

# BC *Organic Grower*

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*British  
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Organic*



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Vernon BC V1T 9G1**

# What a difference ten years makes

by Linda Edwards

In 1994, a year after the formation of the COABC, the first AGM was held in the living room of a house I was renting in Okanagan Centre. It was attended by 4 people — Hans Buchler, Fred Reid, Rob Hettler, Brian Mennell plus Lee Taylor via phone. Five certifying bodies, SOOPA, COPA, NOAA, BCARA and OPACK were members of the organization. There were only 5 items on the agenda. The meeting was over in one hour and 7 minutes.

The 2003 AGM, at Camp Alexander in White Rock, occurred on a much grander scale. It began Friday, Feb. 14 with a keynote speaker, Bob Williams, Chair of the Board of VanCity Capital Corporation, and was followed by a full day on Saturday of workshops and seminars on topics ranging from assessing soil health to marketing to aquaculture. Saturday night there was a banquet, a dance, an auction and a wonderful evening of socializing. Over 120 persons attended.

Sunday at the AGM, attendance and the agenda were much larger than in 1994 and it took all day. In addition to the directors, over 70 persons also attended the meeting. Following are parts of my opening address to that meeting.

Today and in the coming year, the COABC must focus on two major challenges.

The first is in regard to the very nature of the COABC itself. In this, the 10th year of its operation, the COABC has undergone significant structural changes. It began the year with 13 certifying bodies, increased to 14 with the inclusion of Living Earth Organic Growers Association during the course of the year and now has 11, as a result of the formation of PACS, which now certifies 40% of the membership of the COABC.

We had all become uncomfortable with the fact that PACS had the same representation on the Board as CBs with 12% or less, and after a long discussion which began at the 2002 AGM, the Board of Directors, voted at their December meeting to adopt proportional representation for the COABC Board, allowing a certifying body to elect one representative for every 50 members. With the adoption of proportional representation, CROPS, OPACK and PROP, which sub-contracted out their certification to PACS, cease to be certifying bodies. In turn, PACS which has over 180 members, will elect 3 representatives to the COABC board. All other certifying bodies are eligible to elect one representative each.

If PACS continues to grow, as it seems it will, one of the challenges for the future will be to decide if the COABC wants to maintain a broad geographical representation on the Board and to keep the organic movement, beyond certification, alive across the province. If that is the wish, one possibility

would be to develop – or retain – non-certifying associations in geographical areas to maintain an organic presence, sponsor projects and events etc. Such organizations could also become more broadly based to include food security initiatives, environmental and health groups and others. PROP in the Peace River is an example of that: the members of this former certifying body now have their certification done by PACS; however, they are continuing to function as a community group. Such organizations might also become a way to recognize and promote local production of food for local sales as well as or even instead of it being certified organic. This might be an alternative for those who do not want to assume the costs and responsibilities of a regulatory system should it come to pass.



*Linda Edwards thanks our many generous sponsors at the 2003 AGM.*

Should the COABC play a role in the promotion of such groups? What will be its relationship to them? Where will the initiative and energy to explore these options come from?

Still on structural changes: There has been another significant change this past year in how the COABC does business. The Board used to do (or try to do) everything. The only committee especially designated for a specific task was the Audit Committee. Over the past year, a number of committees, some on-going and others short term, have carried out many important functions on behalf of the COABC.

#### **Standards Review**

The Standards Review Committee — created at our last AGM with representation from all of the certifying bodies — assumed responsibility for receiving and processing suggested changes and additions to the Standards.

#### **Trust Committee**

The Trust (Organic Sector Development Program) Committee will function for two more years handling applications for trust funds.

#### **Web Site**

The Web Site Committee, previously managed by Hermann Bruns, is being transformed under the leadership of Jodi Koberinski and others into a Communications Committee.

#### **Food Safety**

The Food Safety Committee, chaired by Lee McFadyen, with assistance from Kathleen Zimmerman from the provincial government, carried out a survey this past fall to identify areas for action in on-farm food safety (see p.19).

Short-term committees established procedures for handling fraudulent use of organics, and developed a media protocol for crisis situations.

Our Strategic Plan was completed and as a result the Organic Sector Development Program fund was initiated with a committee of 4 COABC representatives, along with one each from AAFC, BCMAFF, and Investment Agriculture.

Last but certainly not least, the Spring Seminar and AGM Committee of Cathleen Kneen, Mary Forstbauer, Stephen Gallagher and Deb Foote have organized the last two days' events. Harvie Snow has also worked with this committee especially in regard to organic presence and COABC's input to the Pacific Ag Show.

These committees have greatly lessened the load on the Board of Directors and made for much shorter conference calls; they have also brought in many members and others

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in the industry who had not previously been involved, to work for the organic movement. However, committees need support and their work needs to be integrated into the whole. This does not happen automatically and without it anything can happen — from chaos to nothing. This is the sort of job an executive director would do, and without one it was not done as well as it could have been, or increased the work of a few already overloaded volunteers.

Looking at the organization's achievements in 2002, one must nevertheless conclude that this is a thriving organization, serving its members in a responsible and effective way. (See box)

Our second, and I feel our major challenge is a lack of adequate funding for core services. This will evolve into a major crisis this year if we do not make changes in our financing. It is necessary to increase COABC fees just to cover a bare bones budget in 2003. Keep your fingers crossed that the computer at the office doesn't break down, that liability insurance rates don't go up or anything else unforeseen that we must deal with doesn't occur because there is no leeway in the budget. The proposed budget also does not provide for launching any more COABC projects with Trust funds, since Some matching funds are always needed. The next time someone comes up with a great idea and suggests the COABC should put together an application to the trust, the Board will have to say no – a great opportunity missed.

A couple of AGMs ago we adopted the practice of not putting an increase adopted at one AGM into effect until the next year. I know all of the arguments for doing that and in theory it sounds fine. In practice it is not working. Last year, we ran a deficit and had to use some of our reserves. This year, if we stay with the fees set last year, we will use up most or all of the rest. Without reserves, there are no cushions for emergencies or for cash flow shortages to cover bills and expenses throughout the year. Budgeting for 2004 now might very well result in the same situation we find ourselves now. If your tractor breaks down, it doesn't matter if it wasn't in this year's budget.

To maintain even a modest reserve and to not

## ***Achievements in 2002***

The COABC Strategic Plan was completed and the funding process under the Trust Fund was begun. So far eight projects have been funded. Some have been initiated by outside parties but most have been launched or hosted by the COABC itself in response to issues the membership identified in the Strategic Plan.

There has been continued work on the national and international scene. There was participation in IFOAM, trade negotiations and meetings in Ottawa and hours and hours of working on the Canadian Standards.

Through the Trust, and with generous assistance from many processors and handlers, a project has been set up to establish a representative body in Canada to deal with national issues: everything from issues like regulatory vs. voluntary, to convincing agencies like the CFIA that organics is an entity in itself and cannot be lumped into commodities.

COABC continues to maintain a presence on the BC Agricultural Council. One recent concrete financial benefit was funds that have enabled a number of the CBs to promote their CBs, and to increase membership through the development of websites, events etc. Some of these funds are also being used to make our application forms more user friendly and to standardize the verification officers' forms.

The COABC Guidebook was re-written and published in 2 volumes — one on policies and procedures and the other about the management standards.

New procedures were developed for the Accreditation Board and an internal policy manual drafted. These were done on special projects money and volunteer effort.

The COABC also participated in a review of marketing boards and an appeal to the BC Marketing Board by organic egg growers, and attended meetings, seminars and conferences regarding environmental issues, educational opportunities and marketing initiatives.

The Organic Advisory Service continued to be active but is now out of money.

The office, still operating on 24 hours of paid staff time per week is busier than ever — up 45% since last year.

The BCOG magazine continues to be an important part of the glue that holds us together, and there has been expansion and much greater use of the website.



run into this problem again, we need to base budgets on real time preferably starting this year.

Last year at our AGM we went through an extensive exercise of assessing what parts of our core services we wanted to keep and which ones were not necessary. The very clear consensus was to keep doing what we were doing. No one has questioned that over the past year. We are happy being the kind of organization we are. Also, most of the things we undertake are ones we are bound constitutionally to do. To stop taking care of the Standards, the audit etc. would mean we would have to change our constitution.

As president over the past two years, I was painfully aware too many times of things falling through the cracks. In my opinion, this organization needs something else that is not in the budget: this is at least a part time paid coordinator/executive director to assist the Board and Committees of COABC, to keep all of the parts connected and to make volunteering more of a pleasure and less of a burden. Because there may lie the real crux of the most serious problem of all that we are facing: it is more and more difficult for the CBs to get people to represent them on the Board. The commitment required can be frightening. Many have left because it is too much work – or as someone who quit told me, because they feel guilty that there is so much to do and they are not able to contribute more. The new Board will have to find some way to ensure whoever they elect to be President is not burdened with feeling they have to become a volunteer CEO and give up farming!

