. With root crops in particular, larger populations for seed production generally produce better seed than small ones. 1000+ plants is good, 300 is all right, 20 doesn't cut it.

Step 4: Once you've selected your roots, store them away for winter, well labelled until the next spring. Periodic checks to take out rotting roots is helpful. By the spring, the remaining roots that are in good shape will be your seed grow out, and you will have already selected for storageability, merely by planting the ones that made it through the winter. While this may not make a difference in one year, if you do this over several generations you will begin to improve the genetics of your seedline, at least in terms of storage.

Step 5: As soon as the soil is workable in the spring, plant those roots in the ground. Water them as you would other crops, and you will see the plant in its second stage of life, the seed production stage.

Different crops will require different cultural practices, but as a general rule, many of the root crops will require some staking/wiring to support their seed stalks. For specifics on seed maturity and harvest you can consult any of the various books about seed growing. Like growing any crop, there is no substitute for experience, and the more you do it the better you get at it.

The advantages to growing more seeds throughout our province are obvious. As growers we can select the varieties we want and ensure seed availability. Growing seed under organic conditions and within BC climatic zones will improve performance in our fields. For farmers, seed-growing can diversify our farms and our incomes. It is within the capacity of BC farmers to supply ourselves with much of our seed needs, in fact we may even be able to do a better job of it than the multinational seed corporations.

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The Great Rototiller Debate

by Paddy Doherty

Just mention rototillers in a crowd of organic farmers and you will immediately start a heated discussion. Some people love them, some hate them; but regardless of their merits or disadvantages, rototillers are a fixture on many organic farms.

The first rototillers were mass-produced in the 1940s (though there were probably earlier models) by Rototiller Inc. (hence, the brand name became the generic name). Those early models were similar to the standard rototiller many farmers use today. The reason for the success of the machine is obvious – it works well. Rototillers cultivate the soil faster and easier than doing the same work by hand. They are maneuverable for small gardens with short rows, they don't compact the soil as a large tractor does, and they are economically within the reach of anyone who considers him or herself a market gardener.

Tractor-mounted rototillers (usually called rotovators) have caught on for similar reasons – they do the job of ploughing, discing, harrowing and floating in one pass. So, what's the problem?

Using a Wheel Hoe for weeding.

Jim Boughen (WJ Boughen and Sons Ltd., Fraser Valley) has a big problem with rototillers. In April, he wrote to the COABC listserve:

> "…why I don't like rototillers is, by their very action they throw the soil up and the light stuff ends up on top and the heavy stuff ends on the bottom, effectively separating the soil and putting the organic material on top, which if you are in a rainy area [the wet coast] the organic part is washed away and if you are in a dry area it is blown away, the effect is the same. Plowing and cultivating stirs the soil with a better effect and a longer maintenance of good tilth and soil texture. … if you are looking for short-term go for the rototiller and if your aim is long term almost any other method is better in my opinion.
>
> "I used rototillers in all ways: up or down, fast or slow, deep or shallow, and always got poor results because the organics are not allowed to stay buried and become humus. I know at first the job looks fine but it doesn't help soil structure and that is what you want for sustained structure and tilth. There is a difference in horizontal and vertical motion in the soil. And using a little time in your tilling with different machines is better and cheaper in power use. A rototiller uses many times more fuel than other implements …
>
> "I suggest plowing and discing initially but not too deep, just to the top soil depth, in this way you will have the organic matter rotting and forming humus to enrich your soil; and then disc to stop the grass from emerging. In my opinion the rototiller is the worst implement to destroy soil structure ever invented and should be used sparingly or neve!
>
> This is all I have to say" – Jim

In defence of rototillers, Jason replied:

> "With the "tailgate" of the rototiller down you will get this mulching action that you describe. On the other hand, if you raise the tailgate the opposite happens - the heavy material is thrown higher than the light and lands on top of it. I use this method to bring the rocks up then I go back and pick them. (Rototilling like this gives a rougher surface as the rocks and clumps of stuff are on top instead of being buried so it does not look as finished as with the tailgate down.)"

Bruce Miller, of "Across the Creek Organics" (Pemberton) offered a compromise:

> "Plowing is one method of burying the grass/sod deep where it won't be a weed in your garden. However it also buries the top soil and organic matter. You might be better

to rotovate the grass 3" deep (provides some levelling), then chisel plow both directions, then rotovate again (6" deep). Cover crops can condition the soil nicely also if you have time to grow them before planting your main crop."

