



# Martime Certified Organic Growers

## ~ Organic Farm Profiles ~

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## Organic Market Garden

by Roger Henry, PAg.

This profile is part of a project coordinated by the Maritime Certified Organic Growers Cooperative (MCOG), with financial assistance from Agriculture and Agri-food Canada's CARD program. The information contained in this profile was obtained from interviews with regional organic producers over the past two years, and from the author's personal experience.

### Land Base

One would get many opinions about the amount of land required to operate a successful market garden and provide a living for a family in the Maritimes. Eliot Coleman suggests, "...ten acres of good land is sufficient for a successful vegetable farm." It is generally considered that two to three acres of vegetables is all two people can manage without outside help. The total amount of land is not as critical as the quality of land and access to water. Many would say that you cannot pay too much for good land. You may or may not agree, but the point is if you are going to set up an intensive vegetable garden the higher quality the soil the greater the overall productivity of the acreage and the greater the profit potential. Other considerations are soil type—ideally as near to a loam as possible;



Greenhouses for season extension.

slope—ideally gentle slope to the south or southwest; windbreaks—on boundaries to the prevailing winds; and options for early warming and slower warming land in the spring on the same piece of ground. The latter will make it much easier to produce a continual supply of vegetable over the course of the season. Ideally one would purchase more than 5 acres, as the additional land will provide a buffer to neighbours and allow for a woodlot, longer rotation with more green manures, opportunities for expansion, or the inclusion of livestock.

### Buildings

Greenhouse - This will be useful for season extension and transplant production.

Tool and equipment storage - There are many options for storage. The main thing to remember is considerable storage will be required. A simple pole structure is probably the most cost effective option.

Marketing - Space required for marketing will depend on the strategy employed. If one intends to sell farmgate then an area for sales will be required. This can be an area attached to the processing area, a garage attached to the house, or a separate stand.

Processing - An area to grade, clean and prepare the vegetables for sale will be needed. Depending on the crops grown, this area may require electricity and water. Given the relatively low amount of precipitation received recently in the region, thought should be given to reusing the water from the washing facility for crop growth. Having the ability to cool the vegetables allows one to harvest one or two days earlier than if no cooling facilities exist. This also allows one to spread the harvesting over several days rather than just prior to the market day.

Vegetable storage - Generally crops are grown and marketed as they are produced, and long-term storage is not required. If your marketing strategy includes supplying customers with some produce year round with such crops

as potatoes and carrots, then winter storage will be required. An unheated clay cellar or root cellar will keep crops through the winter and can be economical to build in many locations. Squash and pumpkins can be kept through the winter but will require a dry area above freezing (ideally around 10 degrees C) such as an upstairs bedroom.

## Labor Requirements

Eliot Coleman speaks of working 2.5 acres of vegetables per person as the upper limit. We have to realize he is one of the best in North America and your productivity will likely be somewhat less depending on expertise, crops grown, set up, and marketing strategy. Maritime market gardeners generally have two to three acres of intensive vegetables per couple without much outside help. If the operation is four to five acres, outside labor will be required during the peak summer months to help with the additional harvesting. Any operation greater than 5 acres will require mechanization or a good source of local labor. Additional labor will be required to clear land, develop a woodlot, or allow owners to work off-farm during peak months.

Including a small amount of livestock into your operation can complement a market garden enterprise, although larger animals will require a significant time commitment

## Considerations

### Inputs & Fertility

The amount of inputs required depends on the state of the soil when starting out. Initially one usually imports fertility, but this may be decreased over time as a proper rotation and compost system are developed. Once soil fertility is adequate, the only requirement is to replace what the crop removed each year. Lime, compost, potting soil, greenhouse liquid fertilizer, bonemeal, and an additional source of P and K are the most common fertility inputs for market gardens. Compost will be the key input, and a local source of manure for composting is invaluable to a gardener.

### Equipment

There are three options: owning a large tiller and hiring primary tillage; owning a small tractor; and owning a horse. The choice will depend on cash flow, the access to affordable, high-quality used equipment, and your love or lack of for horses. All options will require hand tools, wheelbarrows, seeders, and a small in-row cultivator. Use hand tools whenever you can; there are several new types of hand hoes available, which are much easier to use than conventional hoes. It is also important to purchase high-quality hand



Compost—a key component in successful organic gardens.

tools—better steel, wood and proper balance will make a tool more efficient and using it much more enjoyable.

Option 1 - A 12 hp walk-behind tiller is appropriate for most operations. Keep in mind that tillers or powerharrows tend to kill earthworms and set up conditions conducive to compaction. One way to reduce this is to hire the primary tillage (plowing and discing).

Option 2 - I recommend a 20-35 Hp tractor. This option requires a set of basic tillage equipment such as a set of disc harrows, leveling harrows, a plow, and cultivators. A loader allows for a more extensive composting system.

Option 3 - You'll need a horse and some good quality horse drawn equipment, which may be difficult to find. It is relatively easy to convert older tractor equipment. It may be best to hire custom primary tillage, as plowing usually requires a minimum of two horses.

### Approved pesticides

The ultimate system does not use even approved pesticides but very few gardeners are at this level even after 10 years of practice. Whether one decides to use Bt, Copper Sulphate, and other things, the gardener will require a system to control pest outbreaks as they occur. If an outbreak does occur then inputs will be required.

### Greenhouse equipment

For operating a greenhouse you'll need basic soil block equipment, and possibly supplementary heating and lighting.