Each of you, ask yourself how much you can volunteer. If the answer is not much or none at all, I understand. But maybe it is time to start thinking if you should be contributing more financially to help hire people to do the things you want and need. In fact, unless we decide to scale COABC down to about where it was 10



*Founders' award given to Paddy Doherty for his unstinting efforts on behalf of the organic movement in general and the COABC in particular for many years.*

years ago – even 5 years ago – getting more volunteers won't help. The more volunteers, the more projects, the more you need someone to coordinate them. A sizable minority and I think soon the majority of COABC members are demonstrating through the growth of PACS that they are willing to pay the real cost of certification. The question now is, are we willing to pay the real cost of operating COABC? Project money is easily come by these days because of the credibility we have built up, but nobody pays for basic operations. The only source of funding available for core services is membership fees.

We have run the race and won to this point, and I am sure the COABC will continue to find answers to the problems that arise and will continue to represent and serve its members well!

Thank you for letting me be your President these past two years. ✓




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# 2003 AGM Report

by Cathleen Kneen

The AGM was preceded this year by a Spring Seminar event at Camp Alexandra in White Rock to celebrate the 10th anniversary of COABC.

Keynote speaker on Friday night was Bob Williams, Chair of VanCity Capital Corporation, who described the success of Emilia Romagna, a poor region of northern Italy, in developing a strong local economy on the basis of cooperatives and small enterprises, largely agriculturally based, which have integrated themselves both vertically and horizontally. Businesses sub-contract with one another and collaborate in every level of their enterprises to achieve amazing efficiencies. This is a model that holds a lot of creative ideas for B.C.'s organic sector, particularly in the ways in which independent businesses of different sizes have learned to collaborate for their mutual benefit.

As intended, the workshops, panel presentations and poster sessions sparked much discussion and proposals for further action. For example, in response to a dynamic discussion on Marketing Strategy, led by Doug Rushton of IMPACS along with Gunta Vitins from Pro Organics, Deb Foote from Wild West, and Bob Morriveau from Capers, a decision was made by the Board to work with others in the sector to develop a significant marketing action strategy. The presentation on salmon farming and the poster session on oyster farming have encouraged the organization to move towards a position on this controversial issue (see page 26). The wide diversity of presentations is matched by the diversity of

opinions, which is one of the great strengths of our movement.

An important highlight of the weekend was the marvellous organic food, donated by organic farms and businesses and expertly prepared by Diane Kolida. For once, a banquet that deserved the name!

The AGM began with the President's report (see page 1), followed by reports from the committees:

## *Audit Committee*

[Harvie Snow] Accrediting for ISO compliance has made the work of the Audit Committee more complex. It must operate as a separate entity from COABC, but may use COABC resources in doing so. While still auditing for level one and two regional compliance, the board engages in a much more comprehensive review for ISO accreditation, which is required for market access in Quebec and outside Canada. This review is almost beyond the ability of a volunteer committee, and it was agreed that the new committee would be provided with expenses and honorarium. PACS and FVOPA underwent level II ISO Accreditation audits this year. Harvie submitted his resignation from the committee, and Anne Macey was welcomed as the new Audit Committee Chair, with members Brian Mennell, George Zebroff, Peter Johnston, Nancy Korva, Brian Roberts (BCMAFF), and one more member external to COABC being sought.

## *Organic Sector Development Program*

[Gunta Vitins] Three new projects are being developed by Gunta on behalf of COABC. One deals with the research needs of organic farmers (see page 9). The second will hire a contractor to develop a consistent, user friendly set of applications and VO inspection reports for all. There will be electronic versions, and line by line guides. The third, arising out of the work of the Website Committee and the Marketing Strategy project, will propose further market development work, working closely with partners in organic businesses at every level of the marketing process, refining the target audience and message, and developing and restructuring our website.



## Office

[Kristen Kane] The COABC office is the hub of the organisation, and its role and responsibilities has increased exponentially over the last year. Cara Nunn shared office duties with Kristen who also coordinates the Organic Sector Development Program. Job-sharing has allowed COABC to have an office presence 5 days a week, which, along with the Shaw cable connection which frees up the phone lines, has enabled a 45% increase over 2001 in the number of contacts to the office, including calls, emails, and post. In addition to projects, the office deals with member and CB services, media, public and consumer inquiries, official marks administration, logo items and book sales, and website maintenance. The increased website traffic is reflected in the number of calls which begin: "I was on your website and....."

The COABC has been able to provide new opportunities and funding for its CBs and their members due to the office's project administration capacity and hopefully can continue to do so in the months and years to come.

## Organic Sector Development Program

[Hans Buchler] Two proposals are complete, 8 more are currently in the works. An annual report has been submitted to the Investment Agriculture Foundation.

## Website Committee

[Jodi Koberinski] The committee has been working hard to develop a maintenance policy. It is also looking at the recommendation from the Marketing Strategy project that the website needs to be consumer friendly. Suggested that the website committee become a Communications Committee.

## Standards Review

Tracy Schimpf is acting Chair. Other members so far are: KOGS - Abra Brynne, SOOPA - Jim Bagley, PACS - Rebecca Kneen, Jill Tyndale,

Carmen Wakeling, NOAA - Tracy Schimpf, FVOPA - Alyssa Bell Stoneman. Bio-Dynamics, LEOGA, IOPA, BCARA, BOPA, and STOPA still need to confirm their members on this Committee. (see page 24 for report)

## BC Agriculture Council

[Paddy Doherty] COABC is a member of the BCAC through Community Agriculture, and represented by George Hamilton. Environmental Farm Planning is the major current issue of interest to COABC. Paddy's work at BCAC was commended and it was agreed that we should continue our membership despite a potential increase in cost. Membership in BCAC may cost more this year (\$3000).

## Budget

[Sharyn Pollitt] In the 2003 budget Sharyn proposed a fee increase of 25% to cover core costs. She also requested a more realistic time-frame for preparation of financial statements for the AGM, and suggested that the organization needs to consider the need for an executive director. The budget was accepted with the understanding that the fee increase would not set a precedent; that the Board is to develop and implement a new funding formula for the future of COABC; that the Board will develop options for COABC to acquire an executive director, and that the Board seek funds to match OSDP project proposals.

## USDA Organic Program

[JoAnn Sandhu] Negotiations with the USDA National Organic Program are going well, but some changes will have to be made to our program, for example, that non-farm members are full voting members of the Board. It was agreed to give the Consumer-Environment representative a vote on the COABC Board, and to make

## 2003

### Board of Directors

President: Pat Mallett

Vice-President: Jodi Koberinski

Vice-President: Stephen Gallagher

Treasurer: Sharyn Pollitt

Secretary: Arlene Solomon

BCARA: Stephen Gallagher, ( John Switzer)

BioD: Jill Rothe, (Mary Forstbauer)

BOPA: Jodi Koberinski, (TBA)

FVOPA: Harvie Snow, (Annie Moss)

IOPA: Peter Johnston (Dave Friend)

KOGS: Patrick Mallett (Brenda Elder)

LEOGA: Lee McFadyen (TBA)

NOOA: William Hayward (Bob McCoubrey)

PACS: Sharyn Pollitt, Tim Ewert, TBA (Jill Tyndale, Carmen Wakeling, Gunta Vitins)

SOOPA: George Zebroff (Hans Buchler)

STOPA: Arlene Solomon (David Nelson)

Consumer /Environment: Cathleen Kneen

BCMAFF: JoAnn Sandhu

SPCA: Alyssa Bell Stoneman

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whatever similar changes are required for recognition by the USDA NOP. Negotiations with Quebec are also on track and no difficulties are anticipated.

#### **SPCA**

The SPCA was accepted as an Associate Member of the COABC (Associate Members do not have voting rights).

#### **Growing Green**

[Kathleen Gibson] Growing Green is a project to develop policy recommendations for sustainable agriculture. The project is interested in working with organic farmers in relation to supply managed production. COABC took the opportunity to thank Kathleen for her work with the COABC Accreditation Board during the past year.

#### **AGM**

[Cathleen Kneen] The AGM broke even financially this year. Agreed that planning for next year needs to begin immediately; Mary Forstbauer was appointed co-ordinator (with some remuneration attached) and Nancy Korva and Deb Foote volunteered to be on the Committee. Naramata was agreed to be a suitable site.

The new Executive of the Board was elected at the Board's first full meeting by conference call on March 4th. Peter Johnston will arrange and chair the conference calls.

Full minutes, including reports from the Certifying Bodies, are available from the COABC office to members.



## ***Sponsors make our Conference possible: Thank you!***

The Certified Organic Associations of British Columbia thanks the following businesses, organizations and individuals for their support for our 10th Anniversary Conference.

### **Pro Organics Marketing • Happy Planet Foods • Jerseyland Organics**

#### **Organic Sector Development Fund**

#### **Growing Green Project**

#### **Agriculture & Agrifood Canada**

#### **Wild West Organic Harvest**

#### **Capers Community Markets**

#### **Thomas Reid Farm**

#### **Avalon Dairy**

#### **Crannóg Ales**

#### **Discovery Island Organics**

#### **Nature's Path**

#### **Pacific Western Brewing**

#### **Silver Hills Bakery**

#### **Summerhill Estate Winery**

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Dragon Mountain Farm

Drive Organics

Eatmore Sprouts

East End Food Co-op

Echo Oils Inc

Natalie Forstbauer

Forstbauer Natural Food Farm

Four Creeks Ranch

Giva Organics

Glen Acres/McIennan Creek Farm

Glen Valley Farm

Glorious Garnish & Seasonal Salad

Heron Bay Farm

Hills Foods

Imagine Foods

Brewster Kneen

Cathleen Kneen

Mariposa Organic Farm

Mennell Orchard

Muir Glen Organic Products

Nathan Creek Organic Farm

Paula and John Nicholson

Cara Nunn

Oddball Organics

Olera Farm

Olympic Dairy Products Ltd

Omega Nutrition Canada Inc

Organa Farm

Organic Gourmet Coffee & Tea

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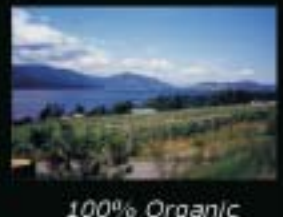
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## What Research do we Need?

