sustainable farm apprenticeships

Growing Skills in Tomorrow's Farmers.

A RESOURCE MANUAL FOR FARMERS AND APPRENTICES

GroundWorks

LifeCycles
cultivating communities

S.O.I.L.
STEWARDS OF IRRIPLACEABLE LAND

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GroundWorks is a public learning centre that offers learning resources, community planning and mapping programs and services to facilitate local and global sustainability and healthy community development.

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LifeCycles cultivating communities

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"Fertility of the soil is the futre of civilization."
– Sir Albert Howard

Introduction

This manual is designed to be a resource for both apprentice and farmer. It contains learning aids on topics you may cover over the course of the apprenticeship. Not all will be relevant to the farm operation but an effort should be made to cover the basics and answer any questions apprentices may have. Apprentices can use this list as a place to draw questions and get a sense of the scope of their experience. Apprentices will come with a wide range of knowledge and experience but the key is that they are there to learn. When in doubt farmers should explain techniques and decisions in further detail.

We encourage farmers and apprentices to spend about 2-4 hours per week together on focused training in addition to the daily chores and chatting while working together. Many farmers find that a daily or weekly farm walk can be a great place to highlight specific issues as well as demonstrate the importance of keen observation. Apprentices could also be included in farm decision making if possible.

Each section is 1-2 pages and includes:

- Topic scope, range of types, techniques
- Questions about the specific topic
- Activities for teaching/ learning
- References (books, magazines, websites, organisations, etc)

This is a living document that can only be improved with use and feedback. We will revise this manual when enough additions, extra input, updates, or corrections are gathered. The strength of this document is that it contains living knowledge and reflects the experiences of our members. Please let us know what you think!

Apprentice and farmer relationships have multiple benefits. Farmers give their wisdom, and apprentices share their energy and enthusiasm.

About the Sustainable Farm Apprenticeship Program

Sustainable Farm Apprenticeship Program

The Sustainable Farm Apprenticeship Program has been successful in linking people wanting to learn, with valuable hands-on farming experiences. There are many similar programs across North America, and more information about them can be found on the world wide web by searching "Farm Apprentice Programs" on-line, or by looking at the website links listed in Appendix 7.

This resource manual shares the information gained by the Stewards of Irreplaceable Land (SOIL) from over 10 years of experience developing and running the Sustainable Farm Apprenticeship Program across Canada. We hope that the information about the program, the curriculum topics and questions, as well as the forms and additional resources, are useful for you.

Overview of the Program

The Sustainable Farm Apprenticeship Program is administered by the non-profit organization, Stewards Of Irreplaceable Land. SOIL acts as a liaison between the farmer willing to take on apprentices and those wishing to work and learn on a farm, which uses sustainable practices. Our program is being supported by Farm Folk/City Folk (Vancouver BC) and GroundWorks Learning Centre (Victoria BC), with application fees partially subsidizing our efforts.

This program was established in 1989, to address three goals:

- To encourage the growth of sustainable agriculture.
- To expose potential apprentices to a rural lifestyle. For those with little or no farming experience it can offer a valuable hands on learning environment in which to acquire the basic skills or even provide the basis for an agricultural career.
- To assist the farmer with the necessary support required to successfully run their organic operation. The farmers and farm community can also benefit greatly from the influx of new ideas, energy and enthusiasm of apprentices.

Apprentices

There is a wide scope of Canadian farms available. You could choose to work with farmers producing nutritious food for a market garden operation. Discover the enormous potential of growing healthy vegetables in raised beds, using natural fertilizers, and biological pest control. Learn the basics of animal husbandry while working on a small dairy farm or on the expanse of a large cattle ranch. Experience first hand the advantages that can be gained by working with draft horses or developing the knowledge and skills necessary to properly care for fruit trees. The opportunities are endless.

Apprenticeships are available to anyone over 18 years old, who is self motivated, eager to learn, and looking to work physically, personally, and honestly, as needed to help their hosts in the pursuit to become future farmers, skilled farm labour, or more knowledgeable about sustainable farming lifestyles. A time commitment of eight weeks minimum is expected and a full growing season is preferred. Most apprenticeships involve labor in exchange for room, board and the opportunity to learn organic gardening, although a few farms provide a wage or small allowance. Work on a farm is often tiring and repetitious, though at the same time the experience can be energizing and exhilarating. As with everything we do it is largely a question of approaching the opportunity with an open mind, eager to learn and be challenged.

How To Join

Both prospective farmers and apprentices fill out applications. Typically, apprenticeships take place between May and September, although some farms need help all year round. We endeavor to match the apprentice with the farm according to the information given by both parties. If you are interested in doing an apprenticeship:

1) Review the farms offering programs on our website or contact us for info.
2) Complete the attached application or submit your application at www.soilapprenticeships.org and send in your application fee by mail (CAN $20 cheques made out to SOIL). Be sure to indicate which farms you are interested in on your application.
3) SOIL will send you a complete description of the farms in which you expressed interest. Use this information to make direct contact with the farm where you wish to do your apprenticeship.

If you are a farmer interested in having apprentices:

1) Complete the attached application or submit your application at www.soilapprenticeships.org and send in your application fee by mail (CAN $20 cheques made out to SOIL).
2) Indicate if you would like to receive the application information of applicants who have expressed interest in your farm.
3) SOIL will put a brief description of your farm on this web site. If you would like to include a photo of your farm on this website, send one or more by mail or email.

The application form should be filled out in black ink or typed so it can be legible when photocopied. If you have access to email, we prefer to send the form to you by email and have you return it completed by email. Be as specific and honest in your answers as possible. It is necessary to give each other a complete picture of your interests, experiences and background.

After the initial contact (if both the apprentice and the farmer are interested) SOIL advises the apprentice to visit the farm, if possible. If a connection is not made, the apprentice may request additional farmers' applications when they become available. Once a connection is made we provide a Sustainable Farm Apprenticehsip Program farm training support manual to help guide the learning process. This booklet contains a curriculum of Questions, Activities, and References as well as Contract Guidelines to help both parties come to a working agreement. At the end of the apprenticeship, we ask both farmers and apprentices to complete a form evaluating your experiences, the benefits / concerns of farm apprenticeships, and how you expect to gain from this experience in the future.

We are pleased that you have taken the time to consider the opportunity SOIL has to offer. If you have any other questions feel free to contact us at www.soilapprenticeships.org.

Animals

Topics

livestock, chickens, bees, pollinators, etc., care, health, regulations, uses

Questions to ask during the apprenticeship:

- How do animals fit into this farm?
- What functions do they serve?
- Are they economically profitable?
- What do they bring to the energy of the farm?
- How do you encourage pollinators?
- What are the different pollinators, native and domestic?
- What do these animals need for optimal health?
- What regulations govern animal welfare?
- Are there other standards for organic certification?
- Is it possible to keep chickens without having to buy feed?
- What health regulations govern animal products (meat, eggs, honey, etc.)?
- What is a chicken tractor?
- How do these animals serve to regulate pests?

The role of animals on the farm can be very diverse, from building soil, to pest control, to pollination.

Activities for teaching/ learning:

- Charge the apprentice with some aspect of care for the animals.

References (books, magazines, websites, organisations, etc.):

- www.carc-crac.ca/english/codes_of_practice/index.htm
- www.spca.bc.ca/farm/
- Mollison, b., and Holmgren. *Permaculture One*. Australia: Tagari Publications, 1984.
- Mollison, b., and Stanley. *Permaculture Two*. Tasmania, Australia: Tagari Publications, 1979.
- Murphy, William. "Ten Times More Pasture" *The New Farm*. July/Aug, Sept/Oct, 1988.

Bees

Topics

health, lifecycle, regulations, food, pollination, honey, winterisation

Questions to ask during the apprenticeship:

- Why is it important to understand the life cycle of a bee colony?
- How is beekeeping regulated in BC?
- What are the different types of bees?
- Do all bees make honey?
- Why is it important to register your colonies?
- In what ways can the beekeeper support the health of a colony on the farm?
- In what situations might a beekeeper need to take immediate action to preserve the health of the colony?
- Do you move your colonies around? Why or why not?
- Which local plants are excellent sources of food for the bees?
- What special care do bees need over the winter?
- How do honey bees compare with other pollinators?
- What are the different grades of honey?
- How can honey be organic?

Tugwell Creek Farm

Activities for teaching/ learning:

- Make a list of basic beekeeping equipment, and a more extensive collection. Justify the cost of each item (or not).
- Research the different medications used to combat diseases and parasites that may affect a colony.
- Split a hive.
- Collect honey or other products.

References (books, magazines, websites, organisations, etc.):

- BC Ministry of Agriculture, Food and Fisheries.
- Beekeeper clubs
- www.ourworld.compuserve.com/homepages/Beekeeping/
- www.beemaster.com/honeybee/beehome.htm

Bee's are the earth's number one pollinator; in fact bees pollinate over 1/3 of all food crops.

Biodynamics

Topics

history, preparations, lunar planting, Demeter status

Questions to ask during the apprenticeship:

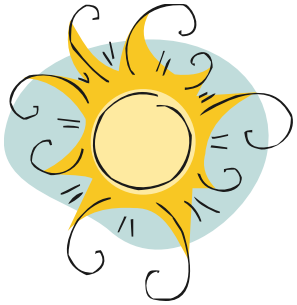
- Why do you follow biodynamic practices?
- How do you know they work?
- Which calendar do you use and why?
- What are the different preparations?
- What is so special about these plants over others?
- If these plants are not native, how do they relate with this land? Are there possible substitutes?
- What is the history of biodynamics?
- When is the best time to sow according to the moon phase?
- How do cosmic forces affect the weather?
- Is there a minimum amount of land required to really be biodynamic?
- Is there biodynamic certification?
- What is the role of animals in biodynamics?

Activities for teaching/ learning:

- Keep track of the weather and relate it to the phase of the moon.
- Prepare and spray the preparations, leave a section without spray and compare growth and health of the crops.

References (books, magazines, websites, organisations, etc.):

- Storl , Wolf. *Culture and Horticulture*. USA: Biodynamic Literature, 1979.
- Jeavons, John. *How to Grow More Vegetables*. Berkeley, CA: 10 Speed Press, 1982.
- Maynard, Jim. *Celestial Influences* 1989. Ashland OR: Quicksilver Productions, 1988.
- Wildfeuer, ed. *Stella Natura 2005: Kimberton Hills Agricultural Planting Guide and Calendar*. Or: BDA Books, n.d.
- Keats, Brian. *Northern Star Calendar*. Australia, www.acenet.com.au/~astrocal
- Demeter Canada, www.demeter.net



Biodynamics is a science of life-forces, a recognition of the basic principles at work in nature, and an approach to agriculture which takes these principles into account to bring about balance and healing.

Brewing/Wine Making

Topics

ingredients and processing for beer, mead, cider, grape and fruit wine, sanitation practices and problematic fermentations, processing equipment (crushers, presses, pumps, filters, carbonation equipment)

Questions to ask during the apprenticeship:

- What are the steps from the ingredients (barley, grapes, apples, etc.) to the unfermented liquid?
- What are the crucial parameters in the fermentation process?
- How is the final product preserved and packaged?
- What are the traditional styles and recipes?
- What are the different types of yeast?
- Why is brewing wine and beer at the same time and place not recommended?
- What is the difference between brewing from a kit and brewing from raw ingredients?

Activities for teaching/ learning:

- Write a batch recipe for a particular wine or beer.
- Sample different wines to learn to taste wine characteristics such as tannins, oak, fruity and floral aromas.

References (books, magazines, websites, organisations, etc.):

- Papazian, Charlie. *The New Complete Joy of Home Brewing*. n.p., 1991.
- Papazian, Charlie. *The Home Brewer Companion*. n.p., 2003
- Szamatulski, Tess, and Mark Szamatulski. *Clone Brews, Home Brew Recipes for 150 Commercial Beers*. n.p., 1998.
- Robinson, Jancis. *Guide to Wine Grapes*. London: Oxford University Press, 1996.
- Pambianchi, Daniel. *Techniques in Home Winemaking*. Montreal: Vehicule Press, 2002.
- WineMaker magazine, www.winemakermag.com

Supposedly the oldest known written recipe is for beer!