Then Kathy Larsen (Poplar Park Farm, Hazelton) suggested from her experience:

"When we turned a pasture into a crop field a few years ago, we rotovated it about four inches deep and then planted field peas which we turned under at the blossom stage. That seemed to smother most weeds and added lots of organic matter to the soil. We then planted fall rye. The following spring we turned under the rye & planted our crop and have very few weeds."

We are left wondering whether the Fall Rye was ploughed in or rotovated in - both options would work, though the plough would likely result in less weeds. In a personal e-mail message to me, Herman Bruns writes:

"We are one of the rototiller (2 troy-bilt) and rotovator (tractor mounted) users – almost exclusively for final bed prep. In our heavy soils, particularly for hand transplanting, few implements will leave the soil loose enough while at the same time smooth. Pretty essential in the greenhouses too unless one wants to dig it all by hand. Eliot Coleman recommends the self-propelled rototiller for small-scale gardens as an alternative to tractors. I've never noticed the organic matter on top syndrome. If anything, I find the opposite is true. On occasion, if I am in a hurry I have incorporated a green manure (fall rye or peas & oats) with a very shallow rotavating and compared that to discing or chisel ploughing on the same day. The rotovated green manure is incorporated much better and consequently decomposed much faster. I would then chisel plough a week or two later to loosen the deeper soil. But it does certainly use more fuel so I use it sparingly."

Sometimes it's difficult to separate personal opinion from anecdotal experience and from scientific experiment. However, it is widely understood (without citing research studies) that the disadvantages of using rototillers are:

• Rototillers (especially hand-operated models) operate at uniform depths – as with ploughing, this can create hardpan.

• In heavier soils, rototilling damages soil structure in the top few inches of soil. This causes the soil to lose air capacity thereby increasing compaction.

• Rototilling can leave lighter organic matter sitting on the surface, where it is susceptible to volatilisation (microbial aeration – loss to the air).

• Agricultural studies have shown that one pass with a rototiller will utilise more energy than multiple passes with separate implements.

• Rototilling will kill earthworms.

We don't own a rototiller on Dragon Mountain Farm. If we did, we'd probably wonder how we got along without it. Nonetheless, we manage a six-acre garden without one. A few years ago we bought a four-row seed drill, for small vegetable seeds – this is the one that Eliot Coleman raves about. We had difficulty getting it to work as it's supposed to. Then I realised that the seeder was designed (perhaps not intentionally) to work in a rototilled seedbed. It needed that fine, fluffy and uniform layer of topsoil (only produced by rototilling) that organic farmers have become accustomed to planting into.

The point I'm trying to make is that rototillers are here to stay in organic farming and despite their negative attributes, they are handy and efficient. It is counter-productive to discourage their use – perhaps there are soil-friendly ways

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of incorporating rototillers into the farm program.

Here are my personal suggestions:

Rototilling is a violent and radical procedure for soils, much as ploughing is. Yet used sparingly, ploughs have their place. Treat rototillers the same as ploughs – use them when necessary, but not routinely.

Don't rely on your rototiller as your only tillage implement – in a small garden, use had tools or a different tine design on your tiller. For larger acreage, use a chisel plough, subsoiler, or other appropriate implement. Avoid cultivating always to the same depth.

Use your rototiller only when the soil moisture is optimum. This varies depending on soil type but generally, do not cultivate when the soil is wet enough to stick to your boots.

Don't use your rototiller for weed control. Many gardeners use rototillers for weeding between the rows in their gardens. This practice may require six or seven passes through the same soil over the season, thus severely damaging soil structure and allowing the loss of organic matter to the air. We plant our brassicas in beds as wide as our row cover, then run a wheel hoe between the rows. The wheel hoe is faster and easier than a rototiller, but must be used when conditions are right (tiny white-root weeds). Quality rototillers usually have options to use the motive power of the machine, without using the tines – turning the rototiller into a walking tractor. Troy-Bilt (for instance) sells a sweep cultivator that can be attached to the rototiller. Have the rototiller drag that instead of digging through the soil with its tines.