Too often research is undertaken which does not meet the real needs of farmers – or farmers complain that there is no research to support their particular situation. With support from the Organic Sector Development Program, COABC is undertaking an initiative to identify specific areas of research needed to help increase the supply and quality of locally grown certified organic foods for local and international markets. This will give us solid information on the research needs of the sector. It will also provide the OSDP Committee with the tools to make sound decisions when evaluating succeeding research proposals.

The contract for this project has been awarded to Smith and Associates – a team which has extensive knowledge and experience in organic agriculture, as well as strong research skills and facilitation expertise. They will conduct workshops during March 2003 with certified organic growers, agricultural researchers and technical

experts throughout the province to determine which research needs are priorities for the commercial production of organic foods.

Certified organic farmers who want to be part of setting the production level research agenda for the future should contact one of the following:

Bill Smith - Tel/Fax: 250-780-2378 Email: [wgsmith@neonet.bc.ca](mailto:wgsmith@neonet.bc.ca) Bill will be working primarily in Prince George and points north (Peace River, Smithers)

Elaine Spearing - Tel/Fax: 250-747-3237 Email: [elaines@quesnelbc.com](mailto:elaines@quesnelbc.com) Elaine will be working primarily in Quesnel, Kamloops, Cariboo, Thompson, Shuswap, North Okanagan

Oscar Somasco - Tel/Fax: 250-354-1931 Email: [osomasco@netidea.com](mailto:osomasco@netidea.com) Oscar will be working primarily in the South Okanagan, Similkameen, Boundary, Kootenays

Sarah Davidson - Tel: 604-322-4061 Fax: 604-301-1017 Email: [srdavidson@telus.net](mailto:srdavidson@telus.net) Sarah will be facilitating workshops in the Fraser Valley, Vancouver Island, and Gulf Islands

# Parasites in Lambs

by P.H.G.Stockdale

Intestinal parasitism caused by trichostrongyle (hairworm) nematodes is probably the most common disease of domestic sheep at pasture. The infection is present in nearly all sheep and lambs at grass, and under circumstances that favour the survival of infective larvae in heavily stocked pastures, the infection progresses to the disease in susceptible animals.

In wild sheep, non-pathogenic infections with trichostrongyles are regarded as natural. The infection is acquired every spring by the lambs born that year as they begin to graze. The life cycles of the trichostrongyles have evolved to ensure the survival of the worms. These life cycles have two basic patterns.

The first is that of the genera that are transmitted from the ewes to the lambs each year (Haemonchus, Ostertagia, Trichostrongylus and Cooperia).



One aspect of immunity in the ewe to worms of these genera suppresses the production of eggs in the worms. In the last month of pregnancy and under the influence of the hormone balance of the ewe at that time the immunity of the ewe to the worms declines. The result of this lessened suppression is an increase in nematode egg production that translates within a week or so to a rapid build up of infective larvae on the pasture at the time the lambs begin to graze.

The second pattern is that adopted by the trichostrongyles of the nematode genus Nematodirus. Worms of this genus produce large thick-shelled eggs within which the nematode larvae develop to the infective stage, which stays in the egg. The larvae hatch under favourable conditions, usually the spring of the year following the year in which they were passed in the faeces and thus infect the lambs born a year later. In this pattern, the lambs of one year are the source of infection for the lambs of the following year. Thus, depending on the genus of the trichostrongyles involved lambs acquire their

infections from their dams and their flockmates born the previous year.

Under normal or free ranging conditions for wild sheep, lambs become infected but not diseased. Domestication, in which sheep are not permitted free range, produces situations in which sheep become hyperinfected. Such hyperinfection produces the clinical signs of illthrift, diarrhoea, dehydration, possibly anaemia and not infrequently death. The factors that select for disease rather than just infection involve both parasites and sheep. As a general rule, the more parasites in the sheep the more severe are the clinical signs. The more susceptible the sheep are, e.g.

lambs versus ewes, the smaller the number of parasites are

required to produce clinical signs, and the closer the pasture quality is to being marginal or inadequate the greater will be the effects of a given number of nematodes.

Restriction of grazing within fenced areas again favours the transition from infection to disease as it greatly increases the contact between sheep and their faeces and, by implication, infective larvae. Increasing the stocking rate has the same effect. As the pasture is grazed and the blade length of grass stems is reduced the infective larvae become more concentrated on the herbage and the result is hyperinfection.

Finally, the type of ecosystem in which the above situations occur also has a great bearing upon whether the result is one of infection or one of disease. Thus in a climate such as the Okanagan Valley of British Columbia the host parasite balance is generally that of infection. This is because the infective larvae experience high mortality due to two factors. The first is the fluctuation of winter temperatures through the freezing point and the second is the extreme dryness of the summer months leading to desiccation of the developing and infective larvae. On the coast of the Province, climatic conditions favour survival of infective larvae and the appearance of disease.

## Strategies for Disease Control

### *Mimicking Natural Infections*

As described earlier the purpose of this is to alter the balance of domestic sheep and their parasites from that characterized by disease to that of infection; that is the “normal” for wild sheep. Wild sheep usually lamb in steep, broken country (escape terrain) often characterized by talus slopes in which ewes and newborn lambs can evade mammalian predators. These are most often found close to benches or valley bottoms where ewes can graze close to their lambs and where the first flush of grass occurs in spring. For the first few weeks, lambs obtain nearly all their nutrition from milk although they will pick at herbage from 2-3 days of age. By the time they are two weeks old, they will accompany their dam as she follows the new spring growth from the valley floors to the high country.

This movement reduces the time that the lambs will be in contact with their dams' faeces and, more importantly, less likely to contact the infective larvae from the faeces, as it usually takes at least a week before the faecal larvae attain the infective stage. Thus, the combination of events is more likely to result in infection rather than disease.

### *Promoting increased mortality of infective larvae*

This can be done in a number of ways but two will be considered here. The first is to prevent the eggs and early larval stages from becoming third stage infective larvae. The second is to manage pasture to increase the mortality of the infective larvae themselves.

### *Strategic treatment of infections of adult worms within the host*

Under most conditions drenching of sheep against worms is not permitted in organic livestock production. There are two situations where this does not hold. The first is if the sheep are extremely sick and suffering from the disease and must be treated

on humane grounds. The second is in those ecosystems such as coastal British Columbia or in other countries or areas with high rainfall such as the United Kingdom and New Zealand. In these situations, survival of infective larvae is extremely high due to high humidity and mild temperatures and thus the interaction is favoured in the direction of disease.

## Recommendations for Disease Control

### *Rotational grazing*

In this system ewes and lambs are moved onto new, clean pasture every five to seven days to reduce their exposure to large numbers of infective larvae. At warmer temperatures, 23°-30°C infective larvae will develop more quickly (4-6 days) in cooler temperatures 5°-20°C they develop more slowly. Rotational grazing can be effected with permanent or temporary, e.g. electric, fencing systems. It is essential that the sheep cannot gain access to the area recently grazed.

### *Forward or Creep Feeding*

This can be done with electric fencing set up in a manner that allows lambs access to as yet ungrazed pasture but that excludes the ewes. Temporary fencing that mechanically excludes ewes but permits access by lambs can be used in various ways, i.e. close to water sources or mineral licks, to allow access to creep feed.

It is important that ewes are fed well in the first six weeks of lactation to ensure a plentiful

*continued on page 12...*



*grazing sheep and cattle together to reduce pest loads*

...continued from page 11

supply of milk. Lambs that have an inadequate supply of milk will graze more and thus pick up more infective larvae and compound the problem of inadequate nutrition.

**Promoting mortality of free living larvae on pasture**

In drier climates the lethal effects of desiccation on larvae can be enhanced by breaking up faeces and exposing the developing larvae. This is best done in the first week after the faeces are passed. Dispersing faeces in fall to expose larvae to freezing and thawing also promotes increased death of free living larvae. Harrowing or any method that breaks up and scatters faeces can achieve this.

**Grazing cattle or horses with sheep**

This has the effect of reducing the numbers of infective larvae available for the sheep due to their ingestion by these other species. Cattle should not be used to do this during lambing as at that time they could be exposed to the virus of Malignant Catarrhal Fever.

**Making hay to increase mortality of infective larvae**

Infective larvae migrate up grass blades and other pasture plants in early morning and evenings and go down the blades at night and during the mid day heat. Cutting hay from 1-4 hours after daybreak and in the evenings should increase the mortality of infective larvae.

