

Starting a farm in Canada



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Introduction

Starting to farm, especially for those with limited experience, is a decision requiring much forethought and study. This publication is not intended to tell prospective farmers how to farm. Rather, it lists, and comments briefly, on many of the aspects that ought to be considered before you decide to take up farming, either on a part-time basis or as a full-time business. It assumes you are contemplating starting to farm in Canada for the first time.

People want to farm for various reasons. Some have a desire to live and raise a family in a rural environment, work with animals, or to be their own boss. Others may want to do business (i.e., buy and sell), watch crops grow after tilling the soil and sowing the seeds, work with modern machinery, or, perhaps most important, to earn a living and increase their net worth.

Before deciding to buy or rent a farm, you have to choose the type of production you will undertake. As there are a number of types and combinations of enterprises available to the beginning farmer, their choice will be discussed. You should recognize at the outset that considerable time and study will be required in making a sound decision about the type and location of farm. Usually, a family's entire resources are committed to the undertaking and their future livelihood depends on its successful operation. Because of this and the large number of economic factors influencing the financing and potential income of the farm business, we will draw these to your attention. Hopefully, you will give due consideration to these factors and obtain further specific information about them.


If farming appears to be a complex business requiring a great deal of highly specialized knowledge and skills, you have reached a fundamental

and correct conclusion. Fortunately, there are many sources of technical information and financial advice freely available to farmers. In fact, it may appear that there are so many sources as to be confusing. The ability to discriminate in choosing advice is one of the keys to successful farm management.

Prospective farmers should realize that this industry has become very scientific. Many types of technology are used, e.g. chemicals to control pests, nutrients to fertilize soils and nourish livestock and poultry, and sophisticated machinery for doing work formerly done by hand. In spite of the vast amount of knowledge possessed by modern farmers, they rely heavily on veterinarians to cure sick animals, skilled mechanics to repair their tractors and machinery, and accountants to do their accounts and prepare their income tax returns.

Those who still think of farming as a quiet, peaceful, pastoral way of life will find that it is a highly competitive and strongly regulated industry. The Canadian farmer is not free "to be his own boss", free to plan, free to set objectives, or to produce and market what he will where and when he will, unencumbered by regulations and bureaucratic red tape. Among the few exceptions are beef cattle, sheep, corn, and fruits and vegetables either marketed on roadside stands or harvested by consumers, but even these have serious market limitations.

Land values and some marketing quotas have reached such high prices as to preclude an economic return on investment. Take extreme caution when considering the purchase of such farming operations. Opportunities for starting farming are, however, usually available in all of the farming areas of Canada for those who possess good health and adequate financial resources.



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Types of farming

Farming in Canada can be classified in a number of ways, for example:

- as part-time, full-time family operation, partnership, or corporation;
- as intensive or extensive, i.e., either high-value labor intensive crops on a small area or lower value crops grown on a larger area using mechanization;
- as mixed farming or specialized farming;
- as to the kind of enterprise, i.e., poultry, dairy, beef, grain, other cash crops, or specialties;
- as to small, medium or large;
- as dry land or irrigation; and
- in fields or under glass.

A part-time farmer is usually defined as one whose principal occupation is other than farming and whose major source of income is non-farm. An increasing demand from urban people to acquire property in rural areas is causing upward pressure on farm real estate values. A sizeable proportion of the total number of farmers in Canada are part-time, and produce much of the total volume of farm products.

If you are determined to eventually farm full-time yet do not have enough experience or savings, part-time farming offers the safest and most practical means of attaining both your short-term and long-term objectives. Be aware at the outset that you will be in a less favored position vis-à-vis federal and provincial government policies than those whose chief occupation and major source of income is farming. This is because, in most provinces, part-time farmers are not eligible for the major government grants and subsidies.

The full-time family farm is the most common type in Canada. With modern machinery, well-organized materials handling systems, and skillful management, it can provide a good living for the farmer and his family

without the excessive labor and drudgery formerly associated with the family farm. If the business is large enough, it will also support one or more hired workers.