Business

Topics

marketing, finance, record keeping, communications, taxes, payroll

Questions to ask during the apprenticeship:

- Is this an economically sustainable business/ lifestyle?
- Are you content with your budget?
- Do you use any formulas to determine the viability or value of a given crop?
- How do you keep records for taxes, certification, other uses?
- Why do you market where you do?
- Are there other potential untapped markets?
- Do you intend or wish to grow to supply that demand?
- What are the significant expenses?
- How is the yearly cash flow?
- Have you had to take out loans? How was that process?
- What special considerations are there for taxes?
- How have you built your relationship with your customers?
- Do you solicit new business?
- Is your intention to sell this business eventually?
- How did you acquire (access to) the land?
- Does this feel like a stable situation?
- How do you determine wages? Do you pay yourself?
- What are the logistics of running a small business (record-keeping, taxes, GST registration, etc.)?

"Good ideas are common, the people who can implement them are rare. Passion, choice, and deep knowledge are the key characteristics behind virtually every entrepreneur's success."
– Jon P. Goodman

Activities for teaching/ learning:

- Go through your own financial and business records with the apprentice. Real numbers are crucial for understanding another reality of farming.
- Have the apprentice track the time, land and inputs required for a specific crop and figure out the monetary cost. Then have them look at the benefits of growing that crop (timing, ease of harvest, few pest problems, etc.) and weigh the two.

References (books, magazines, websites, organisations, etc.):

- Coleman, Elliot. *The New Organic Grower*. Camden East, ON: Old Bridge Press, 1989.
- Whatley, Booker T. *How To Make $100 000 Farming 25 Acres*. PA: Regenerative Agriculture Assn., 1987.
- Groh and McFadden. *Farms of Tomorrow*. Kimberton PA: Biodynamic Farming and Gardening Assn Inc., 1990.
- Edey, Anna. *Solviva: How to Grow $500,000 on One Acre and Peace on Earth*. Martha's Vineyard, Mass: Trailblazer Press, 1998.

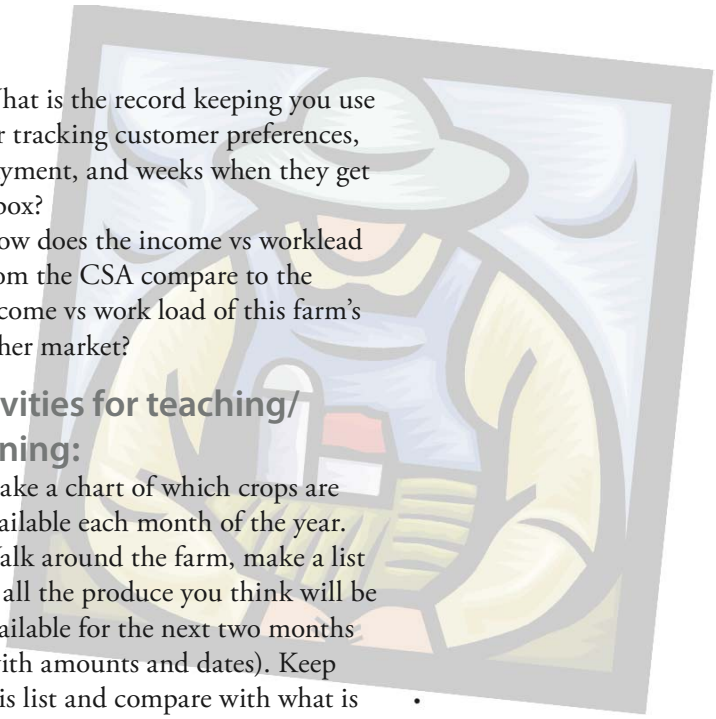
Community Supported Agriculture (CSA)

Topics

box programs, marketing, planning, cooperation

Questions to ask during the apprenticeship:

- What is the history of the CSA?
- What are the different ways to structure a CSA (ie. a business, a co-op, delivery, customers pick up produce, customers trade labour for food)?
- Why did you choose to start a CSA?
- How does the payment plan work? How did you come to this arrangement?
- Do many customers come to the farm to help out regularly or at events?
- How can CSAs be a good opportunity for marketing, community interaction and education to it's members and the public?
- What is involved in starting your own CSA or box program business as compared to selling to an existing box program?
- How do you plan crop succession as required to fill a box?
- Could a CSA go year-round?
- What crops are available in winter?
- How could a group of small-scale farmers run a CSA collectively and share marketing resources to run their businesses more efficiently?
- What kind of facilities and capital investments are required for starting?
- What motivates members to join?
- What are the benefits?
- What is the record keeping you use for tracking customer preferences, payment, and weeks when they get a box?
- How does the income vs worklead from the CSA compare to the income vs work load of this farm's other market?



Activities for teaching/ learning:

- Make a chart of which crops are available each month of the year.
- Walk around the farm, make a list of all the produce you think will be available for the next two months (with amounts and dates). Keep this list and compare with what is actually harvested.
- Before each harvest, practice estimating how much of the crop is available (ie, how many pounds of squash are in this bed?). Turn this into a game by placing bets! (person whose guess is farthest off has to pick berries for the winner's dessert!).
- Plan an imaginary box. What does it include? What does each veggie cost? What is the total cost of the box?
- Apprentice can take over farm's customer service for a week (answer phone calls, call customers, staff market table, etc).

References (books, magazines, websites, organisations, etc.):

- Contact others who run CSA's and box programs. To find these people in your area, look on the Internet, or ask around at farmers markets and through certification agencies.
- Groh and McFadden. *Farms of Tomorrow*. Kimberton PA, Biodynamic Farming and Gardening Assn Inc., 1990.

CSA is an innovative and resourceful strategy to connect local farmers with local consumers. Members or "share-holders" pay in advance to cover the costs of farming. In return, they receive a share of the farm's bounty throughout the growing season. They also share in the risks of farming, including poor harvests due to unfavorable weather or pests.

"A nation that destroys its soils destroys itself."
– Franklin D. Roosevelt

Cultivation

Topics

tillage, plowing, hoeing, disking, soil samples, weeds

Questions to ask during the apprenticeship:

- Do you till? How and why?
- What are the pros and cons of tillage?
- What are the alternatives to tillage?
- How does soil type affect tillage?
- How does moisture affect tillage?
- What do the weeds indicate about the soil conditions?
- What are the pros and cons of weeds?
- What are the uses and effects of plowing, disking, hoeing, tilling?
- Do you take soil samples? What do they tell you?
- Where do you get soil samples tested?
- What is double digging?
- How can timing of sowing influence weed growth?
- What is a sterile bed?
- Have you ever used flaming/steaming?

Activities for teaching/learning:

- Take a soil sample and have it tested. Go through the results together and decide what needs to be done.
- Try a test plot of no-til high mulching or live mulching to reduce tillage.
- Make a weed salad or tea.

References (books, magazines, websites, organisations, etc.):

- Storl , Wolf. *Culture and Horticulture*. USA: Biodynamic Literature, 1979.
- Fukuoka, Masanobu. *The One Straw Revolution or The Natural Way of Farming*. Tokyo: Japan Publications Inc., 1985.
- Peters, Andrews, and Janke. "Rotations That Wear Out Weeds" *The New Farm*. Pennsylvania: Rodale Press, Mar/Apr, 1987. n.p.
- W.E. Shewell-Cooper. *Complete Vegetable Grower*. London: Faber and Faber Ltd., 1973.
- Coleman, Elliot. *The New Organic Grower*. Camden East, ON: Old Bridge Press, 1989.

Cut Flowers

Topics

planning, techniques, production, specialization

Questions to ask during the apprenticeship:

- What planning is required in order to have a continuous supply of flowers?
- Are there special techniques for cutting flowers?
- What maintenance is required to assure ease of cutting, and also maintaining straight stems?
- What are some of the ways to care for flowers after they are cut in order to make them last?
- What are some tips for handling cut flowers and not getting stems entangled once cut?
- What is important regarding variety and characteristics of flower stems and blooms?
- Does cutting the blooms regularly prolong the life of the flower?
- Would it be productive to grow edible flowers?
- Would it be productive to grow medicinal flowers?
- What is the process for seed saving?
- What marketing strategies work well for the organic flower grower?

Activities for teaching/ learning:

- Keep a journal noting the sequence of colours and styles of blooms in a garden.
- Make a sketch or find a drawing of the variety of stems of numerous flowers.
- If access to a quantity of cut flowers can be had, try arranging into a bouquet with awareness to colours, types of blooms, buds yet to open on a stem, length of stems, compactness or openness of arrangement, type of container for the arrangement, and personal creativity – describe what you feel about the results.
- If access to edible flowers can be had, describe the taste.

References (books, magazines, websites, organisations, etc.):

- Byczynski, Lynn. *The Flower Farmer: An Organic Growers G uide to Raising and Selling Cut Flowers*. White River Junction, VT: Chelsea Green Publishing Company, 1997.
- local garden clubs and growers organizations

"Let one Thousand Flowers bloom.."
Mao Tse-Tung

Energy and Resources

Topics

rethink, reduce, reuse, renew, regenerate, recycle

Questions to ask during the apprenticeship:

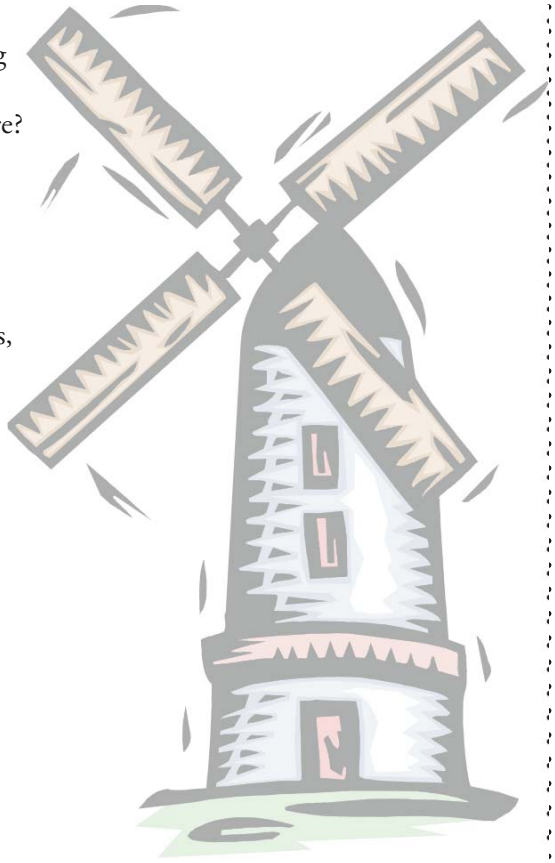
- Where are these materials coming from that I am using?
- How far did they travel to get here?
- Are they harvested sustainably?
- Is there a locally available, biodegradable alternative?
- What resources are available on farm or in the community that are not being used (Compostables, free pots, scrap wood, young un-harnessed labour, etc.)?
- Can any fuels be replaced with renewable biofuels?
- How does the packaging used reflect the farm values?
- When do recycling and organic certification goals conflict?

Activities for teaching/ learning:

- Pick a tool or input for the farm and trace it back to its origin, consider the energy used in it's production and transportation.
- Look around the farm, how much is made from renewable or recycled materials? What other options are available? What are the energy and economic costs associated with each option?

References (books, magazines, websites, organisations, etc.):

- www.bcsea.org
- www.Fromthewilderness.com/free
- Manning, Richard. "The Oil We Eat" *Harper's Magazine*, Feb. 2004. n.p.
- www.earthfuture.com
- www.climatechange.gc.ca



In sustainable agricultural systems, there is reduced reliance on non-renewable energy sources and a substitution of renewable sources or labor.

Farm Planning

Topics

Agro-ecology, Permaculture design, rotation, inter-cropping, year round cropping

Questions to ask during the apprenticeship:

- What was this farm like when you first came here?
- How did you decide on changes to be made and what did you change?
- What is the long-term plan for this farm?
- Have you planned to minimise off-farm inputs? Why or why not?
- What are your farm priorities? How do they affect the potential of the land?
- What is permaculture, do you actively use it?
- Where are the different energy flows through the landscape?
- What planning have you done for catastrophes?
- What is your rotation, how did you settle on it?
- Do you intercrop? Why or why not?
- Are you able to crop year round? If so, have you? What makes it work?