I hope this has sparked the interest of rototiller advocates and detractors. Perhaps next time we'll talk about ploughs! If you're interested in participating in these discussions on-line, sign on to the COABC Newsgroup at www.certifiedorganic.bc.ca

Salmon Farming Attacked

by Cathleen Kneen

The issues related to wild and farmed salmon continue to ignite political crises. In the US, an amendment quietly tacked on to President Bush's war-spending bill instructs the U.S. Department of Agriculture to come up with a plan for certifying and labelling wild seafood as organic. This is backed by representatives from Alaska who hope such a move will increase the market credibility of wild salmon. Needless to say, this has raised a storm of protest from people who point out that it is impossible to certify the wild environment. There is no way, they say, to know what wild fish have been eating or whether they've been swimming in clean or polluted waters, and certifying them would make a mockery of organic standards.

On the other side of the continent, a federal judge has ordered Maine's largest salmon aquaculture company to empty its salmon rearing pens to give its polluted bays and the wild salmon time to recover.

The terms of U.S. District Judge Gene Carter's decision resolved a lawsuit filed in July 2000 by two Maine residents and the United States Public Interest Research Group against Heritage Salmon, a subsidiary of Norwegian seafood giant Fjord Seafood, for discharging pollutants into the ocean without Clean Water Act discharge permits.

One concern is the salmon that escape from the fish farms. "In the decision", commented a spokesperson from the National Environment Law Center, "escaping fish are now considered a pollutant. In other words, you've got these escaping animals regulated as an invasive species."

In his decision, Judge Carter blasted the U.S. Environmental Protection Agency and the Maine Department of Environmental Protection for delaying issuance of permits and regulations for salmon farms.

"The court notes that an EPA determination on what conditions should be placed on the salmon farming operations regarding the permissible discharge of pollutants has been certainly a central responsibility of the EPA. It has, for no apparent reason in the circumstances, evaded for years its functions in that regard."

(From Environment News Service <http//ens-news.com/ens/apr2003/2003-04-22-02.asp>)

Meanwhile, back in BC, four First Nations from the Broughton Archipelago have filed a lawsuit in B.C. Supreme Court demanding immediate protection for the area's imperilled wild fish populations. The Sierra Legal Defence Fund filed the suit on behalf of the people of the Tsawataineuk, Kwicksutaineuk-ah-kwaw-ah-mish, and Namgis First Nations, and the Gwawaenuk Tribe against the two companies currently operating open net cage salmon aquaculture facilities in the Broughton area, Heritage Salmon Limited and Stolt Sea Farm, Inc. The BC Government and the Government of Canada are also named in the suit.

The lawsuit asks for an injunction to prevent the stocking of open net cage salmon aquaculture facilities in the Broughton Archipelago, and to require that infected sites remove infected fish from the marine environment.

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Classifieds

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The injunction application also seeks to prevent the use of SLICE, a pesticide that has been scientifically shown to have impacts on crustaceans and has not been generally approved for use in Canada.

The lawsuit also asks the government not to permit any further open net cage salmon aquaculture licenses until further analysis of impacts to wild fish has been done and until a full environmental assessment of impacts of open net cage salmon aquaculture is completed.

Like the plaintiffs in the Maine case, the First Nations case argues that the fish farming harms the wild salmon, but adds that the governments are breaching their constitutional duty to protect aboriginal rights by promoting the aquaculture industry. One of the major concerns is the impact of sea lice, which has been blamed for the crash in stocks of pink salmon, with follow-on effects on bears and other wildlife.

For its part, Stolt Sea Farm announced April 9 that it has achieved ISO 14001 certification, becoming the second company in the British Columbia aquaculture industry to receive this recognition.

ISO 14001 signifies an Environmental Management System that rises above average operating standards. It is a globally recognized certification whose evaluation is performed by an external source – the global consulting firm Deloitte and Touche certified Stolt's BC operations.

Stolt Sea Farm has been in business in BC since 1985 and employs about 250 people in the province. Stolt Sea Farms has operations in Ontario, New Brunswick, the United States, Chile, Australia, New Zealand, Scotland, Spain and Norway.

Find more information at <www.sierralegal.org>

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Non Compost Mentis

by Jason Austin

Farmers in the Capital Region are up in arms about a proposed new bylaw that would impose industrial standards on any farmer who brings in materials to make compost.

The Hartland Landfill is operated by the Capital Regional District (CRD), which encompasses the 16 municipalities in the Greater Victoria Region from Sooke to the Gulf Islands. In order to reduce the flow of materials into the landfill they intend to restrict or ban the dumping of organic material, and as a result they expect to see the creation of a few large commercial in-vessel composting facilities to handle it. The draft bylaw which has the farmers upset was prepared by the CRD Solid Waste Advisory Committee (SWAC) to regulate these large in-vessel compost facilities.