Partnerships, either within the family or between non-related compatible persons, have certain advantages when starting a farm. This is particularly true when the size of the undertaking is beyond the financial means of one person and his capability, including his ability to provide or manage the labor.

Farming may be intensive from the standpoint of land, labor, capital, or any combination of these. Market gardening, eggs, and broiler chicken production would be examples of intensive farming. Cattle ranching, corn and other grain production would be considered extensive farming. Intensive farming may appeal to large families with limited capital, whereas large mechanized farms will suit the single operator with the capital and aptitude for working with livestock and machinery.

Mixed farms, with several small enterprises, have been replaced by more efficient farms specializing in one or two types of production. While the old-fashioned mixed farm with its small flock of hens, a few pigs and cows, beehives, fruit trees, and a large vegetable garden may still have considerable nostalgic appeal, it will not generate enough net income to support a modern family. For this reason, it is limited to part-time farming. Beginning full-time farmers will find a single-enterprise operation easier to manage and more profitable. It is, however, more vulnerable to weather and market fluctuations, but the Agricultural Stabilization Act does stabilize prices in years of abnormally low prices for nine of the major commodities. Crop insurance and marketing board pricing for many commodities have also lessened the risk of most types of specialized farming.

LIVESTOCK ENTERPRISES

Dairy

Dairying has usually been one of the more profitable livestock enterprises, especially when carried out on good land. Well-drained fertile soil that will consistently produce above-average yields of alfalfa, corn and grain is crucial for profitable dairying. The amount of milk produced and the net income from a dairy farm depends in large measure on the quantity and quality of the feed crops produced, harvested and stored on that farm.

The production of milk is specialized work requiring top management. Milking and other chores must be done on a regular schedule, preferably by the same people. Dairymen are tied down by the need to do chores



at regular hours every day of the year; dairy animals require more chore time than any other livestock.

Beginning part-time farmers do not often start into dairying because of high capital requirements, the need to quickly learn highly specialized skills, and the demanding hours of work. If you seriously intend to become a full-time dairy farmer, first obtain experience by working on one or more dairy farms.

Milk is one of the most highly regulated farm commodities in Canada. The facilities (milkhouse, etc.) must be government approved and a license to sell milk obtained from the provincial milk marketing board or the Canadian Dairy Commission before milk production begins. Since a marketing quota is also necessary, this will have to be purchased in addition to the farm, livestock, and machinery. The price of quota can be up to \$4000 or more for each cow in the herd. This means it would cost more than \$100 thousand to have the legal

right to sell milk from an economic-sized dairy farm (160 000 L annual production). This is about five times what it is worth, according to agriculture economists who have calculated this on the basis of capitalizing it into the farm business.

Successful dairying depends on feed production, as well as healthy cows properly housed, milked, and bred to calve regularly on a 12-month basis. The dairy cow during her lactation requires a full-feeding program. A cow will consume between 4 and 6 tonnes of hay or equivalent roughage per year. Three tonnes of corn silage or 2 tonnes of haylage can replace 1 tonne of hay. In addition to all the roughage she will eat, a dairy cow will require 1 and 2 tonnes of grain-concentrate mix to produce 5 000 to 8 000 kg of milk per 10-month lactation period.

Nowadays, most dairymen do not rely on pasture to provide a significant amount of summer feed for their milking cows. Rather, they feed more or less the same ration the year round. Dairy heifers, 6 to 24 months of age, are usually pastured on fields that are well fenced and where there is a reliable source of drinking water.

Rather than establishing a dairy farm by first purchasing land and buildings, then buying milking cows from various sources, equipping the farm with new or used machinery, and finally buying marketing quotas, practically all new operators start out by buying an established dairy farm. The price will vary considerably depending on the number of hectares, and kilograms or litres of quota, the number and quality of the cattle, the quality of the land, the age and condition of the machinery, and the condition of the farm buildings and the house.