Activities for teaching/ learning:

- Have the apprentice plan the crop layout for next year, then go through the rotation plan for the farm and see where it matches and why some choices are better than others.
- If the beds are not double dug, do a section with the apprentice and compare.
- Map the energy flows of the farm; patterns of traffic, animal corridors, wind, water, see if anything can be improved to ease energy congestion.

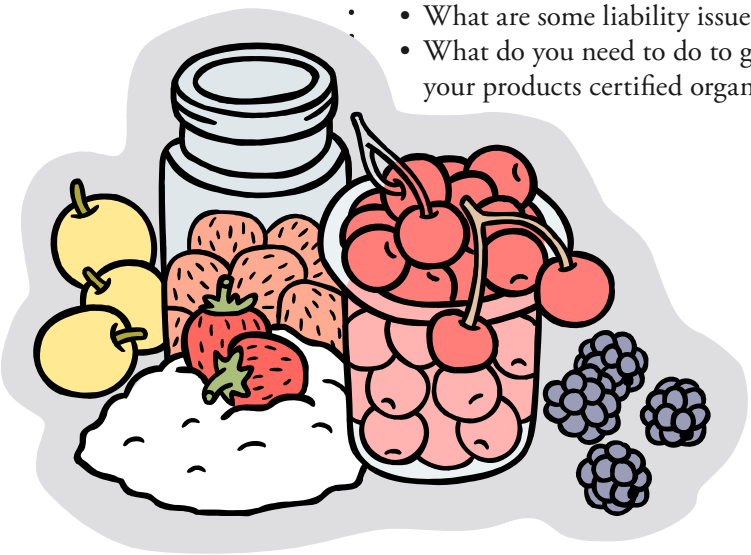
References (books, magazines, websites, organisations, etc.):

- www.agroecology.org
- www.agroeco.org
- www.ecodesign.org/edu/
- www.urbanpermaculture.net
- www.globalcircle.net
- Mollison, Bill. *Permaculture; A Designers Manual*. Tyalgum, Australia: Tagari Publications, 1996.
- The Permaculture Activist Magazine
- Permaculture: The Journal of the International Permaculture Association, Australia
- Mars, Ross, and Martin Ducker. *Basics of Permaculture Design*. Pennsylvania: Rodale Institute, 1996.
- Shewell-Cooper, W.E. *The Complete Vegetable Grower*. London: Faber and Faber Ltd., 1973.
- Coleman, Elliot. *The New Organic Grower*. Camden East, ON: Old Bridge Press, 1989.

The difference between a good garden or farm and a great one is often in the planning.

Take care when canning... "...steam was generated beyond the power of the canister to endure. As a natural consequence, the canister burst, the dead turkey sprang from his coffin of tinplate and killed the cook forthwith."

News report of an early canning industry accident (1852)



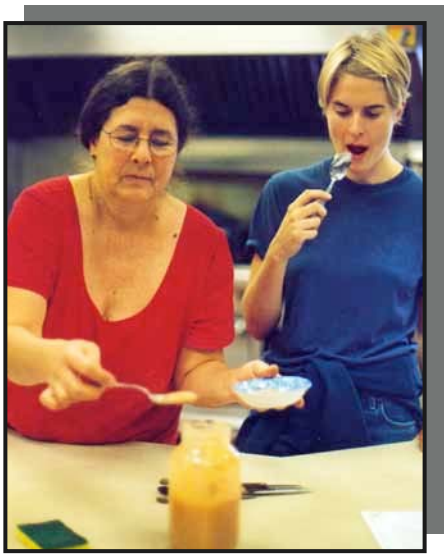
Processing/ Value-added

Topics

recipes, growing special varieties, quantities, preserving methods and techniques, safety concerns, regulation, sales

Questions to ask during the apprenticeship:

- What are your favorite recipes and why?
- Do you grow any specific varieties for your preserving?
- How do you figure out how much to make (for yourself or to sell)?
- What is the chemistry involved in preservation (sugar, acid)?
- How can you use preservation guidelines to invent your own recipes?
- What safety concerns exist?
- How are processed food products regulated in this region?
- How do you get permission to sell a processed food product?
- What are the labeling requirements?
- Where will you be allowed to sell your product (retail outlets, farmers' markets, farmgate)?
- How do you set your price?
- Is a "commercial kitchen" required?
- What are some liability issues?
- What do you need to do to get your products certified organic?



Activities for teaching/ learning:

- Make something together.
- Survey your target customers to determine the demand for a proposed product.
- Find several sources of the equipment and containers you might need.
- Do a cost analysis of a proposed product and determine the best retail price range.
- Find out about farm product liability insurance and its cost.

References (books, magazines, websites, organisations, etc.):

- Costenbader, Carol W. *Preserving the Harvest*. Ma: Storey Publishing Direct, 2002.
- Schwartz, Oded. *Preserving*. UK: Dorling Kindersley Publishing, 1997.
- Hupping, Carol. *Stocking Up: The Third Edition of America's Classic Preserving Guide*. New York: Simon & Schuster, 1990.
- Rombauer, Irma S., et al. *The Joy of Cooking*. New York: Scribner. 1997.
- www.gaps.cornell.edu/pubs/risks.pdf
- www.foodsafety.gov/~dms/prodguid.html#intro

Forestry

Topics

forest ecology, Eco-forestry principles, planning, ecological restoration, milling and value added manufacture, regulations

Questions to ask during the apprenticeship:

- What is succession? How does it happen naturally and through human intervention?
- What are the indicators of forest health?
- What are mycorrhizae? Which trees are associated with them?
- What are the boundaries of this watershed? What is the role of this forest in the watershed?
- What is the role of fire in this forest? How often does it burn here?
- What pests are problems here? How are they controlled?
- What are the different methods of logging?
- How do they affect the integrity of the forest and the ecosystem?
- How much setback is required for streams and riparian areas?
- What especially significant fauna and flora inhabit this area?
- How has the forest changed since you've known it?
- How much wood can be removed from this forest per year?
- What planning studies have been done here (hydrology, archeology, ungulates, visuals, terrain stability, recreation / water use, timber and non timber resource use)?
- How have other values been considered in this operation (public consultation, costs planning, surveying, mapping, road building, stumpage, silviculture)?
- How do grace and rhythm help to avoid injury, fatigue and poor posture?
- Why is forest management on private land much simpler than on crown land?
- What regulations govern this practice? Do you have issue with any?
- Do you sell the wood? How do you get the most value from a fall?
- What other options do you have for processing the wood?

Activities for teaching/ learning:

- Ensure the apprentice is involved in harvesting, road / skid trail layout, falling, bucking, skidding, decking.
- Have the apprentice plan a fall with consideration to timing work around natural cycles (spring bird nesting, road building in dry conditions, harvesting on snow and frozen ground to avoid soil damage, tree seeds collected after pollination).

References (books, magazines, websites, organisations, etc.):

- Mollison, Bill. *Permaculture; A Designers Manual*. Tyalgum, Australia: Tagari Publications, 1996.
- Berry, Wendell. *Another Turn of the Crank*. New York: Counterpoint, 1995.
- Maki, Mike. "Agroforestry" *Tilth*. n.p: Fall, 1984.
- www.dal.ca/~dp/reports/haynesst.htm
- www.toby.library.ubc.ca/subjects/subjpage1.cfm?id=271
- www.forestshop.com/agroforestry.
- www.ecoforestry.ca/
- www.spruceroots.org/May.98/Survival.html

"We need to adapt our farming much more sensitively to the nature of the places where the farming is done."
– Wendell Berry

Do two test plots, one inside the greenhouse and one outside. Watch and compare the rate of germination and growth.

Greenhouses

Topics

design, operation, cloches, cold frames, solar mapping

Questions to ask during the apprenticeship:

- How can greenhouses be either an active or passive system?
- What are different heat sources, sinks, storage, temperature regulation?
- What considerations exist for ventilation, atmosphere, gaseous exchange, humidity?
- What are the pros and cons of natural and artificial light?
- What is a solar map or sun path chart, how to measure hours of sunshine?
- What is a composting greenhouse?
- How did you choose your design, size, location and materials?
- How is the greenhouse useful for season extension? Have you measured the economic profit from this?
- Is this the optimal watering system for your situation?
- How and why did you come to have these containers?
- What is your growing media mix?
- How much does a greenhouse cost per square foot? How much more do you expect to gross from growing in a greenhouse than growing in a field?
- What crops do best in a greenhouse and why?
- What are the advantages of a moveable greenhouse?
- What pest problems are worse/less in a greenhouse environment? What do you do to control greenhouse pests that is different from field growing?

Activities for teaching/ learning:

- Do two test plots in the greenhouse and outside, watch and compare the rate of germination and growth.

References (books, magazines, websites, organisations, etc.):

- McCullagh, James C. *The Solar Greenhouse Book*. New York: Rodale Press, 1978.
- Magee, Tim. *A Solar Greenhouse Guide for the Northwest*. Seattle: Ecotope Group, 1978.
- Head, Bill. *Gardening Under Cover*. Seattle: Sasquatch books, 1984.
- Edey, Anna. *Solviva*. Mass: Trailblazer Press, 1998.
- Solomon, Steve. *Growing Organic Vegetables West of the Cascades*. Seattle: Pacific Search Press, 1985.
- Coleman, Elliot. *The New Organic Grower*. Camden East, ON: Old Bridge Press, 1989.

Harvesting

Topics

storage, perishability, timing, presentation, packaging

Questions to ask during the apprenticeship:

- How do you know the best time to harvest (time of day, stage of maturity)?
- How long do the different crops maintain their freshness?
- Which crops need cooling, soaking, rinsing, washing?
- How does harvesting affect plant growth?
- How does water and temperature affect growth rate and harvest frequency?
- Are there any regulations governing packaging in this region?
- What are important elements to consider in presentation of the produce?
- What are some ways to improve harvesting efficieny?
- How much time does it take a good harvester to pick various crops?
- Which crops take the least labour to harvest and which take the most? How does this affect your crop planning?

Activities for teaching/ learning:

- Before each harvest, practice estimating how much of the crop is available. (ie, how many pounds of squash are in this bed?) Turn this into a game by placing bets! (person whose guess is farthest off has to pick berries for the winner's dessert!)

References (books, magazines, websites, organisations, etc.):

- Edey, Anna. *Solviva*. Mass: Trailblazer Press, 1998.
- www.tracker-outdoors.com/vegetableharvesting.htm
- www.aginfo.psu.edu/news/july98/harvesting.html
- Coleman, Eliot, Barbara Damrosch, and Kathy Bray. *Four-Season Harvest: How to Harvest Fresh Organic Vegetables from Your Home Garden All Year Long*. VT: Chelsea Green Publishing, 1999.

"Better than any argument is to rise at dawn and pick dew-wet red berries in a cup."
– Wendell Berry

Herbs differ in terms of cultural methods, scale of production, post-harvest handling, and marketing. They can be produced as fresh culinary herbs, dried culinary herbs, herb plants, decorative and fragrant herbs, essential oils and dyes, and medicinal herbs.

Herbs

Topics

actions and uses, harvesting, tinctures, oils, teas, decoctions, syrups, shampoo, salves, compresses, poultices, pills

Questions to ask during the apprenticeship:

- Which herbs need to be used with caution?
- How do you make the different preparations?
- Which herbs grow wild here?
- Is it OK to mix any herbs together?
- How powerful can herbs be?
- Which herbs are good for daily use?
- Which herbs should be limited in use?
- Can the growth pattern or outward appearance of an herb indicate its uses?
- When is the best time to collect herbs?
- How long do herbal preparations last?
- Are there any contraindications to herbal preparations?
- What are Bach Flower Remedies?
- What is Homeopathy?
- Which are preventative and which are good for treatment?
- Which herbs have you had powerful experiences with?
- Which herbs are the most important culinary herbs. Which are annuals, biennials, perennials?
- Which culinary herbs like a wet fertile soil and which demand well drained soil? Which ones can take cold and/or shade?
- How do you harvest and sell the various culinary herbs (cutting, cooling, bunching, pricing)?
- Which culinary herbs sell well?
- What value added products can you make with culinary herbs?
- Which herbs do you grow from seed and which from cuttings?

Activities for teaching/ learning:

- Go through the whole process together from harvesting to preparing the herb for something the apprentice is interested in (a type of preparation or herbs for a specific action).
- The apprentice can create combination lists or menus of teas, shampoos, oils etc. for specific actions.
- Find a plant you do not recognize and sit with it to see what you can know about it, if it speaks to you or might be an unknown ally, identify it later to know more about it.