SWAC envisages two types of compost facilities:

Class 1 - in vessel- an enclosed building where the ugly organics like septage, poultry carcasses and the like will be dealt with; and

Class 2 - all other organic materials which must be composted on an impermeable surface.

Although reportedly intended to regulate just the anticipated large scale commercial compost facilities, the bylaw currently is drafted on a catch allbasis, with only limited exceptions, and so it will affect farmers, related organic operations, and firms such as tree care companies who compost small amounts of wood chips and yard waste.

Farmers in the ALR are only exempted if they are composting either their own organic matter or agricultural waste from another farm. (Why this exemption has been limited to farms in the ALR has not been explained.) Not exempted, for example, are farmers who bring in a load of yard waste wood chips or grass clippings. These farmers would be expected to build an impermeable pad, and register as a Class 2 Composting Facility for a $1,000 application fee and to pay $1,650 as an inspection fee each year thereafter.

Another problem with the bylaw is what SWAC has defined as having to be composted in vessel. This includes good products like spent grains from breweries, that ideally should be composted outdoors, or even applied direct to the land.

The composting bylaw as drafted is so all encompassing, and the costs of compliance so expensive, that instead of diverting the flow of organic material from the landfill, it would close down the many small scale operations that presently take that material. The bylaw should be redrafted to target only the off farm commercial composting of organic materials that create a significant odour or health risk to the public such as septage and poultry carcasses. Farms are already regulated by a number of provincial acts and regulations. The CRD should encourage small scale composting operations of good-material by excluding them from the bylaw.

The farming community was caught off-guard by this development and many have not yet formu-

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lated their response (under pressure, the deadline has been extended by SWAC to June 30, 2003). I believe it is critically important to safeguard the farmerstraditional practices by simply exempting any composting on farm where the compost is for use on the farm with reasonable limits on the size of the compost pile based on farm acreage, say 20 cubic metres per acre. Farmers should be not only allowed but encouraged to band together to compost on one or more of their farms for sharing between them. Likewise, small scale composers should be encouraged, by allowing them to compost for resale the goodorganic materials like yard waste, in quantities of up to 1,000 metric tons per year without requiring registration under the bylaw.

It is not possible for SWAC to envisage now all the good and bad organic compostable materials. Any bylaw should be expressed in terms of guidelines for what must be composted in vesselbased on odour and health risks, and allow the Manager of the CRD Solid Waste Division to publish lists that can be refined over time, of specifically what must be composted in vesseland what need not. Also, to provide flexibility, the Manager should be authorized to allow site specific compost plans that recognize that what may be required to be composted in vesselin one area because of odour etc, may well be composted outside in another area, perhaps in smaller quantities.

Details of the proposed bylaw can be seen at <http://www.crd.bc.ca/es/compost/> If after you have read the draft you would like to make comments, you can fax these to SWAC at the CRD (250) 360-3079, by e-mail to <bphillips@crd.bc.ca> by June 30, 2003 For a copy of my presentation email jason.austin@shaw.ca> ✓

Is There Life after Banning of CCA Treated Wood?

by Linda Edwards

Every time something formerly allowed for use in organic systems is banned there is considerable apprehension ranging from mild concern to "we are going to be out of business!". For example, remember when there was not going to be any more organic ground crops because treated seeds and non-organic transplants were prohibited? I drove by a neighbour's field today where he was putting in tomatoes and peppers that he grew himself. They were gorgeous plants – far better than any I have ever seen in a conventional greenhouse. Not only has everyone adapted, many have learned to improve on the situation. Now we are going through a similar transition period in regard to CCA treated wood, especially posts. There are alternatives – some which have been in use since 1996 when the first certifying body banned CCA wood; others are future possibilities.

(Remember: any treated wood in use before the ban came into effect (January 2002) for all COABC certifying bodies, is grandfathered in.)

There are three main concerns about all alternatives. The first is whether or not it meets criteria for organic certification. Next is how well will this alternative work. Finally there is the availability of the product.

Alternatives to chromated copper arsenate or CCA (and creosote and pentachlorophenol which have been banned for use in organics for a long time) wood treatments break down into two main areas. The first is other wood treatments. The second is alternatives to wood treatments altogether.

Possible Wood Treatment Replacements for CCA

There are currently three "chemical" wood treatments that the conventional industry is looking at as possible replacements for CCA. The following information was obtained from ATTRA.