**Strategic treatment of sheep**

Sheep suffering from clinical disease can be treated with anthelmintics but lose their organic status. In coastal areas of British Columbia where temperatures are mild and humidity is high, treatment of ewes 2 to 4 weeks before lambing will reduce the subsequent challenge of infective larvae to the lambs.

**Conclusion**

It is also hoped that producers of organic lamb can use this knowledge, in their role of applied ecologists, for the benefit of their own animals and pastures and shift the balance of sheep and nematodes towards natural infections and away from disease.



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# Livestock and Forages

by Andy Hammermeister

Traditional agriculture, and many contemporary organic farms, include livestock and perennial forages as an essential part of the farm. As part of a crop rotation, perennial forages build soil organic matter. In addition to becoming a source of nutrients, this decaying plant material also improves soil structure. The soil can hold more water, is better aerated, and is less likely to erode or compact. A perennial forage crop also breaks the cycles of weeds, diseases and insect pests. If your farm does not include livestock, however, perennial forages may seem to be a costly practice that removes land from production for up to five years, and selling hay removes nutrients that would otherwise stay on the farm and be used for cash crops; it also generally does not warrant the costs. An alternative might be to diversify crop rotations and grow fall-seeded and green manure crops to break pest cycles and sustain soils.



Livestock, however, not only diversify farm income, but can utilize by-products of crop production. The manure from livestock can be a valuable resource for managing soil fertility in an organic system. The high availability of nutrients in manure, especially nitrogen and phosphorus, makes it very valuable in the Prairies, although where the land base available for safely disposing of manure is smaller, nutrient loading may become a problem.

Different animals use different feeds on the farm and their manure can be quite different in nutrient content. While ruminant animals such as sheep and cattle can make good use of forage, monogastric animals such as chickens and pigs are less effective at digesting forage and need more grain or other protein sources in their diet.

Are livestock essential to recycle energy and nutrients on an organic farm? This and related questions are being addressed by an organic farming systems research project being under-

taken by the Organic Agriculture Centre of Canada and the University of Manitoba. A four year crop rotation experiment was established in Manitoba and Nova Scotia in 2002. The project is designed to address questions related to the economic, agronomic, and environmental benefits of including perennial forages and livestock on an organic farm. The basic crop rotation under study is wheat, soybean, barley, potato. The effects of one or two years of forage in the rotation are being tested by replacing soybean or soybean and barley with a forage crop suitable for the study area. The forages are underseeded in the prior crop. To examine the importance of livestock, composts made from manure of either ruminant animals or monogastric animals are used as a nutrient source in the crop rotations.

We will monitor the economics of these farming systems by tracking input costs and economic return. We will also monitor weed

populations, crop diseases and pests and crop nutrition to examine the agronomic performance of each system. Environmental sustainability will be measured mostly by studying indicators of soil quality. Such indicators may include the kind and amount of organic matter in the soil and the measures of the microorganisms and small animals in the soil. At the end of the project we hope to have been able to make a clear recommendation about how important perennial forages and livestock are in an organic system.

Some of the preliminary results from Nova Scotia show that the plots that received only alfalfa meal as a nitrogen source were delayed in their early development compared with plots receiving compost. This delay seemed to result in a slightly lower crop yield and kernel weight. Interestingly, we also found that it was not the number of weeds in a plot but the size of weeds and their total weight that affected yield.

For information contact 902.893.8037 or email [ahammermeister@nsac.ns.ca](mailto:ahammermeister@nsac.ns.ca)



# Soil Health

by Julia Jamieson

The purpose of the Organic Sector Development Program-funded project, "Soil Health Assessment in Organic Farming Systems," is two-fold: first, to start to understand how organic farmers in B.C. currently assess soil health; second, to investigate what a process for the development of bioregionally adapted soil health assessment strategies might look like.

*What are the strengths and weaknesses with the current use of the standard soil test which is required for organic certification? What other approaches are farmers using to understand soil health? Do farmers in a region share key soil health management issues? Can soil health assessment and management be strengthened by farmers working together? What is the process for developing acceptable, reliable, and useful soil health assessment strategies that contribute to both short-term and long-term soil management and sustainability goals?*

In order to investigate these questions, a group of organic farmers in the Similkameen Valley will be involved in a pilot project facilitated by Julia Jamieson (M.Sc. candidate, UBC) and Dr. Art Bomke (UBC Faculty of Agricultural Sciences). While Similkameen Valley growers are intended to benefit from a collaboratively developed soil health assessment strategy which addresses key issues of farms in that region, we also want to know how this process might be applied elsewhere in B.C. to benefit other groups of farmers. With this in mind, the Soil Health workshop at the COABC AGM was organized to gain the perspectives of farmers from different regions of B.C. and to stimulate thought and discussion about soil health.

The one-hour workshop was centred around three questions:

**1** What methods are currently used to assess soil health and how do the results of these assessments contribute to soil management decisions?

**2** Which indicators of soil health are relevant to different farms and most likely to provide useful information to contribute to soil or farm management decisions?

**3** What are the opportunities and barriers for farmer collaboration in soil health assessment?

## *Current assessment methods:*

The standard analytical laboratory soil test (aka 'soil test'), which primarily assesses chemical soil properties such as macro- and micro-nutrients, pH, electrical conductivity (E.C.), and organic matter, was the starting point for some lively discussion. The questionnaire responses indicated that the soil test is used primarily to assess and manage soil fertility and adjust pH; it is also used by some to assess overall soil health or for troubleshooting.

Although the majority of farmers seem to make use of this assessment method, in part because they are (or have been) required to do so for organic certification purposes, interpretation of the results and translation into soil management decisions is generally agreed to be a difficult, non-farmer friendly process.

Part of the difficulty might stem from the nature of soil testing itself and the development of soil testing systems/institutions. Farmers, both conventional and organic, have often been confused and suspicious when they obtain different results and recommendations from different labs for the same soil sample. As Dr. Art Bomke explained in the workshop, these differences may reflect the fact that there is more than one analytical method available for assessing many of the different variables in a soil test. If two labs are using two different methods for assessing available phosphorus levels, for example, then the nutrient level values on the soil test reports from the two labs will also be very different. However, while the numbers (nutrient level values) themselves may be different, the recommendations for management practices based on

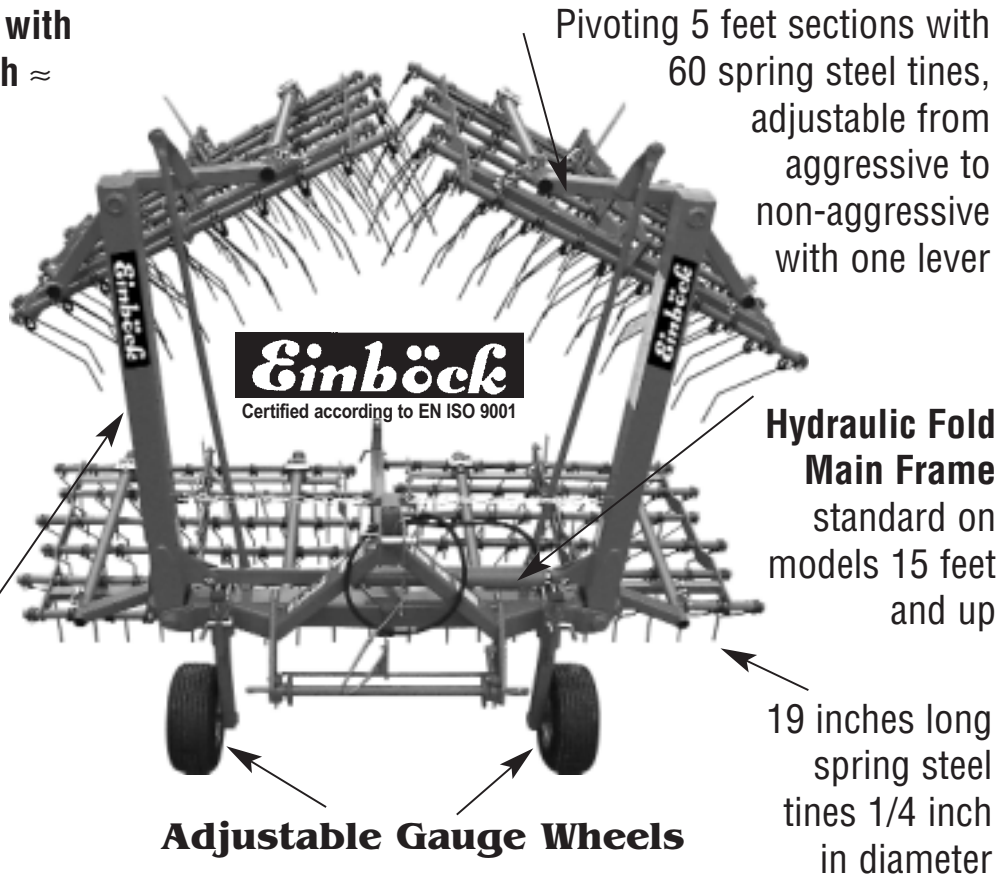
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these values (e.g. kg/ha of P to apply) should be similar.

The workshop discussions suggested that improving farmers' capacity to understand the meaning of the numbers on their soil test reports requires greater transparency in the soil testing system; suggestions included more user-friendly soil test report formats as well as information or a step-by-step guide to translate results into organic amendment recommendations.