References (books, magazines, websites, organisations, etc.):

- Hoffman, David. *Holistic Herbal*. Australia: Harper Collins, 2002.
- Moore, Michael. *Medicinal Plants of the Pacific West*. Santa Fe: Red Crane Books, 1993.
- Weed, Susan. *Healing Wise, a Wise Woman Herbal*. New York: Ash Tree Publishing, 1985.
- Sullivan, Karen, and C. Norman Shealy. *The Complete Family Guide to Natural Home Remedies: Safe and Effective Treatments for Common Ailments*. UK: Element Books, 1987.
- Pitchford, Paul. *Healing with Whole Foods*. Berkeley, CA: North Atlantic Books, 1993.
- Shores, Sandie. *Growing and Selling Fresh-Cut Herbs*. (2nd edition) Batavia, Il: Ball Publishing, 2003.

Horses

Topics

grooming, feeding, health, care for harness, implements, breeding and training, working

Questions to ask during the apprenticeship:

- What kind of care do they need for their hoofs?
- How often do horses need to be re-shod?
- How and how often do horses get groomed?
- What do you feed them?
- How does their diet affect their health? Do you use any natural remedies? Any medications?
- What kinds of harnesses exist, what are their different uses?
- How are they maintained and repaired?
- What is ground skidding?
- What are stone boat cultivators? How do you use them?
- What safety precautions are needed when working with workhorses?
- What are the different implements available?
- What is dangerous about pulling implements?
- How are horses trained to do work?
- How much work can horses do?
- How does breeding effect their ability and willingness to do work?
- What is the role of the horse in the farm ecology?
- Do you use horse manure for chicken forage, hotbeds, mushroom cultivation, compost?
- What is important about mosquito control?
- Can you ride the horses for pleasure?


photo: J. Monnington

Activities for teaching/ learning:

- Ideally hands-on experience in single / double horse driving in cart

References (books, magazines, websites, organisations, etc.):

- Your Local Draft Horse Association
- www.horsekeeping.com
- www.equestrian-toplinks.com/Top_Sports_Equestrian_Breeds_Draft_Horses.html
- www.eidnet.org/local/cdnhorse/history.htm
- www.telusplanet.net/public/wimborne/shirelinks.htm
- www.forestnet.com/archives/Oct_01/logging.htm

"If your horse says no, you either asked the wrong question, or asked the question wrong."
– Pat Parelli


photo: Sheila Whincup

Irrigation

Topics

water systems, drip, trench/ flood, overhead sprinkler, pumps, storage, sanitation, conservation, recycling, gray water systems

We can better manage our water use by improving water conservation and storage measures, selection of drought-tolerant crop species, using reduced-volume irrigation systems, and managing crops to reduce water loss.

Questions to ask during the apprenticeship:

- What type(s) of system do you use? Why?
- Would another system work as well (or better) here?
- What are the costs of this system?
- How much time does it take to set up, run and maintain?
- How often do you water, how does it depend on the crops growing?
- How much water does this type of soil need?
- How much water does this crop need?
- How deep do the roots go?
- Is leaching a problem?
- How does this system conserve water in relation to other systems?
- Is pressure or source an issue for irrigation here?
- Are there any potential heath risks due to irrigation water source?
- Have you been limited in the crops you could grow by the amount of water you had? Which crops are good to grow if water is limited?
- Do you need to take special precaucations in the winter against freezing? When do you set up your system in the spring? When do you take it down?

Activities for teaching/ learning:

- Make a point to notice the difference in growth after a rain.
- Have the apprentice responsible for irrigating part of the farm (field, greenhouse, etc.) for a week or month.

References (books, magazines, websites, organisations, etc.):

- Soloman, Steve. *A Gardener's Textbook of Sprinkler Irrigation*. n.p.: n.d.
- Burnett, Jay. *"Waterworks" Drip Irrigation*. n.p: n.d.
- Hackleman, Michael. *Waterworks*. Garden City, New York: Doubleday and CO. Inc., 1983.
- www.irrigationtutorials.com/
- www.gov.on.ca/OMAFRA/english/engineer/facts/99-023.htm
- Preparing a farm irrigation plan, www.agf.gov.bc.ca/resmgmt/publist/500series/550000-1.pdf.
- www.eid.ab.ca/on-farm_e.ciencies.htm

Livestock

Topics

health, life cycle, regulations, meat

Questions to ask during the apprenticeship:

- What are the differences between grass-fed and grain-fed beef?
- What are the regulations regarding animal identification?
- What do livestock require in the way of space, light, shelter, etc.?
- What breeds do you know, what are their different characteristics?
- What is the life expectancy of the animal? How many offspring might an animal produce in her lifetime?
- What are the common health problems in this area? How are they treated?
- What are the signs to watch for that indicate that an animal may need veterinary care?
- What preventative medications might be used?
- What are the nutritional requirements? Are supplements indicated?
- What is "hardware disease"?
- What other kinds of care do the animals require (feet, horns, birthing, etc.)?
- How and why are animals castrated?
- How is breeding controlled?
- Where is the nearest abattoir? How is meat sold?
- Can these animals work?
- What is the difference between conventional, free range, and certified organic chickens?
- How is your livestock operation integrated into the other activities on the farm?
- How is animal manure handled at the farm?
- What is controversial about Biodynamic Animal inbreeding?

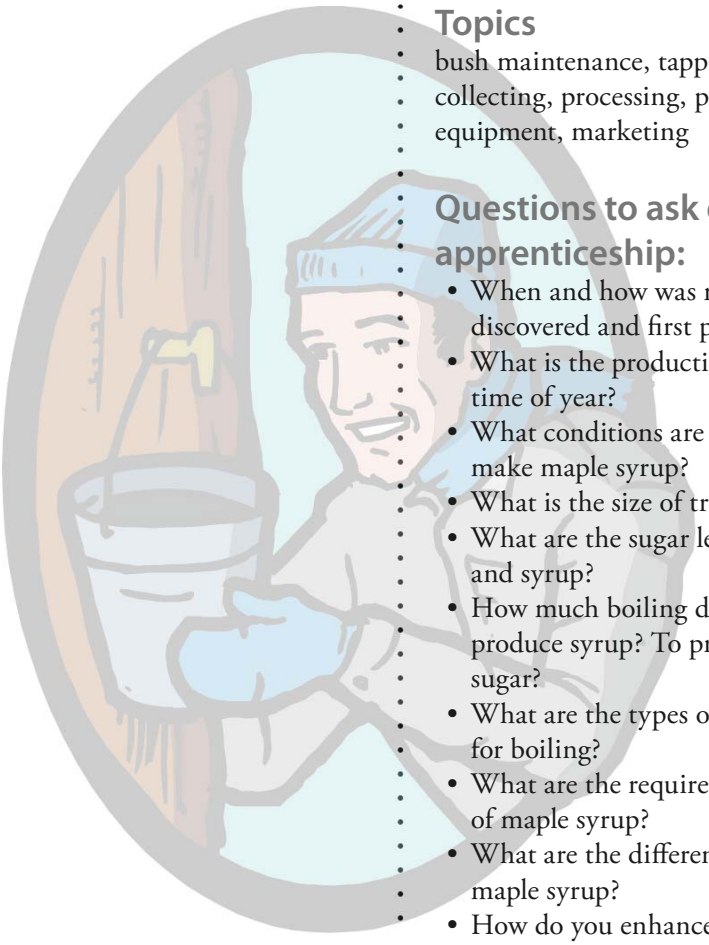
Activities for teaching/ learning:

- Design the perfect cattle handling system (pastures, corals, chutes, etc.).
- Do a cost/income analysis of an animal over its lifetime.
- Research Artificial Insemination.

References (books, magazines, websites, organisations, etc.):

- 4-H clubs, www.4-h.org
- www.eatwild.com
- Agriculture and Agrifood Canada, www.agr.gc.ca
- www.gov.nf.ca/agric/livestock.htm
- www.certi.edorganic.bc.ca/rcbtoa/ www.inspection.gc.ca/english/ anima/meavia/meaviae.shtml
- www.gnb.ca/0027/0003-e.asp
- Macey, Anne. *Organic Livestock Handbook*. Canadian Organic Growers Association, March 2004.
- www.organicagcentre.ca/ ResearchDatabase/res_livestock. html

51% of BC Farm cash receipts come from livestock (MAFF).



The world's biggest pancake was 15.01 m (49 ft 3 in) in diameter, 2.5 cm (1 in) deep, and weighed 3 tonnes (2.95 tons). It was made in Manchester, UK, on August 13, 1994, for the 150th anniversary of the Co-Operative movement.

Maple Syrup

Topics

bush maintenance, tapping, sap collecting, processing, packaging and equipment, marketing

Questions to ask during the apprenticeship:

- When and how was maple syrup discovered and first produced?
- What is the production area and time of year?
- What conditions are needed to make maple syrup?
- What is the size of tree for tapping?
- What are the sugar levels of sap and syrup?
- How much boiling does it take to produce syrup? To produce maple sugar?
- What are the types of equipment for boiling?
- What are the requirements for sale of maple syrup?
- What are the different grades of maple syrup?
- How do you enhance the gravity fed lines with a vacuum pump or sap ladder?
- What are some of the quality control issues?
- Where can you get supplies for making syrup?
- How is reverse osmosis used in making maple syrup?
- Are there other types of trees that can produce sap for syrup making?
- What is the ratio of sap to syrup?
- When do you know the time to stop boiling?
- What is the best way to preserve maple syrup?
- What kind of work needs to be done in the maple bush to maintain a productive sugar bush?
- What are other spin-off incomes from a sugar bush?
- How often does a bush produce 100% of a crop?
- What is 100% of a crop?
- What records need to be kept for study in maple syrup?
- What is the real cost to produce maple syrup?

Activities for teaching/ learning:

- Tap a tree in spring and collect sap to boil outside on a pit fire with lots of time to talk.
- Observe the cold nights and warm days watching the trees and their growth.

References (books, magazines, websites, organisations, etc.):

- Nearing, Helen, and Scott Nearing. *The Maple Sugar Book: Together With Remarks on Pioneering As a Way of Living in the Twentieth Century* (The Good Life Series). VT: Chelsea Green Publishing Company, 2000.
- Coons, C.F. *Sugar Bush Management for Maple Syrup Producers*. Ontario Ministry of Natural Resources, 1992. p.48.
- Koelling, Melvin R. Ph.D, and Randall B. Heiligmann, Ph.D. eds. *North American Maple Syrup Producers Manual*. Ohio: Ohio State University Extension and OMSPA (Ontario Maple Syrup Producers Association), 1996.
- ontariomaple@bellnet.ca or www.ontariomaple.com
- HKMSPA (Haliburton Kawartha) Maple Syrup Producers Association) at www.hkmaple.com or info@hkmaple.com
- OMAF Ontario Ministry of Agriculture and Forestry.
- FPO@omaf.gov.on.ca. Dave Shapeskie at dave.shapeskie@omaf.gov.on.ca

Observation

Topics

Phenology (association or synchronization of annual cycles of wild and cultivated plants), local ecology and bioregion, native plants, indicator species, wild life and domestic animal behaviour

Questions to ask during the apprenticeship:

- Do you use phenology?
- What is the local ecology; rain forest, prairie, mountains, desert, rain shadow?
- What are the local climate and weather patterns, first and last frost date, annual rainfall, mean annual temperature?
- Do you have a system of keeping these records?
- Where are the local water bodies and mountains, how do they effect local climate?
- What are the important native plants? How are (or were) they used by the local indigenous population? What cultivated plants originated here? Which introduced plants have become problems and why?
- What are the local pollinators? Pests?
- How many hours of daylight do you get in the height of summer?
- In which direction does the sun rise? How does it change with the seasons? How does shade and level of sunlight affect the choice you make for planning crops at your farm?
- Where do the chickens, cows, goats, etc., take shelter from sun and rain, where and when do they play?
- What are the local birds? Migratory birds? Mammals, reptiles, fish? How do they interact with the farm?
- What was the previous ecology before the farm was developed? How has the whole watershed changed from 200 years ago?
- Do you have certain signs which you use to tell you it is time to plant, plow, and harvest certain crops?