Alkaline Copper Quaternary Ammonium (ACQ) is a wood preservative – containing copper and quaternary ammonium compound (quat) as active ingredients – that protects against rot, decay, and termite attack. There are two kinds of ACQ: ACQ Type B and ACQ Type D. ACQ-B is formulated using ammoniacal copper and ACQ-D is formulated using amine copper. Quat is a biocide that is already banned so ACQ is a highly unlikely candidate for organics.

Cedar posts on the Mennel Farm

Copper Azole (CBA) is a wood preservative with active ingredients of copper, boric acid, and tebuconazole (azole), a synthetic organic carbon product used in fungicides. Ammoniacal Copper Citrate (CC) is a recently developed wood preservative that has 62.3% copper as copper oxide and 35.8% citric acid dissolved in a solution of ammonia in water. These two are possibilities for organics but their ingredients and manufacturing processes need to be evaluated. OMRI would be happy to do so but so far none of the companies has applied to have that done. They cannot evaluate a product without a company's involvement. This is necessary so as to have access to information about everything in the material plus the manufacturing process. Use of an excessive amount of ammonia in the manufacturing process might be a problem for instance. Also, the company pays for the costs of the evaluation. In the US, none of the products have been evaluated by the National Organic Standards Board or approved by the National Organic Program. For this to happen, someone or some group would have to petition these two bodies to get the process started. No one has done so yet. Also unless companies who make these products were willing to participate in the process, the reviews would be exceedingly difficult. Money that used to be available in the US to do general reviews no longer is. So the bottom line at this point is don't count on either of these two products being evaluated and consequently possibly approved in the near future. More information about how long they will last is also needed.

I recently found out about a new and most interesting possibility for wood treatment. This is something they do in Japan: a **smoking** process to preserve wood. A consortium of National Research council people, Forestry people, the University College of the Cariboo in Kamloops, and others, with funding from IRAP, are finalizing plans to build a plant in Kamloops over the next 4-6 months to adapt this technology for our conditions. Research in Japan apparently indicates this process results in wood that can withstand fungal and insect attack, has done well in toxicology tests and will probably be cheaper than CCA posts. They will use wood waste products to do the smoking. Promotion of this product as an environmentally sound product that even organic growers can use is part of their mandate. They are happy to submit their product/process to OMRI for review. We will keep you informed about the progress of this endeavour.

Non-wood Treatment Alternatives

I asked OMRI personnel what US organic producers were doing about the CCA ban. They say most appear to be moving to non-chemical alternatives like steel, concrete and plastics.

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Apparently many organic ranchers are using movable plastic electric fences. These have been used in Canada since the late 1970s to control grazing animals, including sheep, using high-powered energizers initially imported from New Zealand. Solar or battery-powered units, combined with fibreglass posts and plastic/steel 'string' make a fence which is highly effective and easily moved, facilitating pasture rotations. Many Canadian ranchers follow the grazing and range management practices developed by Allan Savory in his book called Holistic Range Management. I heard this man make a presentation at a conference a number of years ago and was very impressed. Get free copies of Introduction to Paddock Design and Fencing-Water Systems for Controlled Grazing by calling 800-346-9140 or by downloading from the NCAT/ATTRA website <www.attra.ncat.org>.

