Growing your vegetables, berries, herbs, fruit and flowers organically.

We have been growing organically for about 30 years.
It is difficult to accept that new methods, proven by independent research to be beneficial, contradict a lot of what we have been practicing for years.

Health problems have been identified by independent research not influenced by vested interests. These arise over time from eating food contaminated by hormones, antibiotics, pesticides, fungicides and herbicides.

From January 1, 2008 it will not be legally possible to use the word “organic” to describe food sold in Canada or exported, unless it has been grown or processed by certified organic growers or processors. The reasons for this include international action particularly by Europe, the UK, and the US that requires our compliance with a single Canadian internationally acceptable organic standard, so that importers of our food can be assured that it is certified organic.

Certified organic growers and the public welcome this legislation as much of the so-called organic food is not independently certified, and has been shown to have serious deficiencies in some instances. Certified Organic growers in BC have always had tQcomply with high standards set by COABC and will have no difficulty in complying with the new single national standard, which will soon replace the various provincial standards.

The organic method of growing to achieve the healthiest environment, soil, crops and people, includes these practices:-

1. Promoting the growth of beneficial soil bacteria, fungi, protozoa and nematodes.
2. Improving soil quality.
3. Making the best compost in quantities compatible with the size of the growing areas, (having regard to the time available to the grower and the grower’s energy & interest level).
4. No use of chemical fertilizers, pesticides, ftmgicides, or herbicides.
5. Crop rotation.
6. Sowing cover crops as soon as food crops are harvested, or covering empty beds with straw until the next food or cover crop is sown.
7. Companion planting and under-sowing.
8. Use of soil amendments and compost tea made in accordance with the latest research.
9. Planting to attract beneficial insects.
10. Using appropriate floating row covers and other barriers to keep out pests.
11. Promoting the benefits of freshly harvested local crops, for flavour, quality, and in the best interests of the environment, by avoiding the pollution of excessive transportation and packaging.
12. Organic growing is made easy by record keeping. Keep a ring binder with a separate sheet for each bed, all beds having numbers so that successive rotational planting can be planned.

Some of the actions to promote the growth of beneficial bacteria in the soil and on leaf surfaces.

Beneficial soil bacteria attack pathogens including E-coli., harmful to plants and to people. Beneficial bacteria thrive under aerobic conditions, while harmful bacteria generally only thrive in anaerobic conditions. An interesting analysis of the variety of soil microbes and their action is contained in the excellent book Teaming with Microbes. A Gardener ‘s Guide to the Soil Food Web, by Jeff Lowenfels & Wayne Lewis. (Published by Timber Press).

Research has shown that smelly soil and compost indicates anaerobic, usually water logged conditions, and/or compost made with the incorrect proportions of green and brown materials and lacking layers of rough material and sticks to provide aeration. Chlorine kills bacteria. Today more chlorine is used in water purification than ever before, due to the water purification problems, including Walkerton, that have occurred in some water supply jurisdictions. To avoid killing soil bacteria, let water stand for four hours before using it for plant or compost watering, or connect a chlorine filter to the water line to the garden area.

We use a Radial Flow Carbon Filter purchased from Amrak Water Group in North Vancouver. The filter is also important for topping up fish ponds, as chlorine kills fish. Aerobically Brewed Compost Tea is excellent for the proliferation of beneficial soil microbes and for spraying on leaves to prevent fungal attacks. A highly recommended publication is The Compost Tea Brewing Manual by DR. Elaine Ingham. This and other useful information can be obtained from their web site www.soilfoodweb.com

Improving the soil.

It seems logical to till to break up soil, incorporate fertilizers, compost and cover crops. Research is increasingly showing that tilling is not a good practice.
Top soil is valuable and scarce. Tilling mixes up subsoil with top soil. It brings up weed seeds to the surface causing weeding problems. Tilling kills 90% of the earthworms in the soil. It compacts soil by breaking down airways encouraging anaerobic conditions. Repeated tilling forms a hard subsoil layer just below the till depth, making deep rooting by seedlings difficult.

Tilling kills a great number of beneficial bacteria, fungi, soil beetles and earthworms.
If the soil can be worked, sow seeds or transplant into the soil, add at least 2” of mature compost. Add organic soil amendments on top of the compost. If the soil is too hard for sowing or planting, it requires a cover crop to loosen it up and to incorporate organic matter, before planting a crop. If you cannot wait a season for the cover crop method, add good top soil to the bed, or buy a few bags of a good soil such as Sunshine Organic Planting Mix. Sow the seeds or transplant seedlings into the soil. Add two inches of compost, and then add organic amendments above the compost.

A good organic amendment to add above the compost is to mix together 4 parts organic seed

meal (or alfalfa pellets), 1 part rock phosphate, 1 part lime, V2 part kelp meal, 1/2 part peat moss, ¼ part of an equal mix of vermiculite and perlite. Add one cupful for every 10' row. Soil analysis should include biological analysis such as provided by the Soilfood Web. The Soilfood Web also have a laboratory in Alberta.

Making the Very Best Compost.

Due to its overriding importance, making beneficial compost is dealt with in the separate paper attached.

Chemical Products.

The main difference between chemical and biological fertilizers is that biological fertilizers are not soluble (see the attached compost article) while chemical fertilizers are salts that are dissolved by rain and irrigation. Most of the chemical fertilizer percolates into the ground water at the gardener's cost (much to the profit of the chemical manufacturers). Repeated chemical application is necessary. Chemical fertilizers destroy soil value over time while organic methods improve soil fertility and structure over time.

Crop Rotation

The secret to good crop rotation is keeping for each bed a suitably ruled sheet, the vertical lines separating the years and noting thereon the date of planting of each crop, and record the dates harvested in each bed, and include date of compost additions and organic fertilizer applications.

The usual 4 season rotation is roots-legumes-greens~heavy feeders (squash, corn, cabbage, cucumbers). This has to be coupled with plant family rules, so as not to plant, for 4 seasons, members of the same family in the same bed. Some examples are 1. Onions, leeks, shallots,
garlic. 2. Eggplant, pepper, potato, tomato. 3. Carrot, celery, parsnip, parsley. 4. Beans, peas, hairy vetch. 5. Chard, spinach, lettuce. 6. Cucumber, squash. 7. Arugula, broccoli, Brussels sprouts, cauliflower, kale, radish, cabbage.

Keeping soil Covered at all times.

It improves soil quality to plant suitable cover crops immediately the food crop is harvested, after adding compost to the surface, and an organic amendment above the compost. Cover crop roots aerate the soil, provide organic matter, and legumes, such as hairy vetch and clovers add nitrogen to the soil Alternatively add 5" of straw instead of planting cover crops. Covering the soil retains soil moisture and prevents weed seeds from blowing into the bed and getting established, saving a lot of labour in weeding later on. It also promotes the multiplication of earthworms and beneficial bacteria (that go dormant or die in very dry conditions).

Organic growing is a large subject and this is merely an introduction. Should you wish to know about organic growing, in addition to the books and web site mentioned above, we suggest the following:

The NEW ORGANIC GROWER By ELIOT COLEMAN
IMPROVING THE SOIL (Rodale); COMPANION PLANTING (Rodale)
Your Organic GARDEN With Jeff Cox (Rodale)

And subscribe (cost $20.00 plus GST) to the British Columbia Organic Grower, which is the quarterly Journal for the Certified Organic Associations of BC (Phone 25O~260-4429 or their web site www.CertifiedOrganic.bc.ca)