Activities for Teaching/ Learning:

- Keep a journal of what you notice every day, weather, what is in bloom, when the leaves turn, which wildlife are new on the scene or gone on vacation, what you did in the garden. Create this book so you can add to it every year to compare.
- Keep a common wall journal where everyone can mark their observations together for the whole farm.
- Walk the garden at least once per week making a point to notice the progression of growth, presence of insects, soil moisture, weeds in bloom, etc. Use this time to plan and prioritize the week's activities together.
- Walk or hike in the local area, casually observe the relationship of plants growing in a "natural" situation.
- Create a meal of only native foods.
- Go to www.lep.org/about/lesson_a.htm for a lesson on tree rings.
- Carry a magnifying glass, use it.

References (books, magazines, websites, organisations, etc.):

- Berry, Wendell. *The Unsettling of America: Culture and Agriculture*. San Fransisco, Ca: Sierra Club Books, 1977.
- Mollison, Bill. *Permaculture; A Designers Manual*. Tyalgum, Australia: Tagari Publications, 1996.
- Appropriate Technology Transfer to Rural Areas, www.attra.ncat.org/attra-pub/phenology.html
- www.sws-wis.com/lifecycles/
- Global phenological monitoring, www.dow.wau.nl/msa/gpm/
- Kuhnlein, H.V., and Turner, N.J. "Traditional plant foods of Canadian Indigenous People, Nutrition, Botany and Use". *Food and Nutrition in History and Anthropology: Vol. 8*. Philadelphia, PA: Gordon and Breach Science Publishers, 1991. pp.633.
- Turner, N.J. *Food Plants of Coastal First Peoples*. Vancouver: UBC Press, 1995.
- Turner, N.J. *Food Plants of Interior First Peoples*. Vancouver: UBC Press, 1997.
- Turner, N.J. *Plant Technology of First Peoples in British Columbia (2nd ed.)*. [Prev. ed. titled Plants in British Columbia Indian technology]. Vancouver, BC: UBC Press and Royal British Columbia Museum,1998.
- Cock, Peter. *Gardening: Good for our Soul* . www.ecopsychology.org/journal/gatherings8/html/healing/gardening_cock.html

"Man did not weave the web of life – he is merely a strand in it. Whatever he does to the web he does to himself."
– Chief Seattle, 1854

Organic Certification

Topics

Organic Certification is the regulatory system that gives credibility to the organic label. An independent 3rd party inspector/verification officer assesses farm production methods against standards (the rules) used by the Certification Body (CB).

Questions to ask during the apprenticeship:

- Are you certified? Why or why not?
- What standards are being used (regional, provincial or national)? What's the difference?
- Which Certification Body is used? What does it cost? Are there others operating in the region?
- What is the difference between certification and accreditation?
- Who is the accreditation agency?
- What does the certification process involve?
- Who makes the certification decision?
- Why is certification needed? or not?
- What are basic principles of certified organic crop production?
- What is a farm plan?
- What is meant by transition period - how long is it?
- What is a buffer zone? Are they necessary on your farm? Where and why?
- What is an audit trail for organic certification? How does it work on this farm?
- What's the main difference between an organic farmer and a certified organic farmer?
- Where do you look to find out if a product is allowed for use on an organic farm?

Activities for teaching/ learning:

- Conduct a sample audit - can you track a crop back from sale to seed in the farm records?
- If farm is certified -discuss conditions for certification from previous years reports. Have they all been addressed?
- Survey your customers/friends - do they know what certification means? Do they know what to look for in the grocery store? How many labels do they (you) recognize in the local store?
- Review the farm's annual certification application together. Try to be present when the certification officer does his/her inspection.

References (books, magazines, websites, organisations, etc.):

- Canadian Organic Association of British Columbia (COABC) website www.certifiedorganic.bc.ca
- Cyberhlep, www.certi.edorganic.bc.ca
- *What is organic farming?* www.certifiedorganic.bc.ca/whatis.php
- *Introduction to Certified Organic Farming*, (2nd edition), Canadian Farm Business Management Council, March 2002.
- *Organic Field Crop Handbook.* (2nd edition), Canadian Organic Growers, 2001
- Macey, Anne. *Organic Livestock Handbook*. (2nd edition), Canadian Organic Growers Association, March 2004.

Plant Culture

Topics

structure, function, botany, taxonomy, annuals, perennials, biennials

Questions to ask during the apprenticeship:

- How are plants classified? Why is this important?
- What are the different growth and reproductive forms of plant families?
- How do plants make their own food? What nutrients do they need? Where can these nutrients come from?
- What are the names of the different plant parts? What are the indicators to look for in identifying different types of plants?
- Where do these plants originate? How were they developed?
- How do plants differ underground in root systems?

Activities for teaching/ learning:

- Draw diagrams of different plants in different families, or of parts of plants.
- Explain the answers to some of these questions to a young (interested) child.
- Create a scrapbook with flattened samples of local weeds, and cultivated plants, catalogue in different ways (by family, part eaten, medicinal effect, etc.).
- Create a seed collection with your seeds categorized by family.
- Research and create a presentation on the origin and development of your favourite fruit or vegetable.

References (books, magazines, websites, organisations, etc.):

- Any plant science or botany text book
- Foster, Steven, *Herbal Bounty*. Salt Lake City: Gibbs M. Smith Inc., 1986.
- Storl , Wolf. *Culture and Horticulture*. USA: Biodynamic Literature, 1979.
- Pierce, Lincoln, *Vegetables, Characteristics, Production and Marketing*. New York: John Wiley and Sons, 1987.
- Global Timeline, www.labyrinth.net.au/~saul/history/garden.html
- Turner, N.J., *Plant Taxonomic Systems and Ethnobotany of three Contemporary Indian Groups of the Pacific Northwest* (Haida, Bella Coola, and Lillooet). Syesis, 7 (Supp. 1), 1974. pp.104.

"A modest garden contains, for those who know how to look and to wait, more instruction than a library."
– Henri Frederic Amiel

"Respect for biodiversity entails a shift to production systems that maintain life on Earth and do not push it to extinction—the life of soil organisms, of water systems, of plant and animal diversity. A nonviolent agriculture would do no harm to bees, butterflies and earthworms. It also would not falsify the productivity of industrial monocultures, which waste water and energy, need expensive and harmful chemicals, and wipe out life's abundance."
—Vandana Shiva

Plant Health

Topics

pest and disease recognition and management, IPM, cultural controls, allowed sprays, companion planting

Questions to ask during the apprenticeship:

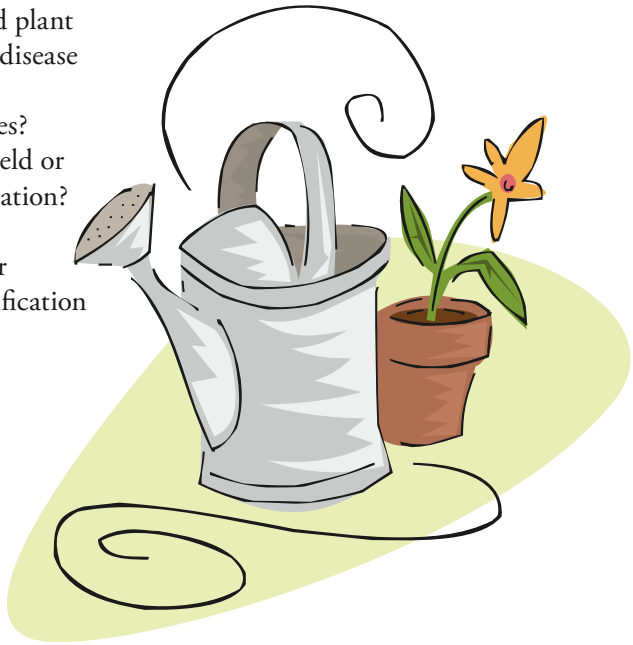
- Which pests or diseases are a problem in this area? for this crop?
- What is a pest? When is a pest a pest?
- What is the life cycle and habitat of the pest at hand?
- What pest predators are present? How can they be encouraged?
- What diseases are present in your area, your soil?
- How are diseases spread?
- What is IPM, when is it appropriate and what are the drawbacks?
- What are cultural controls? Which have you observed work here?
- How does timing of planting influence pest problems?
- Do you use any allowed sprays like BT, lime sulfur or horticultural oil?
- Do you use companion planting? What successes have you observed?
- How does the native or wild plant population effect pests and disease (hosts, repellants)?
- Do you use resistant varieties?
- What is your approach to field or greenhouse hygiene or sanitation?
- What pest controls are recommended, regulated, or prohibited by the local certification body?

Activities for teaching/ learning:

- Test different types of pest control, compare and contrast results and effectiveness.

References (books, magazines, websites, organisations, etc.):

- Ellis, Barbara W., and Fern Marshall Bradley. *The Organic Gardener's Handbook of Natural Insect and Disease*. New York: Rodale Press, 1996.
- Carr, Anna. *Good Neighbours: Companion Planting for Gardeners*. New York: Rodale Press, 1985.
- Mollison, b., and Holmgren. *Permaculture One*. Australia: Tagari Publications, 1984.
- Colebrook, Binda. *Winter Gardening in the Maritime Northwest*. Everson, Washington: Maritime Publications, 1984.
- Flint, Mary Louise. *Pests of the Garden and Small Farm, A grower's Guide to using less Pesticide*. Ca: University of California, 1998.



Politics and Community

Topics

local and regional agriculture organisations, food industry, land trusts and access, government regulations, general resources

Questions to ask during the apprenticeship:

- Are there groups who meet regularly in this area?
- Are there other learning opportunities such as farm tours or work parties?
- Do you know of any events or conferences held nearby?
- What kind of other farms are in this region?
- What regulations exist to abide by for this industry?
- How did you get access to this land? Buy it, rent, share, lease?
- How is your relationship to the consumers of your food, arms length, know personally?
- Who do you go to when you need help?
- Who are the farmers' allies in this area?

Activities for teaching/ learning:

- Connect with other farms to have work parties with other apprentices.
- Attend meetings or events in the agricultural community.
- Write articles for the local paper, COG's Canadian Organic Grower or other agricultural publications.

References (books, magazines, websites, organisations, etc.):

- www.deepecology.org/directory.html
- www.slowfood.com
- www.ramshorn.ca
- Small Farm Canada Magazine,
- Southern Tip Publishing, Metchosin BC
- www.planetfriendly.net
- wwww.ryerson.ca/foodsecurity/affliated_02.html
- Canadian Organic Grower Quarterly
- Canadian Organic Grower, www.cog.ca

The Canadian Food Security Networks' objectives are to facilitate dialogue, to share information, and to work for joint action among Canadians and organizations working for food security. They have a good listing of organizations across Canada. www.ryerson.ca/foodsecurity/democracy.html

Skill in raising vegetable plants from seed is the very cornerstone of gardening independence. Choice of seeds and careful handling can bring you not only earlier harvests, but better vegetables.
– Nancy Bubel

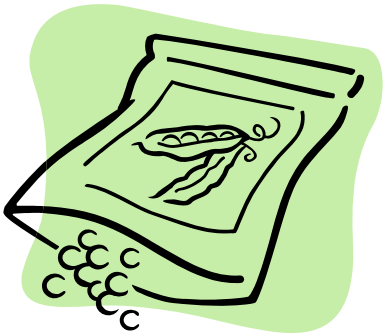
Propagation

Topics

seeding, transplanting, division, grafting

Questions to ask during the apprenticeship:

- What do seeds need to germinate?
- Which seeds need special treatment?
- How long can seeds grow without extra food?
- How deep and close to plant seeds?
- How to know which seeds need to be started in a greenhouse and which in the ground?
- What pests or diseases are trouble when starting seeds?
- When does the soil warm up here? How warm does it get?
- Are all plants transplanted the same way?
- Which plants do not like transplanting?
- What is vegetative reproduction? Which plants are better propagated this way? Are there any costs associated with this?
- Which plants get divided, how frequently?
- What are the best tools for dividing?
- Why are fruit trees usually grafted?
- What are the different ways to graft?
- Which crops are typically direct seeded and which are raised as seedlings and then transplanted? What is the advantage of each?



Activities for teaching/ learning

- Graft a fruit tree, practice on prunings first.
- Compare the success of direct seeding and transplanting.
- Divide perennials together.