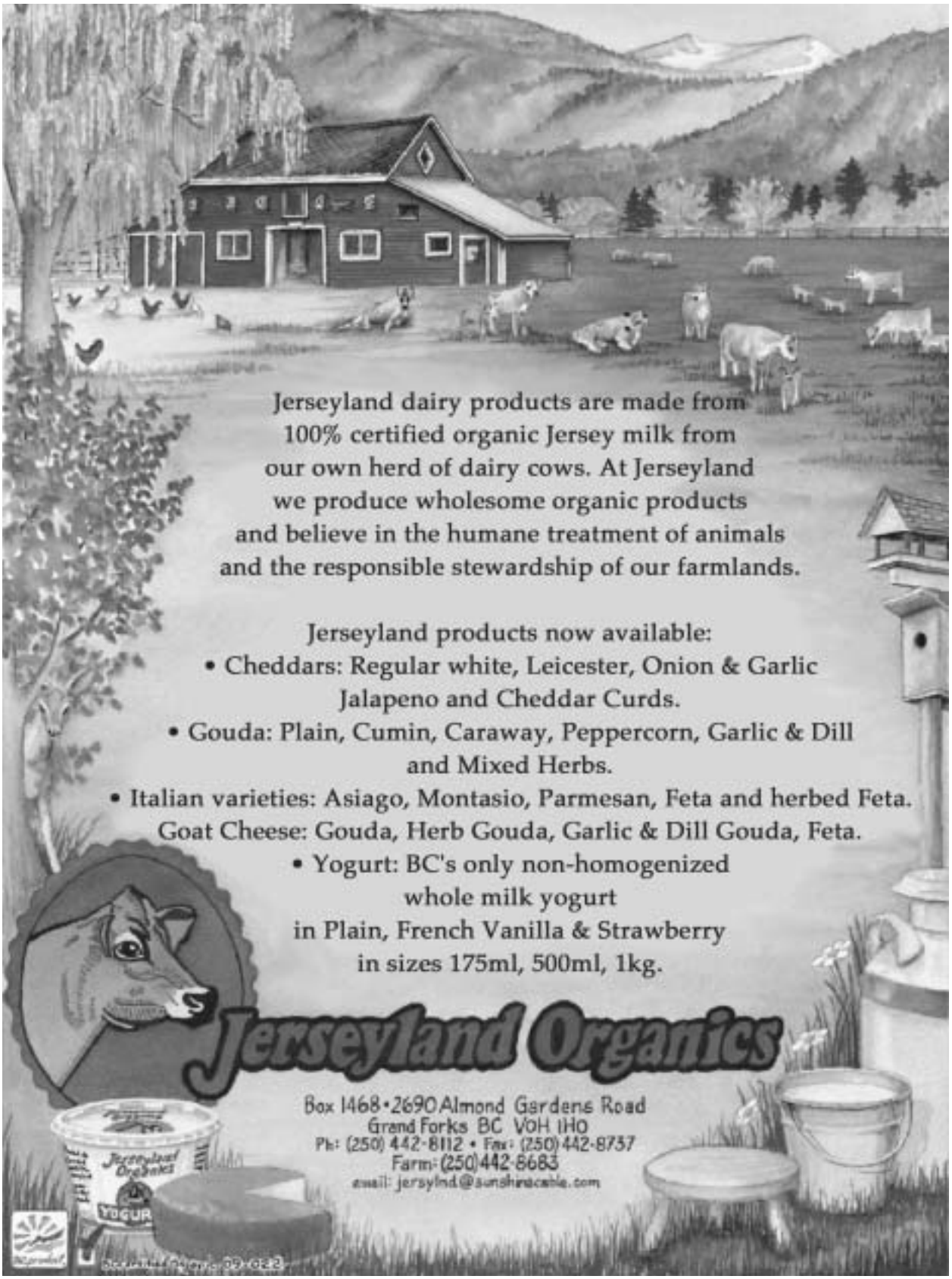
Untreated Wood

Tree fruit growers in the Similkameen have been using untreated old growth cedar posts from a burnt over area in McBride. As long as the supply lasts, we are cautiously optimistic that we have posts that will outlast most of us. However, all untreated wood is not so durable. ATTRA lists Redwood, Eastern red cedar (juniper), Western red cedar, black locust, and bald cypress as domestic wood species that are naturally more decay-resistant than others. However, not only can durability vary among different wood species, it can even vary between trees of the same species or within one tree itself; this can cause a wide range of life expectancy for even highly durable wood. One anecdotal source suggests that black locust grown on poor soil are much more rot-resistant than those grown faster – in plantations – on good soil. Young or second-growth trees are often less decay-resistant than mature trees.

Other alternatives for posts include stone, brick, concrete, and concrete blocks. All would be very durable. Steel posts either fabricated or adopted from waste material like sucker rods, welded wire panel, barbed wire, woven wire, cable, plastic net, high-tensile, electric, concrete-filled PVC pipe or a combination of any of these are also possibilities.

Everyone will find the alternative best suited for them. Anyone with other ideas or with details about how to carry out or access any of the above is invited to send a note to the BCOG or to sign on to the COABC Newsgroup at <www.certifiedorganic.bc.ca>.

✓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COABC - Book list and order form

Organic Tree Fruit Management

Written by Linda Edwards, this book will assist the beginning and the experienced grower as well as the conventional grower considering organic methods. The conventional farmer in transition to organic methods or considering organic growing as an option will find numerous references to what potential problems may arise during conversion and how to deal with these.

OFTM covers organic pest and disease management, information on soil fertility and nutrition in tree fruits, management tools available to the organic grower, etc.