### Irrigation equipment

Given the recent lack of rain in the Maritimes, Annapolis Valley has had a drought the last 4 of 5 years, it would be wise to be able to supply supplemental water to a portion of your land each year.

## Challenges

The challenges vary greatly from person to person and with location. The challenges listed below are most often mentioned during my farmer interviews.

### Pests

Insect pests were one of the most often cited problems for the market gardener. There are the traditional pests and new ones such as flea beetle and cucumber beetle that are attacking crops previously not bothered by pests. Weeds are manageable in a well-run system, but this requires constant vigilance a dedication to practices that reduce the weed seed numbers and avoid costly mistakes that create weed opportunities. Disease is also generally manageable in all but rare situations. Fruit and some potato producers have the toughest battle with disease.

### Intensive Operation

The more intensive the operation the higher the level of management required to run a successful operation.

### Access To Information

Information on allowable inputs, production and cropping practices, regulatory information will always is a challenge. It is important to develop an information network to help access information. There are now civil servants hired to work with the industry and more information is available on the web. The organic sector still has a small amount of resources allocated to it compared to conventional agriculture and considerable time will be spent seeking information.

### Time Management

All the market gardeners I met worked very hard during the 6 month growing season. A successful market garden will require 10 + hour days during the peak growing season. This issue is critical so the operator does not wear out emotionally or physically.

### Marketing

This will always be a challenge. Marketing can easily take up twenty-five percent of your time. It is important to have a well developed marketing strategy before you start production, as your marketing strategy will determine your work schedule. It is best to chose several marketing options at all times. This will prevent you from depending too heavily on one buyer and prevent loss of overproduced product. It is important to know the culture of your customers and the foods preferences of that culture, as this can open up opportunities. Will the operation sell value added products such as pickles? There are many marketing options.

Farmgate - This requires time to build up a clientele,

but it is a low-cost marketing option. Some producers find selling farmgate takes too much time for the return.

Farmers Markets - This option os more the tried and true method of selling organic produce. There are Maritime producers grossing \$1000+ per week at a market. Some areas will not support a farmers market; they tend to work best in urban centers or towns with universities.

Food Guilds or CSA's - These options allow the farmer to develop a stronger relationship with the consumer, and provide needed capital at the start of the production year. This marketing option requires an adequate number of customers at the beginning of each year to be successful, as there will be a certain amount of customer attrition during the year.

Wholesale - This has only become a viable option within the last year. There are several large wholesalers in the region, and they are beginning to show interest in locally grown organic product. Presently there is some effort to organize producers to supply wholesale and export markets. This marketing option requires an adequate volume of product and the ability to deliver consistent quality.

## Value Added Potential

For many market gardeners this as an essential component of the operation. Success depends on the abilities, skills and interests of the grower. For instance, value-adding has a good chance of success if one has processing or cooking skills. More and more consumers are looking for ready-to-eat food, so anything that reduces food preparation time will add value to the product and make the item more salable. For example, \$0.50 worth of cabbage will bring \$3.00 as sauerkraut. Decorative items also increase the value. A braided garlic wreath will bring twice the income as loose



Intercropping garlic and carrots.



Mixed market garden with fall cover crops.

garlic. Flowers are another option which are quite profitable and add variety to the products offered. (Note: health regulations may make certain types of processing prohibitive or require a substantial investment to set up)

## Quality Control

Quality control is paramount to keeping your consumers or wholesalers purchasing your product. Wilted, aged vegetables will not sell just because they are organic, they must also look good. It is important to develop a relationship with your customers. Find out their vegetable preferences or stage of maturity preferred. This attention to detail will ensure repeat customers at a farmers market or a farmgate stand. Such things are more important if selling direct to the consumer, often more important than organic certification. Of course, certification is the priority when selling wholesale.

## References

### Recommended Reading:

The New Organic Grower by Eliot Coleman (Chelsea Green Publishing, White River Junction, VT). This has been revised and expanded and is an excellent manual covering most aspects of setting up, caring for, and maintaining an organic market garden. It also has a significant list of tools and sources where the various tools can be purchased.

The Winter-Harvest Manual also by Eliot Coleman (Four Season Farm, Harborside, ME). He published this himself and is available directly from him. This concise manual explains

how to set up the movable greenhouse system he uses for the year round production of the more hardy vegetable crops.

Growing Food Organically by John Bede Harrison (Waterwheel Press, Vancouver, BC). This book documents his conversion to organic farming and the techniques he used to achieve success back in the 40 and 50,s when no help was available.

MacMillan Book of Organic Gardening by Marie-Luise Kreuter (MacMillan Publishing Company, New York, NY). A concise book, full of small colour pictures which demonstrate the techniques discussed in the book.

Soil Fertility by Ehrenfried Pfeiffer (Lantern Press, UK). An excellent book on soil renewal and preservation, with consideration given to the Bio-Dynamic principles of soil building.

The Soul of Soil by Joe Smillie and Grace Gershuny (Chelsea Green Publishing, White River Junction, VT). Another good book on soil, how to build it and make it productive.

There are many books and now websites which will provide one with a great deal of information on organic market gardening. I suggest you read a few books, surf the web for specifics and try some of the techniques suggested. One cannot replace experience as a teacher. Presently PEI and NB have specialists in their agricultural departments with a mandate to provide extension to organic farmers. These people are quite knowledgeable and should be a good resource.

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