References (books, magazines, websites, organisations, etc.):

- Reilly, Anne. *Park's Success with Seeds*. Greenwood, SC: George W Park Seed Co Inc., 1980.
- Bubel, Nancy. *The New Seed Starters Handbook*. New York: Rodale Press, 1994.
- Jeavons, John. *How to Grow More Vegetables*. Berkeley CA: 10 Speed Press, 1982.
- Lorenz and Maynard. *Knott's Handbook for Vegetable Growers*. ON: John Wiley and Sons Inc., 1980.

Seed Saving and Sources

saving, exchanges, catalogues, outlets, genetic engineering

Questions to ask during the apprenticeship:

- Why do you save seeds?
- Which seeds do you save?
- How do you maintain purity?
- How do you maintain diversity?
- What is the problem with inbreeding?
- How do you keep records?
- What is the best storage?
- Which plants are difficult to save seed from, why?
- What special techniques can you use?
- Which plants do you select for seed saving?
- How does seed saving affect the farm plan or crop rotation?
- Where do you dry seeds?
- How do you know when they are ready?
- How do you clean your seeds?
- What are your favorite seed companies? Where do you buy most of your seeds?
- What is vegetative reproduction?
- What genetic or political pressures exist for seed savers now?
- What is Genetic Engineering and how does it differ from traditional plant breeding?

Activities for teaching/ learning:

- Charge the apprentice with one (or more) crops to save seed from, ensure records are kept and proper testing is done (like tasting). Start with self-pollinating and encourage them to try a cross pollinator.
- The apprentice should collect a set of seed catalogs from the farmer's favorite seed companies.

References (books, magazines, websites, organisations, etc.):

- Seed Savers Exchange, www.seedsavers.org
- Seeds of Diversity, www.seeds.ca
- Heritage Seeds, www.heritageseeds.com.au
- Solomon, Steve, *Growing Vegetables West of the Cascades*. Seattle: Pacific Search Press, 1985.
- Miller, D. *Seed Growing for the Gardener and Small Farmer*. Hersey, MI: Bullkill Creek Publishing, 1977.
- Rogers, Mark. *Growing and Saving Vegetable Seed*. Pownal, VT: Garden Way Publishing, 1978.
- West Coast Seeds Catalogue, www.westcoastseeds.com
- www.seedysaturday.com
- Ashworth, Suzanne. Seed to Seed. (2nd edition). n.p.: Seed Savers Exchange, 2002.

"Seedy Saturday is not one event, but a series of independent local events, which have sprung up across the country. They bring together home gardeners, seed savers, native plant collectors, agriculture conservation groups, and community gardeners as well as local seed companies that sell open-pollinated varieties of vegetables, fruits, flowers, grains and herbs."
www.Seedysaturday.org

Soil Amendments & Composting

Topics

nutrient sources, organic matter, composting, mulch, green manures, cover crops, manure teas, compost teas, effective microorganisms

Questions to ask during the apprenticeship:

- What nutrients do plants need?
- Where can these nutrients come from?
- How are powdered organic fertilisers different from chemical fertilisers?
- What is organic matter? How and when is it useful?
- What is so great about compost? Is it necessary?
- What are the different techniques of making compost (turning, inputs, shapes, and temperature)?
- Which materials do you use and why? Which materials are not recommended? What is the "brown to green" ratio?
- What are your sources for materials? Other potential sources?
- How often and when do you make and use compost?
- How do the seasons affect compost decomposition and application?
- What are different qualities and kinds of compost, how to tell good compost?
- How do you use green manures and cover crops?
- How do green manures compare to animal manures or compost?
- Which cover crops do you use and why? When can they be grown?
- What is the benefit of mulching? What are the best materials and processes?
- What is compost tea, manure tea? Do you use them? How do they work?
- What are effective microorganisms? How are they used?
- What downfalls do these techniques have? Where are they most useful? Why don't you use them?
- Do you use any of these soil amendments: Perlite, Vermiculite, Earthworm Castings, Gypsum, Greensand, Kelp Meal, Oak Leaf Mold, Charcoal, Seaweed, Shellfish, Coco, Peat/Sphagnum Moss, Coir Fiber, Dolomite Lime, Hydrated Lime, Iron Sulphate?
- Which amendments are recommeded, regulated, or prohibited by your certifying organization and/or OMRI? What is OMRI?

Activities for teaching/ learning:

- Make a compost pile, turn a compost pile, monitor the temperature, feel different compost types, observe and compare results if possible.
- Sow cover crops of different types to compare growth at different times of year.
- Find similarities between mulching and natural ecosystems (forest floor).
- Start some seeds using different soil amendments or potting mixes, let them grow until differences are visible.
- Investigate the history of different pieces of land, try to interpolate the effect of different practices.
- Start a compost tea brewer. Directions available on the internet at www.soilfoodweb.com.
- Sort through a cup of compost and observe the number of different creatures you find.

References (books, magazines, websites, organisations, etc.):

- Minnich, Hunt, et al. *The Rodale Guide to Composting*. New York: Rodale Press, 1979.
- Rateaver, Bargyla and Gylver. *The Organic Method Primer*. CA: Rateaver Publishing, 1973.
- Gershuny, Grace. *Start with the Soil: The Organic Gardener's Guide to Improving Soil for Higher Yields, More Beautiful Flowers, and a Healthy, Easy-Care Garden*. New York: Rodale Press, 1997.
- The Greater Victoria Compost Education Centre 1216 North Park, Victoria BC, www.compost.bc.ca
- www.soilfoodweb.com
- Stell, Elizabeth. *"Secrets to Great Soil". A Storey Country Wisdom Bulletin*. MA: Storey Publishing Direct, 1978.
- Campbell, Stu. *"Improving your Soil". A Storey Country Wisdom Bulletin*. MA: Storey Publishing Direct, 1995.
- Composting Council of Canada, www.compost.org
- www.gardenguides.com
- www.ext.vt.edu/departments/envirohort/factsheets2/landsmaint/jul94pr5.html

Red Wiggler worms can consume their weight in organic material every two days!

Soil Life

Topics

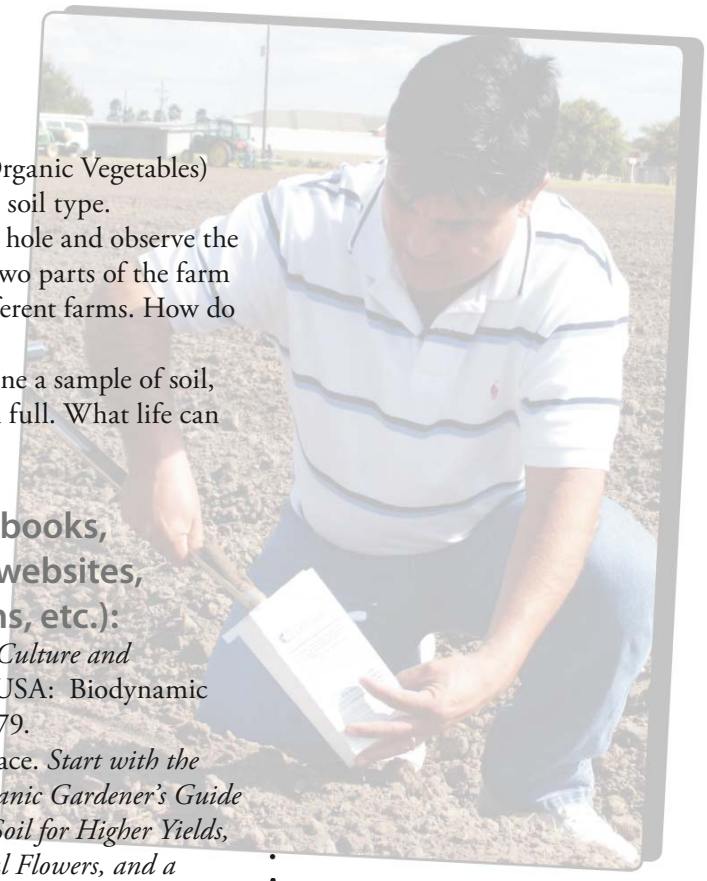
structure, function, nutrient cycling, composition, texture, pH

Questions to ask during the apprenticeship:

- What is soil made of and how is it structured into layers?
- What function does soil have to plants?
- What type of soil do you have? clay, sand, loam, organic matter?
- What are the layers here? How was this area formed (glaciers)?
- Do you know the mineral and nutrient composition of this soil?
- Do you have a soil test to look at? How often is the soil tested on this farm? How is it tested?
- What is the typical pH here? Does it change?
- How active is the soil microbiology? What activities on the farm affect this?

Activities for teaching/ learning:

- Collect I cup of soil and put it in a quart jar two thirds full of water. Add one teaspoon of non-sudsing dishwashing detergent. Fasten the lid securely and shake vigorously for 10-15 minutes. Set the jar where it won't be disturbed. The largest particles will settle at the bottom within one minute. Mark this level as the sand content. Silt will have settled in about 2 hours. Clay will settle in a couple days, you will know when the water is clear. You can calculate the percentage of these components by dividing the thickness of the layer by the entire thickness of the three layers (times 100 to get percentage).Compare this to the Soil Type Triangle (found in many resources such as Growing Organic Vegetables) indicating the soil type.
- Dig a 3'x3'x3' hole and observe the soil layers in two parts of the farm or on two different farms. How do they differ?
- Closely examine a sample of soil, about a shovel full. What life can you observe?



References (books, magazines, websites, organisations, etc.):

- Storl , Wolf. *Culture and Horticulture*. USA: Biodynamic Literature, 1979.
- Gershuny, Grace. *Start with the Soil: The Organic Gardener's Guide to Improving Soil for Higher Yields, More Beautiful Flowers, and a Healthy, Easy-Care Garden*. New York: Rodale Press, 1997.
- Brady, Nyle C. *The Nature and Properties of Soils*. New York: Macmillan Publishing Co. Inc., 1974.
- The Greater Victoria Compost Education Centre 1216 North Park, Victoria B.C., www.compost.bc.ca
- www.soilfoodweb.com
- Stell, Elizabeth, *"Secrets to Great Soil". A Storey Country Wisdom Bulletin*. MA: Storey Publishing Direct, 1978.
- Campbell, Stu. *"Improving your Soil". A Storey Country Wisdom Bulletin*. MA: Storey Publishing Direct, 1995.
- Fornari, C.L. *"Gardening in Sandy Soil". A Story Country Wisdom Bulletin*. MA: Storey Publishing Direct, 1997.
- www.gardenguides.com
- www.ext.vt.edu/departments/envirohort/factsheets2/landsmaint/jul94pr5.html

Each shovel of soil contains more living things than all of the human beings ever born.

Tools, Equipment and Structures

choice, use, care, maintenance, source, cost

Questions to ask during the apprenticeship:

- Which tools are your favourites and why?
- How are tools maintained and cared for?
- What is the proper way to use this tool?
- Which tool is best for this job?
- Where did you get these tools?
- How much did they cost? What is their expected lifetime?
- Do you use equipment or machinery? Why or why not?
- What different designs do you know of for chicken coops, animal shelters?
- What considerations are required for outhouses?
- Did you build the gates /fences / bridges here? Would you build them differently today?
- What can you tell me about the design and construction of the other outbuildings?
- What new tools/machines/structures would be good additions to the farm?
- How do you make a decision whether or not to invest in them?

Activities for teaching/ learning:

- Have a designated spot for the tools, keep a brush, rag and bucket of sand with oil there to dip tools in regularly.
- Sharpen tools and maintain machinery with the help of the apprentice.
- The apprentice should research the purchase of one new tool/machine/ structure for the farm.

References (books, magazines, websites, organisations, etc.):

- Bruyere, Christian, and Robert Inwood. *Country Comforts- Designs for the Homestead*. New York: Sterling Publishing Co. Inc., 1976.
- Bartlett, J.V. *Handy Farm and Home Devices and How to Make Them*. Cambridge Mass: MIT Press, 1980.
- Lee Valley Catalogue, www.leevalley.com

"SUCCESS comes to the man who so works that his efforts will bring the most and the best results – not to the man who simply works hard…There are many handy devices, not made in any factory and not sold in any store, that every intelligent man can make himself, which save money and labor and time." Handy Farm Devices and How to Make Them

Vineyard

Topics

grape vine growth and physiology, materials and techniques for trellising, weed control techniques, amendments, training and pruning techniques

Questions to ask during the apprenticeship:

- What are the steps in establishing a vineyard?
- What kind of soil do grapes need?
- How do we balance vigor and productivity in a healthy plant?
- What are the symptoms of common nutrient deficiencies or stress?
- What techniques are there for trellising and pruning, why did you chose this one?
- Which varieties do you grow and why?
- What are the current trends in wine?
- How can we improve plant health?
- What are the common pest and diseases of grapes? What can we do to prevent them and control them?