Organic Field Crop Handbook

Enlarged and re-written Second Edition.

Following the success of the first edition of **The Organic Field Crop Handbook**, COG has re-written the first edition, revising information and adding many several new chapters.

The book is a practical reference guide for both organic field crop farmers and conventional farmers who are considering making the transition to organic farming. The handbook contains updated information on growing methods, organic certification and the economics of organic farming in Canada.

Organic Livestock Handbook

Written and compiled by Anne Macey with contributions from writers and farmers across Canada and the northern U.S.

The Organic Livestock Handbook is divided into three sections:

Section 1 explains the principles of organic livestock husbandry and includes chapters on animal welfare, nutrition and health care, and converting to organic methods.

Section 2 provides information on various management tools available to the farmer. Topics covered are health care alternatives, methods to control internal parasites, management-intensive grazing, manure management, fly control, handling to minimize stress, marketing, certification and record keeping.

Section 3 addresses those aspects of management for each livestock type which are particularly significant in an organic farming system. It uses examples from Canada and the northern United States to illustrate the various types of organic livestock enterprises that exist today, from dairy cows to honey bees.

Steel in the Field

A Farmer's Guide to Weed Management Tools

Weed control demands time, labour and expense for every farmer every year. **Steel in the Field** shows how today's implements and techniques can control weeds while reducing — or eliminating — herbicides. In practical language, the 128-page book presents what farmers and researchers have learned in the last 20 years about cutting weed-control costs through improved cultivation tools, cover crops and new cropping rotations.

This is the first tool-centred book to combine farmer experience, commercial agricultural engineering expertise and university research. It directly tackles the hard questions of how to comply with erosion-prevention plans, how to remain profitable and how to manage residue and moisture loss.

Pricing and Shipping Information

See the order form for prices on all books. Books are subject to GST only.

Shipping: $6.00 per copy. Call the office for shipping costs on larger orders. Books may be shipped by post or by bus.

✓

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Organic Livestock Manual	each	$24.50	(no PST)		
Steel in the Field	each	$25.00	(no PST)		
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Changes to Standards

by Standards Review Committee

It has come to the attention of the Standards Review Committee that there was a change in standards in March 2002 that affects milk producers. Evidently some milk producers may not be aware of the change as it was not listed in BC Organic Grower at the time, though it has been published in the Standards twice since then.

Sources of Milking Herd Stock changed in March 2002. Each animal milked has to be managed organically for a minimum of 12 months before the milk can be considered certified organic. You can no longer bring in non-organic replacement stock with only 90 days of organic management.

The current standard reads:

8.4. Source of Breeding Stock

8.4.1. Required

1) Dairy herds must undergo a 12-month transition period, incorporating all required products and practices.

8.4.2. Allowed

1) Breeding females from non-organic sources may be incorporated into an organic herd. The in-utero offspring of female from non-organic sources brought into the herd during the third trimester of gestation will not qualify for organic status as slaughter animals.

2) Breeding males from any source

3) Artificial insemination

8.4.3. Regulated

1) For Milking Cows - If certified livestock are not available to purchase as replacements, incorporation of cows from non-certified sources into a certified herd, provided those animals are easily identified and the milk can be separated from the certified production for a twelve-month period. Milk cannot be labelled of marketed as certified organic milk until livestock have been raised in accordance with this standard for at least twelve (12) months. It must be documented to the satisfaction of the accredited certification body that organically raised stock of acceptable quality and genetic potential is not commercially available. Under normal conditions only 10% of the milking herd can be replaced annually from non-certified sources and these animals must be replaced as heifers or as 120 day dry treated cows. This provision does not remove the twelve-month transition period for conventional cows brought into an organic system.

2) For Milking Cows - for situations of exceptional growth in the organic milk market, incorporation of non-certified cows may exceed 10% provided all other regulations are adhered to and the certification body has reviewed the situation.

On a related topic a new standard clarifying Transition for milk came into effect in this year as follows:

3.3.2

9) Milk - Animals purchased from a conventional source must be managed according to the BC Certified Organic program standards for 12 months before they can be certified organic. Pastures must be certified organic or in 3rd year transition to satisfy this requirement. Provisions for the transition of pasture are the same, as those required for soil-based crops.