The other main approach for understanding soil health emphasized by workshop participants was observation - seemingly simple, without any numbers to create confusion, yet undoubtedly a skill that requires honing through years of experience and adaptation to site-specific farm conditions. The discussion and questionnaire responses indicated that farmers make strong connections between soil health and crop health. Observation of plant or crop growth and health were described

as being useful for assessing soil fertility and making cropping decisions, as well as for assessing overall soil health. Observation of soil itself was the next most commonly identified method for understanding soil health.

The discussion and questionnaires suggested that the range of 'farmer-friendly' soil health assessment methods that have been developed, such as Soil Quality Test Kits (quantitative on-farm tests of soil physical, chemical and biological properties), Soil Health Scorecards (qualitative, descriptive assessment approach), Solvita Soil Life Test (soil respiration), have limited adoption by organic farmers in B.C.

**Indicators:**

The discussion of observation as a method for assessing soil health quickly ran into a discussion of the indicators observed. The distinction between methods and indicators was perhaps not as clear as it could have been. Soil health indicators are measurable properties (processes

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or characteristics) that provide us with clues as to how well the soil is performing its various functions (e.g. nutrient cycling, water regulation, sustaining biological productivity) to achieve the goals of the system under study. The methods we use to measure these indicators range from sensory observation to complex analytical procedures using expensive tools, or from on-farm assessments to laboratory tests; indicators may thus be 'measured' qualitatively or quantitatively.

It was apparent from the discussion and questionnaires that many different indicators are important to farmers. Some of the most commonly identified indicators of soil health included:

- Earthworms (considered important for assessing soil fertility, overall soil health, and tillage impacts)
- Plant health and growth (as indication of nutrient issues)
- Weed species and growth
- Organic matter
- pH
- Residue and manure breakdown
- Soil colour
- Soil texture (useful for making cropping decisions).

"Other soil organisms" were also mentioned as important to soil health, and there was some discussion about the Soil Foodweb concept which is gaining popularity. Although some specialty labs in the USA now offer Soil Foodweb analyses – basically counts of different soil organism populations – the cost of such an assessment is considered prohibitive by many farmers (ca. US \$250 for a "Total Foodweb Package" for one soil sample). How to interpret the results, and whether there has been enough research to understand application of the results in British Columbia, were also raised as concerns with this approach. Whether further investigation into the acceptability, usefulness and reliability of this method of soil health assessment method for organic farmers in B.C. is warranted is a topic for further discussion.

**Collaborative process:**

An underlying question throughout this process is: what is required to sustain the collaborative learning process beyond the research project? Discussion of farmers' experiences indicated that sharing of information occurs both informally (e.g. one-on-one farmer discussions) and through organized educational events, including seminars and farm tours or field days. There was general agreement that more of these educational events were desirable. Certification bodies were identified as important organizations for bringing people together: As the certification process continues to undergo change, is this a role CBs can continue to play? Identification of local resource people was also suggested as an important element for successful collaborative processes.



*some farmers count worms*

**In Conclusion:**

The workshop discussion was intense, and the one hour passed much too quickly to give the questions the depth they deserve. Most workshop participants would likely agree that more questions were raised than answered - however, this only further

emphasizes the complexity of soils and the many considerations in soil health management, and provides impetus for more soil health discussions and learning opportunities within the organic community.



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# Bridging Biodiversity in BC

By Mojave Kaplan

As standards around the world are moving to require certified organic seed, the issue of availability is becoming more and more urgent. Trans-national seed companies and certifying agencies are already meeting with the larger food producers to work out guarantees for purchasing proprietary organic seed, despite speculated cost increases discussed as high as 20 times.

To meet this challenge, the Planting Seeds Project is nurturing a plan called "The Bridge". This project will make use of the skills, knowledge and inventories built by B.C. seeds people since the 1980s, and our wide range of micro-climates. It is an educational project working with native youth/elder gardens and native youth organizations such as Seeds for Survival, with the hope of linking the traditional peoples' emerging food security with local organic farmers. It is an opportunity for re-learning how to control our local food supply through seed, learning the skills together and developing relationships with each other.

"The Bridge" is looking for farmers who would be willing to grow seed on their own farm, with varieties they already grow and they know will

produce well for them.

Farmers are invited to plant an ideal minimum of an extra 1,000 plants of an agreed-upon variety for seed production. This will provide substantial amounts of seed as well as the opportunity for participating farmers to improve their seed-saving skills, an inventory for further trade, seed bank development, and common food security. Protocols such as maintaining variety isolation will be developed by the project.

First maturing plants could be tagged by the farmer. From there, the full crop selection can be conducted as workshops attended by participating farmers and seed growers. The program will "bridge" youth who are eager to develop their farming skills with experienced certified organic farmers; they would return to the farm with an experienced seed grower, as the hands to harvest the crop when ripe, further learning how to dry, clean, label and store the seed.

Anyone seriously interested in participating in this first year of the project should write or e-mail to the Planting Seeds Project, PO Box 536, Lytton, B.C. V0K 1Z0, [plantingseedsproject@yahoo.ca](mailto:plantingseedsproject@yahoo.ca) ✓

# Food Safety on Organic Farms

by Peter Johnston

Over the years, members of COABC have worked hard to ensure that our standards are among the highest in the world. But those standards are primarily concerned with organic production and do not specifically address food safety issues, although they do say (1.2.6) that all producers are required to adhere to all government regulations and laws affecting agriculture.

Food safety is an issue we must pay attention to, particularly in light of the fact that 90 % of foodborne disease is caused by microbial contamination, and most producers do not have easy access to information about foodborne disease prevention methods and techniques.

In order to safeguard and increase the safety of food produced in British Columbia, COABC teamed up with BCMAFF to implement a food




safety study to see if there were food safety issues that need to be addressed for organic producers. While the focus was on vegetable and tree fruit producers, the findings, presented by project leader Kathleen Zimmerman at the Spring Seminars and 10th Anniversary Annual Meeting of COABC, are of interest to all organic producers.

In the study, COABC farm management practices were compared with two existing Microbial Food Safety Checklists by two organic inspectors and a food safety consultant. The two inspectors then visited 37 farms in the Lower Mainland/Vancouver Island and Okanagan/Interior, especially those that wash, grade and pack their product. This is a summary of their report.

Fourteen food safety issues were identified in the study; eleven in common with conventional

agriculture and three identified as unique to organic agriculture. Briefly, the issues are:

### **Food safety issues common to both organic and conventional agriculture**

-  Food safety training for farmers and farm workers, including "Foodsafe" training; hygiene instructions or signage; eating, smoking, spitting and eliminating body wastes in and around crop, processing and packaging areas; ensuring that physical hazards, as well as microbial and chemical hazards, do not contaminate the produce; use and preparation of cleansing and sanitizing solutions.
-  Seasonal or migrant workers and high turnover of workers present challenges for consistency in food safety training and monitoring by supervisors, and sometimes worker accommodation may be located on-site or actually in the fields.
-  Toilets need to be available in adequate numbers and located within acceptable distances of the fields, and be cleaned to proper hygiene

standards. Hand-washing facilities need to be available near toilets, have an adequate supply of potable water and soap and single-use paper towels, and covered waste receptacles. Hand-washing stations also need acceptable water collection facilities. There are no BC standards, but California requires one toilet and hand-washing facilities for each 20 employees of each gender, located within one quarter mile walk of the field site.

Washing, handling and storage facilities need to be designed to prevent contamination and facilitate cleaning. Foods must not be contaminated by being in contact with unsanitary surfaces or by non-food substances. Windfall or dropped produce are a source of higher food safety risks and need to be handled appropriately. Produce must be stored at proper temperature and humidity, and free from pests and animals. Facilities should be screened and doors kept closed, and floors walls and ceilings clean and in good repair. Wastewater must be drained to pre-

*continued on page 20...*

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vent contamination of produce. Packaging materials must be food grade, clean and appropriate, and stored in a protected area.

Harvesting containers must be food grade, clean and appropriate. They should be separate and easily distinguishable from containers used to handle or move manures and other non-food substances. Harvest totes should be kept off the ground, especially when they are stacked. Glass contamination can be reduced in packing houses by prohibiting glass bottles, shielding lights and screening windows. Potable water in adequate quantities and pressure must be used for cleaning, and for washing crops and produce.

Temperature of water used for washing produce should be controlled, as research has shown that if the wash water is more than 10 degrees F cooler than the produce, microbial contaminants on the surface or in the water can be drawn into the plant tissues (especially in tomatoes, peppers, apples and potatoes). This contradicts the

recommended practice of removing heat as quickly as possible in order to maximize storage life. Growers using hydrocoolers should use the appropriate amount of bleach in the hydrocooler water, to reduce any pathogens on the produce surface. (Section 15 of our Standards, in the Materials list under bleach, suggests 100 to 150 ppm total chlorine and other paramerers.)

Equipment must be suitable, cleanable and cleaned regularly. Adequate pest control programs must be in place. In formal food safety audits of packing houses, finding insect, bird or rodent contamination or product or packaging supplies is grounds for failing the entire audit.