Activities for teaching/ learning:

- Write a calendar of the jobs in the vineyard from January to December.
- Observe and collect insects and identify them.
- Observe unusual looking grape leaves and learn to identify nutrient deficiencies, environmental factors or pest and diseases.
- Learn to identify the different varieties by leaves, grapes and growth habit.
- Draw a grape vine profile from planting to maturity.

References (books, magazines, websites, organisations, etc.):

- *Oregon Winegrape Grower's Guide*. Portland, Or: Oregon Winegrower's Association, 1992.
- *Management Guide for Grapes for Commercial Growers* (Updated Version). BCMAFF and BC Wine Institute, 2003.
- Pearson, R.C., and A.C. Goheen. *Compendium of Grape Diseases*. St. Paul, MN: American Phytopathological Society Press, 1994.
- Grapes to Wine magazine by Wine Trails Publishing, Summerland, BC

There are now about 5,000 acres of premium wine grapes growing in B.C., 1,000 of which were planted in the last two years. The industry is small by comparison, but it is among the most rapidly expanding of the new world wine regions.
– www.bcwine.com

APPENDIX 1

Farmer Application, p.1

Date: _____ Town / City: _____

Name of Farm: _____

Farmer and Family Member's Names: _____

_____

Address/ City/ Prov/ Postal Code:

_____

_____ Email: _____

_____ Phone: _____

Hours you can be reached: _____

How did you hear about this program? _____

Number of Apprentices required, and for what time period: _____

_____

_____

Tell briefly about yourself, your family, background, farming and other experience, philosophy, goals: _____

_____

_____

Why do you want an apprentice? _____

_____

Describe the physical setting of your farm and the nature of the community you live in (e.g. acreage, woods/fields, buildings, close to town? in remote area?, recreation available, etc.).

_____

_____

_____

Please check the farm experiences and skills that you have to offer:

- ☐ - self-sufficient gardening
- ☐ - dairy farming
- ☐ - cattle
- ☐ - fruit orchard
- ☐ - bees
- ☐ - greenhouse
- ☐ - forestry
- ☐ - logging
- ☐ - commercial market gard.
- ☐ - horses
- ☐ - cooking
- ☐ - goats
- ☐ - pigs
- ☐ - poultry
- ☐ - rabbits
- ☐ - haying
- ☐ - construction
- ☐ - herb cultivation
- ☐ - homesteading
- ☐ - alternative energy sources
- ☐ - permaculture
- ☐ - farmers market

APPENDIX 1

Farmer Application, p.2

Describe the range of work to be performed and the skills to be practiced by an apprentice:

_____

_____

_____

What do you expect of an apprentice (how many hours per day, days per week, heavy physical work, etc.)? _____

_____

_____

Explain how you intend to provide instruction and training to an apprentice:

_____

_____

_____

How would you describe your farming library?

☐ - non-existant ☐ - fair ☐ - good ☐ - excellent

What resources are there in your community for additional learning experiences for your apprentices? _____

_____

Can you pay an allowance or a wage in addition to providing room and board (state the amount)?

_____

_____

Are all your crops organically grown? If not, to what degree are organic methods used on your farm? _____

Do you want an apprentice to visit your farm before the final arrangements are made?

☐ - yes ☐ - no

Are you able to consider accepting apprentices with families or mild physical or mental disabilities?

☐ - yes ☐ - no

Explain the room and board arrangements: _____

_____

_____

_____

APPENDIX 2

Apprentice Application, p.1

Date: _____ Age: _____ Sex: _____

Name: _____

Address/ City / Prov / Postal Code:

_____

_____ Email: _____

_____ Phone: _____

Are you applying with other family or friends? Who? _____

_____

How did you hear about this program? _____

Have you visited our web site? ☐ - Yes ☐ - No

If so, which 5 farms interest you (please give the region and number)? _____

_____

_____

Time period during which you are available: _____

_____

Check the farm experiences and skills that are of interest to you and describe any other interests you have:

☐ - self-sufficient gardening
☐ - dairy farming
☐ - cattle
☐ - fruit orchard
☐ - bees
☐ - greenhouse
☐ - forestry management
☐ - logging
☐ - commercial market gard.
☐ - horses
☐ - cooking
☐ - goats
☐ - pigs
☐ - poultry
☐ - rabbits
☐ - haying
☐ - construction
☐ - crafts
☐ - herb cultivation
☐ - homesteading
☐ - alternative energy sources
☐ - permaculture
☐ - farmers market

Other: _____

_____

Why are you pursuing this program? Do you want to set up your own farm one day? Do you want to learn skills that can be a valuable farm employee or co-operant? Do you want to experience a natural farming lifestyle out of general interest? Other reasons? _____

_____

_____

_____

Apprentice Application, p.2

How do you think you will feel living with different people in a new and unknown rural environment? _____

_____

_____

Please provide a summary of your background including volunteer and work experience, formal education and any relevent training you may have: _____

_____

_____

_____

___

Is the receipt of a modest wage or allowance crucial to your ability to become an apprentice? If so, please explain: _____

_____

_____

_____

Will you be able to make a visit to the farm of someone with whom you may wish to apprentice?

☐ - yes ☐ - no

Please give a comment on the following and add any other considerations that are important to you:

Diet (vegetarian / other): _____ Smoker / non-smoker: _____

Allergies or medical needs: _____

Physical or mental disabilities: _____

Transportation needs: _____

Desire to be near town: _____

Strong idealogical views (political, religious, feminist): _____

Hobbies: _____

What other personal goals are important to you now (social, health, spiritual, artistic, relationship, political)? Please expand any other thoughts, hopes, ideas, aspirations, considerations, or comments: _____

_____

_____

_____

APPENDIX 3

Welcome Apprentice Letter

Dear Apprentice

Welcome to SOIL. We have received your application and cheque and note that you are interested in the following farms:

We are including copies of these farm applications in another email and will be forwarding your application onto them to review.

You should review the farm applications and contact those that best meet your needs. Some of the farms may contact you. It is best if you can visit the farms, spend a day working with the farmers, and then begin discussing the terms of your apprenticeship. You may not be able to travel to the farms but there are a number of topics you should discuss, some very practical, which are detailed in the Contract Guidelines attached such as:

- Training goals
- Education
- Work and Skills
- Personal Goals
- Hours/terms
- Compensation
- Community
- Conflict Resolution

It is even more important that you and the farmer start by discussing each other's goals, expectations, and concerns surrounding the apprenticeship. Once you have confirmed your apprenticeship with one of the farms, please let us know. We would also be interested in learning from you any problems you encounter in your search or advice we can pass on to other folks seeking an apprenticeship.

Sincerely,

Mary Alice Johnson
Erin Harper

Contract Guidelines for Farmers & Apprentices, p.1

The following headings contain items that you may wish to discuss and detail in your contract. Every SOIL contract is unique to the farm situation, so we encourage you to add your own headings and/or topics in depending on your needs and concerns. Though it may seem tedious, it is good to be as specific as possible in the contract. That way both apprentice and farmer are clear about what is expected. It is a good idea to get an agreement down on paper. The apprentice might offer to do this for the farmer.

1. Discuss training goals

Apprentice: Why are you pursuing this program?

- Do you want to set up your own farm one day?
- Do you want to learn skills so that you can be a valuable farm employee or cooperant?
- Do you want to experience a natural farming lifestyle out of general interest?
- Other reasons?

Farmer: Why do you want an apprentice?

- For extra labour
- To pass on knowledge
- To provide people (urban, youth, etc.) with a new experience, share your way of life?
- Are you looking for someone to take over all or part of your farm or to join your farm long term?
- Are you interested in inspiring people to become sustainable farming/food security activists/ advocates?
- Other reasons?

2. Hours/Term

Be specific, detailed, and include:

- Length of apprenticeship and beginning date
- Number of expected work hours per day
- Breaks, siestas
- Meal times
- Whether or not working hours are flexible and how much notice is necessary
- Whether hours change with the seasons
- Days off, holiday, sick leave, and mental health days

Contract Guidelines for Farmers & Apprentices, p.2

3. Education

Both the farmer and apprentice should detail their goals for the apprenticeship. We provide a Support Manual for both farmer and apprentice to refer to for ideas and questions to ask each other as well as to ensure nothing important gets missed. If the farm has a set curriculum, it might be good to attach an outline of the learning covered to the contract.

Things to discuss:
- Will training be formal or hands-on in the field?
- Is there access to learning materials (i.e. books, tools, farm community members)?
- Is learning spontaneous or structured?
- Will apprentices visit or participate in work parties on other farms, or have guest teachers?
- How much time will the farmer have available for teaching the apprentice?
- Will written materials be provided for the apprentice?

4. Compensation

Food
- Will all food be provided, or just what's growing?
- Outline limits to consumption of farm food, if any (ex. can apprentices give farm food as gifts to friends and family? Are there crops that are only to be eaten as treats or that are off-limits?).
- Are meals shared?

Housing and Transportation
- What kinds of things will apprentices need to provide for themselves?
- What kind of housing is available to the apprentice (ex. shared/private, heated?)
- What household supplies does the apprentice need to bring (ex. towels, bedding, cookware)?
- What level of housekeeping is expected, what laundry facilities are available?
- How will the apprentice get around off of the farm (bike, foot, car, are rides available)?
- What kinds of bathing and cooking facilities are available to the apprentice?
- Are visitors welcome on the farm? How long is it acceptable for them to stay? Are they expected to contribute to the farm during their stay?

Stipend
- Will there be a stipend? How much? Is the stipend monthly? An hourly wage? An honorarium?
- Does the stipend increase with experience?
- Where there is no stipend, does the farmer offer other non-monetary ways of compensating the apprentice?
- Is there a bonus or honorarium for staying the whole term?

Contract Guidelines for Farmers & Apprentices, p.3

Insurance
- If insurance is provided, outline important aspects of the plan or attach copies of the plan.

5. Work and Skills

It's a good idea to provide the apprentice with a general seasonal breakdown of the farm work over the term they will stay for. A list of general tasks that the apprentice will be required to do and skills they will learn will also help to clarify expectations (ex. the apprentice will learn about planning crop rotations, proper use and maintenance of tools, carpentry, herb collecting and drying, seed saving, etc.). Here the apprentice should also list tasks that they are uncomfortable or unable to do (i.e. tractoring, working with a chainsaw, slaughtering animals for meat, etc.). If the farm has safety policies or guidelines, it is helpful to outline them here as well.

6. Community

It is a good idea for both the farmer and apprentice to list their attitudes and expectations around communal living and working so they can build a comfortable and trusting relationship. Where points of concern and interest arise, guidelines for community living and working can be created to suit both the farmer and the apprentice. Farmer should give the apprentice an idea of the local community and resources available to them.

7. Personal Goals

Apprentice
What other personal goals are important to you now (social, health, spiritual, artistic, relationship, political)? Are there any issues that may directly affect your apprenticeship?

Farmer
What are you trying to achieve on the farm this year and long term? What are your personal motivations for small scale farming and accepting apprentices?

8. Conflict Resolution

How will both parties ensure that conflict is aired and dealt with? Will there be a process? (ex. weekly meetings, or as problems arise) Name a mediator if desired. If an apprentice chooses / has to / is asked to leave, what is the process for breaking the contract?

Sample Land Lease-Share Contract, p.1

LEASE-SHARE AGREEMENT, 2004

PARTIES TO THE AGREEMENT

John & Judy Jones, are the owner-managers of Windy Hill Farm at 123 Oldfield Rd, Weston Ontario, M5K 2E7

John Jones, hereinafter referred to as the Farm manager, and Sarah Parker , hereinafter referred to as the lessee on the ____ day of _____ 2004 hereby agree to the following;

LEASE-SHARE TERM:

The term of this agreement is for 8 months starting March 1, and ending October 31 2004. Where parties agree this lease share agreement is quitable or renewable.