Microwaves

Since 'and the use of microwaves' was accidently put with Ionizing Radiation, and although they are not the same process, the six week review

period has been bypassed and the COABC Board has approved an amendment to the Standards as follows:

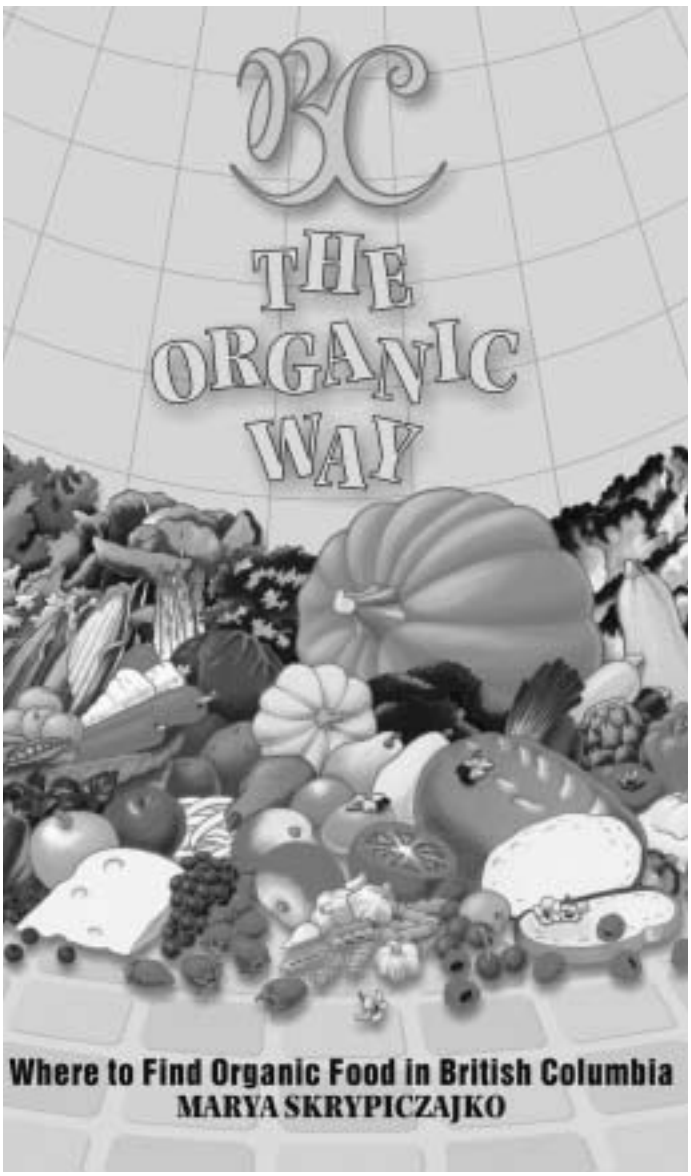
Section 11.4.3
Remove the passage, 'and the use of microwaves' from Section 14, page 14-13. Remove the passage 'or microwave' from the information on Ionizing Radiation.

'Vacuum microwave drying' is to be moved to the regulated practice list with the addendum of:

> Current scientific research shows this SPECIFIC use of microwave technology to be acceptable to organic principles as the effects are strictly thermal and do not change the original structure of plant materials. This is not to say that in the future new research findings could change that position and this practice would then be moved into the prohibited category. ✓

New Organic Guidebook

reviewed by Cathleen Kneen



This is a delightful book. Although it is billed as a guidebook, telling the reader how to eat and drink well in BC, it is a great deal more than a simple listing of organic producers, processors and retailers. After all, any list of recommended places to visit is bound to become obsolete sooner or later. I'll never forget the hours we once spent on holiday in Mexico trying to find a highly recommended B&B which we eventually discovered had been destroyed by a hurricane – after our guidebook was printed.

BC the Organic Way: Where to Find Organic Food in British Columbia is, as promised, a comprehensive guide to the sources and suppliers of organic food. As such, it is certainly a useful book to have on hand for your summer visitors, to point them in the right direction as they travel through the province. But Marya Skrypicazajko,s book is not just for tourists. Its central focus is a thoughtful and enticing description of organics. The book opens with an impassioned (and well-reasoned) argument for eating organic and local, and it is peppered with commentaries on issues from school lunches to lawn care. These are inspiring to long-time organic producers as well as those who are just beginning to think about organics. Long after the listings go out of date, as new organic businesses appear (and some also disappear), the stories and testimonies in this book will continue to charm the reader.

Skrypicazajko, M., BC the Organic Way: Where to Find Organic Food in British Columbia. Skrypt Press, Nelson, BC, organicbook@hotmail.com ✓

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