☠ Maintaining water quality demands adequately sized and properly maintained septic systems. They must be monitored regularly and pumped out when needed. Irrigation water must come from a safe source that is regularly tested. Trickle irrigation is inherently safer than overhead irrigation. Current recommendation for growers using surface water is that it be tested



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at least three times a year. Water sources (surface and ground) must be protected from contaminants and inspected regularly. Rodents must be excluded. Potable water should always be used for field treatments, especially after flowering stage when the edible part of the plant has started to develop. Anti-backflow devices should be used when filling sprayer tanks. Having an alternative water source in case a safety issue arises would be a good idea.

☣ Manure management requires that raw manures not be used on crops, or where crops might become contaminated. Composting facilities should comply with regulations for environmental protection. Compost piles should be turned regularly, monitored for temperatures, and written records kept of composting and use of manure. Compost should be thoroughly incorporated into the soil before the growing season, except that perennial bushes and trees usually need to be top-dressed.

☣ Chemical and fuel storage require proper storage. This includes paints, container of used oil and all petroleum products, solvents, cleaners, etc. They should be properly labelled and stored in isolated and secured areas. Refuelling areas should have cement pads for spill containment, and be separate from production areas. Food product must not be stored in these containers.

☣ Transportation – good practice would have in place a protocol to ensure that all goods are transported in clean vehicles, whether these are commercial carriers or the producer's own vehicle. Proper cleaning and sanitization should be carried out regularly, and especially when used to haul compost, produce, domestic garbage, or even family pets.

☣ Paper trail and recall are critical in food safety, to document that best practices are being followed and, in the event of a foodborne illness outbreak, so the source of the illness can be traced to its cause and all buyers of a product can be notified to ensure the product is removed from the marketplace. Written procedures for food safety practices, and a log of them having been carried out, as well as written procedures and a person responsible in the event of a recall, are strongly recommended. Produce lots should be identifiable for recall, along with the fields the lots were produced in. Without them, even higher than necessary economic losses would be incurred in a product recall situation. All growers of edible crops should ensure that each package leaving the farm can be traced to the field or origin and date of harvesting and packing; maintain records of lot numbers for all loads and packaged product leaving the farm; and maintain a list of all buyers so that affected customers can be quickly identified and produce can be retrieved.

☣ Separating farm and personal practices as much as possible is important, as our personal practices are generally much less rigorous and demanding than the standard that is expected with commercial activities. There is a very real risk that personal and household food handling practices, unless rigorously separated from commercial ones, will lead to greatly increased risks of microbial contamination of product.

☣ Direct farm marketing brings extra challenges for food safety, such as controlling visitor access and good hygiene practices by visitors handling produce. Toilet and handwashing facilities need to be provided. Harvesting containers, boxes and totes need to be washed between uses.

### Issues unique to organic agriculture:

#### *Cleaners and sanitizers*

The basic principle of food production sanitation is the “rinse, soap, rinse, sanitize, and rinse” procedure. A challenge to organic producers is to find sanitizers that are acceptable to both organic certification agencies and to the

*continued on page 22...*



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CFIA, so that cleanliness and sanitation are achieved satisfactorily. Water is not sufficient for proper cleaning. Having cleansers and sanitizers on the Regulated list probably discourages their use. Work needs to be done to put together and distribute a list of cleansers and sanitizers that is acceptable to both CFIA and COABC. Producers should also ensure that farmworkers are trained in the preparation and use of cleansing and sanitizing solutions.

#### **Compost Tea**

Compost teas are sometimes used on edible crops as a nutrient boost and to suppress disease, but raise substantial food safety issues. Research should be done to measure the extent to which any pathogenic organisms that could cause foodborne illnesses may survive in the compost tea, and might be sprayed on the edible portions of plants. For example, OMRI uses *E. coli* and *Salmonella* as biological indicators of compost tea and compost. Maximum level for *E. coli* is 3 colony forming units per gram, and *Salmonella* must test negative. COABC should consider requesting compost tea users to test their products and meet these guidelines.

#### **Livestock**

Animals used in fields present significant food safety risk, unless they are controlled to exclude them from crop production areas. This includes domestic livestock, poultry and household pets. Weeder geese and slug control ducks are sometimes used by organic growers. These techniques and practices could also be addressed in COABC standards.

### **Conclusions and recommendations**

Overall, the survey showed that the conventional and organic industries share many of the same microbial food safety risks, and that the sectors could work together to share training materials and experience. In terms of grower education and awareness, the COABC should consider working on the following areas:

⊕ encouraging all growers to start the 2003 growing season with adequate numbers of (portable) toilets and properly equipped hand-washing facilities. A suggested guideline is up to 20 workers per toilet, and facilities located within one quarter mile of the field site.

⊕ developing farmworker food safety information pamphlets in English, French and Punjabi. These might also be available on the COABC website for easy grower access.

⊕ making handwashing signs available to COABC members. As mentioned in section A1, the BC Raspberry and Blueberry Councils have some signs in English and Punjabi that might be modified with permission.

⊕ encouraging members to be familiar with the provincial water quality guidelines for irrigation water (especially the guideline limits for *E. coli* and fecal coliforms), and to test their irrigation water at least three times a year (at the beginning, middle and end of the growing season). (see pg 30)

Sample food safety checklists are listed at the end of the References section.

In addition, the COABC should investigate incorporating some food safety related changes into the British Columbia Certified Organic Production Operation Policies and Farm Management Standards. These would include:

⊕ working with an expert who is familiar with both the CFIA and OMRI approved list of materials to see if any cleaners and sanitizers on the CFIA list can be approved for use in the BC Certified Organic Production Operation Policies and Farm Management Standards.

⊕ supporting research on the food safety implications of the use of compost tea and weeder animals, and adopting the OMRI standards for *E. coli* and *Salmonella* in compost tea.

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if  
the wash water is  
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the plant tissues

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Sample Food Safety Checklists

"Microbial Food Safety Checklist for Vegetables and Berries" is available at: <http://www.bcveg.com/checklists.htm>

"Reducing Food Safety Risks in Apples" is available at: <http://organic.tfrec.wsu.edu/FoodSafetyWeb/Home.htm>



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# Standards Review Committee Report

At the 2002 AGM, the COABC adopted a new method of handling standards changes, recognizing that trying to accomplish this once a year during the AGM was not very effective. A committee made up of representatives appointed by all the certifying bodies was established to act over the ensuing year. Proposals were received and discussed via e-mail and conference calls by the committee. The final draft of proposed changes and additions was put out for public comment on November 3rd. This was published on the website as well as the BC Organic Grower. Further feedback from the membership was assessed and recommendations submitted to the COABC Board of Directors for ratification. The job of the Board is to ensure only that any recommendations are not in violation of the constitution or basic principles. Changes became effective January 1, 2003

The COABC Standards Review Committee (SRC) dealt with the following issues in 2002.

## Shellfish

Request for Certification of Shellfish Farming. Recommendation: COABC to research aquaculture in general and specifically the proposal of oyster farmers for organic status. Consideration be given to hiring of a consultant, contact with Suzuki Foundation and Naturaland (German certifier that made aquaculture presentation at IFOAM). There was also a poster presentation on this topic at the Spring Seminar.

## Treated posts

Request to revise the standard regarding Treated Posts to allow their use in some instances. After extensive debate and input the SRC voted to not revise the standard.

It requested the COABC apply to the Trust to hire a contractor to identify and describe alternatives and prepare a report for the membership regarding them.

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## Use of draft standards

When new commodities are being considered for certification, draft standards will be developed and made available for comment and input for a minimum of a year. These will *not* be used for certification during that time. At the end of the input period, the Standards Review Committee will consider them again.

A draft for new Greenhouse Standards has been developed and is now available for comment on our website. Meanwhile, the old standards will be used.

*It should be noted in this regard that any certifier has the right to certify to a higher standard than the BC Certified Organic Standard at any time for any issue; what is not permitted is to certify to a lower (more permissive) standard.*

## Landscape Standards

A proposal for the development of Land Care (Landscape) Standards was tabled in 2002 for further consideration in 2003.

## Land used for GMO crops

Clarification of use of land that has previously grown genetically modified organisms: this was deemed subject to the same transition period as any other land. Extra monitoring for contamination by GMO's may be required by the certifying body. Also an addition was made to Section 4.1.1.2 banning use of genetically modified organisms on farms with parallel production.

## Christmas trees

Clarification of organic standards for Christmas Trees: they are to be included in and covered by Crops Standards – perennials.

## Specific Changes

The following were specific standard changes best reviewed in the context of the whole section affected. These changes can be found on the website. A copy of the pages with changes are being sent to each certifying body for duplication and circulation to the membership. The following is a list of sections with changes.

### Section 3.3.

Length of the transition periods, labeling and

inspections required were clarified for soil based crops, milk and processing.

### Section 3.7.1. and 3.1.1:

Clarification regarding importation of soil onto certified organic land

### Section 3.7.3 and 14.2:

Clarification of use of synthetic fertilizers.

### Section 9.3.2:

Clarification regarding space requirements for laying hens

## How to Propose a Change

The 2003 Standards Review Committee is now receiving proposed amendments or additions to the BC Certified Organic Standards from members or any members of the public. They must be sent to the committee (via the COABC office) by September 1 to be included in this year's agenda.