LEASE-SHARE FEES

The lessee will pay a nominal seasonal market garden plot lease fee of $1.00 for 2004.

DESCRIPTION OF LEASE-SHARE AREA

The lessee's plot area consists primarily of shared Farm Land comprising the market garden plots and orchards situated on Windy Hill Farm as defined in the whole Farm plan submitted to the Biodynamic Agriculture Society of BC for Organic Certification in 2003.
The Farm manager will share the 2 cold frames with the lessee for propagation purposes until May 15 when the lower cold frame will be moved East and both cold frames will then be used for production by the Farm manager.

DESCRIPTION OF RESPONSIBILITIES

All work carried out on the Farm by the lessee will be conducted in accord with existing government land use and production regulations. All work carried out on Windy Hill Farm by the lessee will be done in keeping with the certified organic and TLC Conservation Partners agreement standards applying to the Farm. All produce marketed from the Farm by the lessee will be done in accord with the Farm managers advanced food safe certificate. The Farm manager is responsible for machine plot tillage and for system maintenance and making available water for plot irrigation, in a timely manner. Each party will be responsible for application of conservation oriented irrigation to his or her own primary area of responsibility. Both parties will monitor and ensure that electric (and other) deer fencing is kept in working order. Any repairs to fencing are the responsibility of the Farm manager. Both parties will share in the propagation and seeding work to be done for the season. The Farm manager's share relates primarily to the propagation and cultivation of basil, cucumbers, buttercup & delecata squash, pumpkins, and garlic, while the lessee is primarily responsible for all other plot propagation and seeding. Weeding of plots will be commensurate with the above noted responsibilities; the Farm manager for his basil, cucurbit and

Sample Land Lease-Share Contract, p.2

garlic areas and the lessee's with all other of her primary responsibility areas.

PRODUCTION-SHARE FEES

SHARE FEES (COSTS):
The Farm manager and the lessee, will share 50-50 in the agreed upon seasonal input production costs. These include fees for: 2004 organic certification, seed, propagation trays, pots, soil mix inputs, plot tilling fuel, irrigation pump fuel, packaging, internet fees (for shared server use), market stall rates, ferry (marketing) transport fares, market van license & fuel (excluding non market fuel & uninsured vehicle damage).

The lessee is allowed use of the market van (at her own expense), for only requested and approved of, other Farm uses. The van will not be used for any non Farm purpose. Any other fees (costs) to be shared, must first meet with the (requested) approval of both parties. Full payment by a buyer of unauthorized inputs is otherwise due.

FEES & SOIL APPRENTICE RESPONSIBILITIES, NOT SHARED:

The lessee will pay her own phone bill, monthly, while it is still registered to the Farm. Either party causing property or vehicle damage will personally pay the repair costs.

The lessee will create a written agreement with, and supervise, one, agreed upon, SOIL apprentice, to be engaged in market gardening, 4 days a week, including Mondays & Fridays, for all or part of the season. The lessee will remit a $50 weekly stipend to this apprentice or equivalent in groceries, from the full (unshared) market proceeds. The Farm manager will provide a travel trailer & cooking propane, in the woodlot campsite, for one soil apprentice, in exchange for 8 hrs of apprentice Farm work per week. Apprentice work may be performed in a variable, flex time manner as required (not Fridays or Mondays).

PRODUCTION & MARKET SHARE RESPONSIBILITIES & REMUNERATIONS:

Beginning March 1 until June 15th, the lessee will market all available produce at all usual, established, Windy Hill Farm market locations. Proceeds of the market garden production during this period are shared 75% to the lessee & 25% to the Farm manager.

From June 15th to September 1st, only the Farm manager will market his produce (as noted above), at his pre-established restaurant and store outlets. His marketing can include whatever added produce the lessee agrees to have him market. Remuneration from his marketing will be shared; 75% to the Farm manager and 25% to the lessee.

From June 15 to September 1st, the lessee is primarily responsible for marketing all available produce from the market garden and orchard at Saturday and Tuesday Farmers markets and at the Food Co-op (and at any other agreed upon markets), the lessee's market share during this period is at a rate of 75% to the lessee and 25% to the Farm manager.

Sample Land Lease-Share Contract, p.3

On September 1st to the end of the agreement (subject to review), remunerations for what both parties market (at markets as above) will change to 50/50 market shares.

DOCUMENTATION

Both parties will record their operational transactions and keep, and share, all records of production inputs and returns, with each other. All fees and remunerations are payable upon receipt of documentation.

FAMILY HELP

The lessee will welcome plot and market help from the younger Jones family members, Jack and Sabrina , and in keeping with The SOIL Apprentice Program, will encouraged cooperation and enjoyment of learning about market gardening. Any stipend for such work by the children will be the responsibility of the Farm manager.

TERMINATION OF LEASE-SHARE AGREEMENT

Should, for any agreed upon reason, or for the lessee's breach of contract, it becomes necessary for the lessee to terminate this agreement, prior to October 31, then, after such a termination, the lessee forfeits any claim to the value of produce still growing or remaining on the Farm (unless a written agreement specifies otherwise).

Should Windy Hill Farm have to quit this agreement prior to October 31st, then the owner managers of the Farm agree, to either the lessee carrying out production with a 100% (or otherwise agreed upon) remuneration from markets, for the balance of the season, or, if that is not possible, with financial compensation for the value of unrealized returns from produce allocated to the lessee, at a rate commensurate with the remuneration returned for such produce for each of the same months of 2003.

GUESTS OF THE LESSEE

The lessee agrees that where other than one soil apprentice takes up Farm or woodlot residence, beyond two days duration, such campers will pay a fee of $10 per day to the Farm manager for such a tenure, unless other written agreements are made.

SUBLETTING

The lessee will not sublet the lease-share agreement to any other person without the prior written consent of the Farm manager.

Sample Land Lease-Share Contract, p.4

AUTHORIZED LAND USE

The lessee will not bring or store any material or equipment on the Farm, other than that to which the Farm manager agrees.

DISPUTE RESOLUTION

Should any dispute arise in the conduct of this lease-share agreement, both parties will seek arbitration to resolve such a dispute from three members of the Canadian Organic Growers agreed upon by both parties.

SEVERABILITY

If any section of this lease-share agreement shall be unenforceable or invalid, such material shall be read out of this lease and shall not affect the validity of any other section.

DISABILITY & PERFORMANCE OF DUTY

Should either party to this agreement suffer medical disability or for any other reason become unfit to carry out the responsibilities agreed upon here, then agreements shall be sought by both parties to enable substitution of duty by others, agreed upon by both parties or to agreed upon fair adjustments to remunerations due.

WAIVER OF AGREEMENTS

The failure of either party to this agreement, to insist upon strict performance of any of the conditions of this lease-share agreement, or to exercise any option herein conferred, in any one or more instances, shall not be construed to be a waiver or relinquishment of any such, or any other covenants or agreements, but the same shall remain in full force and effect.

IN WITNESS WHEROF, the parties hereto have executed this lease the day and year first above written.

LESSOR	**LESSEE**
John Jones, Windy Hill Farm	Sarah Parker
123 Oldfield Road	

Signed _____ _____

Lessee Emergency Contact Person _____

APPENDIX 6

Frequently Asked Questions, p.1

How does the program work?

The way we proceed is this:

- A potential apprentice looks at the website to see if they are interested in the program, if they are able to commit to the guidelines, and if there are any farms they would like more information on.
- Then the potential apprentice fills in an application available on line or by mail request. The more information you can provide the better so we and the farmers can know as much about you in order to make the best match.
- Once we receive the application and membership fee ($20 Cnd) we send out specific information on the farms indicated on the application form including contract guidelines for making a successful agreement.
- We also send your application to the farms you are interested in.
- If you are not able to access our webpage we will provide the information through mail, fax or phone.
- When you receive the farm information it is up to you to contact them though they may contact you.
- You should let SOIL know when you make a match or if you have any difficulties with this process.

How far in advance do I apply?

You can apply anytime but most farmers are looking to connect with an apprentice between January and March so they can plan their season and know what kind of help they will have. So December is the perfect time to apply.

Is there any way I can contact individual farms about more information regarding their work?

You will be given detailed information on the applications of farms you expressed interest in on your application. The website descriptions are the basics to help you narrow down your choice.

How often do farms accept apprentices and how many?

This varies from farm to farm but many prefer to have one or two for as much of the season as possible. Some only need help for a couple months during harvest, pruning, or calving time for example.

Frequently Asked Questions, p.2

What as an apprentice can I expect to learn?

Apprentices will be taken into the farm as anything from an extra set of hands to a full-fledged family member. The learning will mostly come from hands-on experience doing all the work alongside the farmer who will usually give you an introduction to the work and answer questions as you go. Many farmers will let you do work by yourself once you are comfortable with the task, this is the best way to learn - by experience!

Is the web page up to date?

The web page is updated often (about once per month when new farm information comes in) and yearly we seem to do an overhaul on the basic information.

When is the best time to apply?

We prefer that you apply between October and April as this is the down season for most farms as well as our coordinators. Applications received between May and September will still be accepted but may be delayed.

Can I receive information on more then 5 farms?

We start out giving you 5 choices of farm information to look through and recommend that you contact these farms to find out more about what they have to offer. If you can not make a match then we will happily send you more info on 5 more farms.

How long does it take to make a match?

The time between your application being received and your making a match with a farm usually takes 2 weeks-2 months depending on the season, how motivated you are, when we receive your cheque, and your travel/ farm visit plans.

If I don't make a match can I reapply at another time?

Your membership is good for a year or as long as it takes for you to find a match, which ever is longer.

Frequently Asked Questions, p.3

Do all the farms offer stipends?

About half our farms offer stipends of $200-$400 per month. Others say the stipend amount depends on the amount and type of experience an apprentice has and may increase depending on how quick they learn. Some feel that the exchange of labour for room, board and teaching is a fair exchange.

What is the $20 for?

The membership fee covers some but not all of our expenses including website, paying a coordinator, publicity materials, postage and office supplies. We try to make it affordable for everyone. Cheques should have the member's name (apprentice or farmer) identified and can be made out to SOIL.

Do I need to be a Canadian Citizen? Do I need a VISA?

Anyone can apply for apprenticeship, we only accept applications from Farms in Canada. People from most countries in Europe, the United States, and countries of the British Commonwealth do not need a VISA to visit and volunteer. SOIL and listed SOIL farms do not offer additional help with obtaining a VISA. Receiving a stipend is not really considered employment however any information found on the government website supercedes any information SOIL supplies.

Here is a bit of information from the Canadian Government Website, which you should check out: www.cic.gc.ca/english/visit/visas.html

To visit Canada you:

- Must be healthy, and may require a doctors examination.
- Must respect Canadian Laws,
- Will need a valid passport of who you are or other travel documents,
- Will need a temporary Resident VISA if you are from one of the countries listed on the website.

Canada does not pay for hospital or medical costs for visitors. Make sure you have health insurance to pay your medical costs before you leave for Canada.
Contact a Canadian Embassy, high commission or consulate for information on what you will need before coming to Canada.

APPENDIX 7

Web Site Links

The following websites have information on apprenticeship programs and contracts on organic farms:

- CRAFT Ontario: www.cityfarmer.org/craftONT.html
- Brookfield Farm: www.brookfieldfarm.org/appr_details.html
- Everdale Environmental Learning Centre: www.everdale.org
- Planet Friendly Organics Page: www.planetfriendly.net/organics.html has links to other apprenticeship programs and learning centres.
- LLAFF Linking Land and Future Farmers: www.llaff.org
- Canadian Organic Growers: www.cog.ca
- ACORN: www.acornorganic.org
- Growing New Farmers: www.northeastnewfarmer.org/
- NorthEast Organic Farming Association: www.nofavt.org
- The New Farm (Rodale): www.newfarm.org
- CSA Farm: www.angelicorganics.com/

apple butter recipe

2 dozen medium apples, peeled and quartered.
2 Cups. apple cider or juice
3 Cups sugar
1 1/2 teaspoon cinnamon
1/2 teaspoon cloves

Cook apples in cider until tender. Press through a sieve or food mill. Cook apple pulp until thick enough to heap on a spoon. Stir often, as it thickens. Add sugar and spices. Cook slowly, stirring frequently, until very thick. Ladle into hot, sterilized jars. Process for 10 minutes in a hot water bath. Yield: about 3 pints