For more detail about how the committee functions and the criteria for revisions, see the Winter 2002 issue of the BCOG. ✓

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# Organic Farmed Salmon?

By Anne Macey

Having seen “Net Loss”, a documentary about salmon farming in BC and Chile at the Saltspring Film Festival the weekend before the COABC Conference and listened to arguments from both sides, I was pretty much convinced such practices were industrial, unhealthy and very destructive to the environment and the wild salmon stocks. Arguments about aquaculture being needed to feed a growing world population were no more credible than those used for conventional agriculture. Briefly, I wondered if there was not some other design to address the concerns but as for organic production - no way.

As I listened to this controversial topic being discussed during the Organic Salmon Farming session at the COABC conference my thinking changed and I realized that I had been guilty of rejecting all fish farming based on problems with the industrial model. We don't reject the possibilities for organic agriculture because we are against factory farming of chickens or pigs - in fact, we use the organic model to demonstrate there are better ways.

John Heath of Yellow Island Aquaculture did a good job in describing how their operation could be a model for a more responsible production system and how it met standards for organic aquaculture production being used elsewhere in the world (e.g. by the Soil Association in the UK). He claimed that concerns raised by the environmentalists had been addressed and that it was not reasonable for COABC to deny them the possibility of applying for certification.

So, why is the Yellow Island Model so different from other fish farms on the coast? According to John Heath, they use native species, not Atlantic salmon, thus eliminating the possibility of escaped farmed species displacing native species. Also, risk of escape is low with the lower densities used. The farmed fish are often triploid and therefore sterile (when he mentioned that I thought of the insect sterile release programs, but presumably, the numbers of escaped farmed fish would not be enough to affect the wild population). Transgenic fish are not used. The farmed fish are bred for disease

resistance and fish densities are such that disease problems have not been an issue - no antibiotics are used. They coexist with low levels of endemic disease.

To determine the density they used the density found in natural school densities i.e.  $5\text{kg}/\text{m}^2$  for the feeding stage. Sea lice are found at levels that do not affect wild populations and therefore could not possibly contribute to environmental disasters like that in the Broughton Archipelago where the native stocks failed completely because fry returning to the sea were infested with lice from the farms in the area.

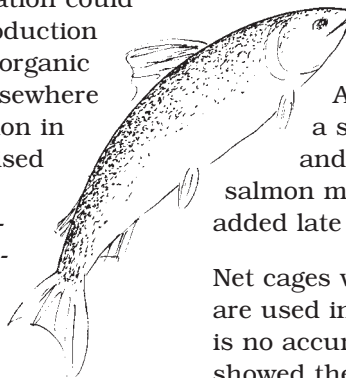
Feed is fishmeal from the rejects of the herring roe fishery and waste from the Alaskan Salmon fishery, unlike other sources of fishmeal from fisheries that could be used to feed humans directly. In Canada it is illegal to make fish feed from fish suitable for human consumption but it is obtained from South America. Wheat (organic) is used as a binder and the pigments to colour the fish are from natural sources (Haematococcus and a yeast) unlike the chemical colorants used by some fish farms such as the Roche “Carophyll Pink” (astaxanthin). Farmed fish would be grey in colour without these additions.

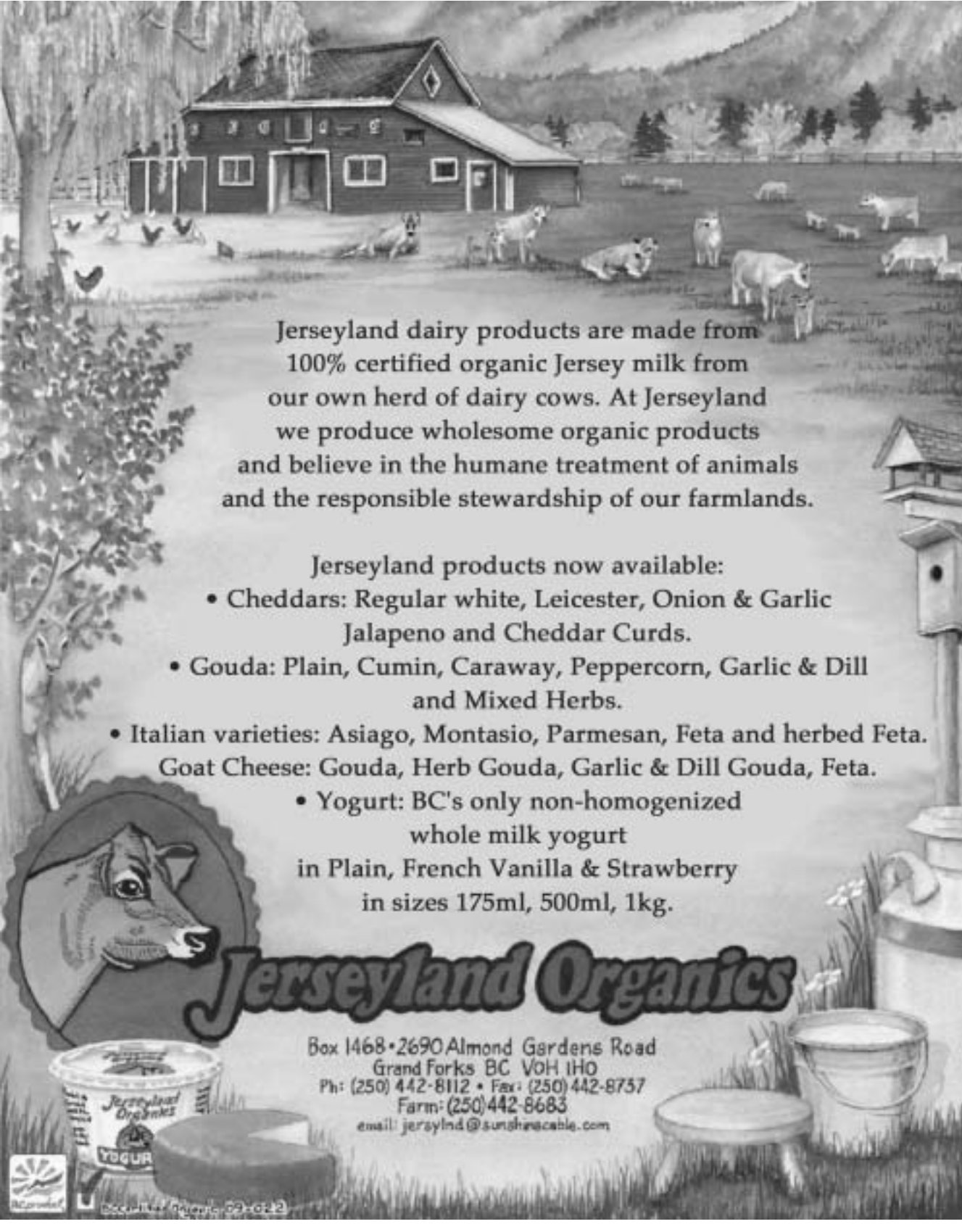
Apparently in the wild, pigments play a significant role in disease resistance and the disease problems in most farmed salmon may be related to pigments only being added late in the production cycle.

Net cages with top nets to keep out predators are used in an area of high water flow so there is no accumulation of waste and research showed the marine ecosystem surrounding the farm to be healthy. There was no impact at all 10 metres from the pens. As part of their research program, Yellow Island is about to introduce a closed containment system using alternative technologies adjacent to the net pens to see if such models can improve the environmental and economic performance.

Environmentalists often recommend closed containment models and land-based systems as

*continued on page 28...*





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...continued from page 26

having least impact but these are usually high input systems and do not solve the waste disposal problems. John also spoke of possibilities for recycling the nutrients through a polyculture system where waste settlement tanks could be stocked with rotifers which in turn could be used to rear shrimp.

Dr. John Volpe, a fisheries biologist from the University of Alberta and a critic of fish farming on the BC coast, was impressed by the Yellow Island operation and felt it was a huge step forward, but he still had concerns. He questioned whether we had the knowledge to know what the limits should be if organic standards are to be developed for Salmon. Are 5kg/m<sup>2</sup> realistic? If 2-3 lice/fish on farmed fish is the threshold for treatment why is 6/fish not a problem at Yellow Island? Fish farming profits are still dependent on natural subsidies. Dr. Volpe thinks conventional fish farms will not be in existence in 10 years because of catastrophic events in an unsustainable system, resource depletion and consumer rejection. He believes that the needed protocol is still a long way away from where we are now and if we allow the adoption of a weak process it will be more of a detriment than no certification.

The third speaker was Theresa Rothenbush from the Rainforest Conservation Society, one of the members of the Coastal Alliance for Aquaculture Reform along with the David Suzuki Foundation, Georgia Strait Alliance, BC Aboriginal Fisheries Commission and others. They work to educate consumers about the dangers of farmed salmon and to promote the adoption of a salmon farming industry that is safe for humans and the environment. Theresa listed the reforms needed:

-  technology that eliminates risks of disease transfer and fish escapes,
-  feed that doesn't deplete global fish stocks,
-  ensures that wildlife not harmed,
-  eliminates use of antibiotics,
-  prohibits the use of GE fish,

-  labels farmed fish as "farmed",
-  stops locating fish farms in areas opposed by aboriginal groups or other local communities and;
-  Guarantees waste is not released into the environment.

Does Yellow Island meet these requirements? Should such a system be the basis for organic production?

I think this session helped but the COABC Standards Review Committee clearly still has a difficult task ahead to resolve the issues raised. Many of the reforms listed above are already covered by the proposed organic standards but some are more problematic. Social and ethical impacts are not yet specifically addressed in organic standards although they are part of the value system of organic agriculture. What about the closed containers - surely that is a long way removed from organic principles that include working with natural systems, recycling of nutrients, systems that meet the behavioural needs of livestock and so on? Would not an improved model that allows interaction with the natural environment without negative affects be more in keeping?

If we look at the principles for livestock husbandry there are obviously other problems. How important is behaviour? Caging salmon, even in free flowing water, can hardly be described as allowing natural behaviour if, in the wild, the fish roam freely and follow specific migrations. Moreover, what about Canada's 100% organic feed rule for livestock? There are indeed organic aquaculture standards being used elsewhere but for the most part these are used for freshwater species, filter feeding or omnivorous fish, shrimp and other species feeding low on the food chain. The farming of the higher value, carnivorous salmon on the West Coast poses a unique set of problems; the challenge is whether organic standards can be developed which address the environmental, ethical and social concerns here in BC.

Clearly, we need to continue the discussion with members of the Coastal Alliance and with Yellow Island Aquaculture to see if it is possible. ✓



## A second opinion

by Paddy Doherty

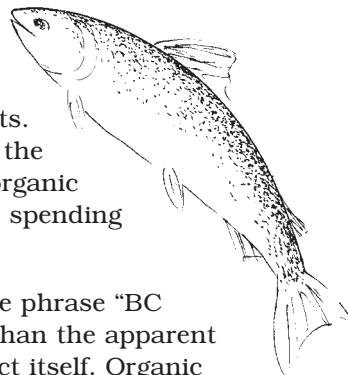
Our organisation is facing some difficult issues when trying to decide whether to certify products from aquaculture. We are compelled to adhere to our principles. We must also consider precedents from other organisations and the legal and political ramifications of our decisions.

We have an unwritten contract with our consumers whereby they agree to pay considerably more (usually) for organic product based on their perceptions of our products. Consumers purchase for different reasons (I'm a consumer and I buy organic because of the environmental benefits of organic farming - I'm in the minority) but they all purchase organic with the understanding that this product is fundamentally different from the non-organic counterpart.

I have had a number of seafood companies approach me with the proposal that wild caught food is the most organic of all - and that we should certify it. The COABC (alone in the world) has resisted the certification of wild caught or "wild-crafted" foods until now. I believe this is because our conscience will not allow us to place something on the market that is not uniquely organic in some way. Organic farming is uniquely organic farming, organic processing is uniquely organic processing, and the consumer appreciates this. To label a wild-caught product 'organic' when there is no distinction between it and the same product next to it without the label, is to invite scepticism and distrust from the consumer.

We have laboured for many years to build up what amounts to substantial equity in our rela-

tionship with consumers, in the form of their trust in the integrity of our organic products. Whenever we push the boundaries of the organic designation, we are spending that equity.



There is more to the phrase "BC Certified Organic" than the apparent purity of the product itself. Organic farming is a striving toward closed-loop (sustainable) systems. This is an ideal objective and it is understood that there will be variations and compromises. However, harvesting a crop from the wild is certainly not farming, nor is it necessarily sustainable.

I believe we can certify organic seafood, but the process must satisfy the principles of organic farming, it must be unique, and it must be acceptable to the scrutiny of our detractors. ✓

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# Getting Water Tests

by Mary Alice Johnson

Last year the quality of my water became a question during my certification visit in July because I was using both well and pond water to wash vegetables – well water for leafy greens and pond water for the root crops.

COABC's requirements for water testing seems to have undergone revision recently so I thought it would be helpful if I published my experience with getting my water tested.

The COABC guidebook (published 1997) says a minimum of one water test of the irrigation source is required and lists 13 elements plus pH and conductivity as needed for the test. Livestock are required to be given water which has been tested for the same elements above plus a total faecal coliform count. In the processing section of the guidebook a water quality test is required for produce wash water including pH Electrical conductivity, 17 elements, coliform test, total dissolved solids and total suspended solids. Our IOPA guidelines only talk about the problem of possible contaminants and say "ongoing analysis of water quality and soil salinization is essential."

Paddy Doherty wrote an article on water quality in the Summer 2001 issue of *BC Organic Grower*; on page 10 he says, "The Board of Directors of the COABC has determined that enforcement of water quality regulations is best left to the agencies responsible for them. Thus, water tests will no longer be required of enterprises in the BC Certified Organic Program. The new standard will state that, 'It is the responsibility of organic enterprise operators to comply with all government regulated water quality objectives' or some such form of words."

The same article says the BC Ministry of Environment has suggested that irrigation water for leafy vegetable crops should contain no more than 200 faecal coliforms per ml. And the Canadian Food Inspection Agency requires that produce must be washed in potable water. An environmental laboratory will issue a "Potability Certificate" for a water sample. They don't test for everything, just the most likely problem areas.

I asked Peter Johnston, our past coordinator, which tests he thought important. He said he thought a faecal coliform test and a test for nitrates were important. He didn't feel particularly up to date, so I phoned various government offices and ended up with my Provincial Health Officer, Jill Campbell, who took time to explain various levels of tolerance of bacteria in water. I also heard back from the Capital Health Region who gave me similar information about water quality.

Water we use to wash our produce should meet the same standards as water we drink, which is 0 total coliform and 0 faecal coliform (CFU). A total plate count is a measure of the biological activity. It is a count of all bacteria, fungi, and yeast that will grow in aerobic conditions. The test may be used to alert us that we may need to monitor the water supply on a seasonal basis or treat it. Less than 100 CFU/mL is recommended but treatment is not required unless the count is over 500/mL. Our Capital Region Health Department define "potable water" as having >0 fecal and total coliforms/100ml. When I asked them about nitrates, they said the limit is less than 10 parts nitrate in 100 ml, but according to the Analytical Chemist at M.B. Labs, that is a lot of nitrate and rarely found in well water but can be found in surface water which is surrounded by farms using high levels of fertilizer or having stock yards with water running into the surface water.

For irrigation water, the BC Ministry Environment seems to be saying that under 200 CFU per mL or 100 cc is acceptable. Whereas the Federal Health and Welfare Guide for Recreational Water Quality says under 100CFU/mL is acceptable. Irrigation water has to meet the same standard as swimming water. They do not usually require a test for nitrates.

I checked with two laboratories in Victoria: J.B. Laboratories on Fort Street and M.B. Labs in Sidney. J.B. laboratories is quite a bit more expensive than M.B., so I will give M.B.'s costs which include GST. They can be reached by email at <mblabs@pacificcoast.net>. It is worth shopping around. Their faecal coliform test costs

\$16.05. A total and faecal coliform count and a total plate count is \$26.75. For \$85.60 the lab offers a fairly comprehensive drinking water quality test including a microscreen which will include yeasts, molds, and a total and faecal coliform bacteria test and an ICP mineral analysis which give 30 minerals, pH and hardness. A nitrate test or a nitrite test costs another \$15 each. They are not usually part of a test of drinking water quality.

To do the bacterial test, one needs to take 2 cups of water from the tap where the water is being used. Put in a zip lock bag without touching the lip of the zipper and double bag it. Another litre of water is needed for the ICP test. The bags have to be kept cold and arrive at the lab within 24 hours, preferably by 2 pm, Monday through Thursday, so they can do the test right away. The microscreen results will be ready within two days and the ICP mineral analysis within 10 days.

My thoughts after going through all this process, it is worthwhile getting the water you use to wash your produce tested for total bacterial and total faecal coliform count if you have any questions about its quality. I'm not sure the more expensive ICP test for permissible elements was necessary unless you are using that water for food processing. For a little over \$100 I learned my well water is fine for washing produce and food processing, and I can use my pond water for irrigation but not washing produce – something I could have probably guessed through my own common sense and observations. Feel free to contact me if you would like to talk about this.



## Resources

### websites

[http://res2.agr.gc.ca/research\\_recherche/science/Healthy\\_Water/e04c.html](http://res2.agr.gc.ca/research_recherche/science/Healthy_Water/e04c.html)

[http://www.hc\\_sc.gc.ca/ehp/ehd/catalogue/bch\\_publications/dwgsup\\_doc/dwgsup\\_doc.htm](http://www.hc_sc.gc.ca/ehp/ehd/catalogue/bch_publications/dwgsup_doc/dwgsup_doc.htm)

### labs

In the March/April issue of the newsletter, Daria Zovi had information about testing labs. Here are the ones she listed:

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MB Labs  
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10115C McDonald Park Road, Sidney V8L 5X5  
fax 250-656-0443  
email [mblabs@pacificcoast.net](mailto:mblabs@pacificcoast.net)

Norwest Labs  
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ph 604-514-3322, fax 604-514-3323

Pacific Soil Analysis  
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ph 604-273-8226, fax 604-273-8082

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- Contact us to ask about computer training courses:

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Randi 250 833 4804