At the lower end of the price range, the buildings and machinery will be older, and in need of repair or even replacement. The cows will not be registered or performance tested, and the land may be shallow, stoney, poorly drained, heavy clay or sand. The property will likely be located on an unpaved road considerable distance from the nearest town. For such a farm with 60 ha of land, 25 milking cows, and 20 head of young cattle, the asking price will likely be between \$200 000 and \$300 000. For a well-located 125 ha farm with good soil, modern buildings and machinery, 50 to 60 purebred, performance-tested cows and 50 head of young stock the price will range from \$400 000 to \$700 000. Whereas a farmer could expect to make no more than \$4000 to \$5000 net income per year on the poorer farm, he might very well make five or more times that on the better farm.

Beef

If you like cattle, but do not want to milk cows twice a day every day of the year, you can keep beef cattle. Beef cattle are used to convert crops such as pasture, hay and corn silage into a saleable product. Since the

returns per animal are much less than for dairy cattle, most farmers with beef cows also produce cash crops or have off-farm employment. There are two basic kinds of beef farming: cows and calves, and the finishing of cattle, usually in feedlots.

Cow-Calf—Beef cows are kept for the raising of calves which are often sold to a feedlot to finish. The calves are usually sold at 7 months of age when they weigh approximately 180 kg or at 10 months at around 280 kg. In some operations where feed supplies, stabling, and labor permit, the calves are grown out and sold as yearlings weighing from 340 to 400 kg.

The production and sale of beef calves has seldom been one of the more profitable types of farming. Wherever it predominates (e.g., Australia, Argentine, southwestern United States, and parts of Western Canada), it is usually associated with relatively large tracts (ranches) of cheap land, with minimum housing and little use of stored feed. In other parts of Canada, this type of farming has been unable to compete with other enterprises on the more expensive high-quality land. In some cases, a few beef cows are kept on good land to make use of crop refuse and the forage produced in cash crop rotations. However, many areas in Eastern Canada suit cow-calf operations better than any other type of farming. This is because the topography, stoniness, lack of drainage, and heat units are such that hay and pasture are the only suitable crops.

Research has revealed that it is not necessary to keep beef cows inside a barn during the winter in Eastern Canada. However, cows that calf in the spring need dry, draft-free conditions.

While nutrition is not as critical as that of high-producing dairy cows, it is essential that beef cows receive an adequate level of the necessary nutrients. During the winter a dry beef cow consumes approximately 2 tonnes of hay. The success of a cow-calf operation depends mainly on the percentage of calf crop weaned (at least 90%) and the level of pasture productivity. The quality of the soil and management practices (such as fertilizer use, pasture renovation, weed control, etc.) will greatly influence a pasture's carrying capacity. In Eastern Canada, a cow and her calf require 1 to 2 ha of good pasture for the summer season; in Western Canada they need as much as 6 to 10 ha.

The capital cost of a beef cow-calf operation can range all the way from a few thousand dollars for 40 ha of rough pasture land and a dozen cows to hundreds of thousands of dollars for a large beef-cow ranch in Western Canada.

Beef feedlot — A feedlot is a setup for growing and fattening cattle. It usually consists of a paved yard, surrounded by a windbreak, and may contain an open, unheated barn for shelter. It is designed for the sole purpose of storing feed (usually corn silage and feed grain), and moving it mechanically to feeding bunks



(mangers). Here, young cattle weighing 180 to 225 kg are fed for about 10 months until they reach slaughter weight of 450 to 550 kg.

Steers and heifers being finished in Ontario feedlots are fed all the corn silage they can eat. On the average, it takes about 900 kg corn silage plus 90 kg of grain to make 45 kg of live-weight gain. Thus a 205 kg stocker requires about 6 tonnes of corn silage and 545 kg of grain to reach a market weight of 475 kg; an average daily gain of 0.86 to 1.00 kg should be obtained, and death losses kept under 2%.

Because of the higher investment required for a farm with a feedlot, the large amount of operating capital (approximately \$400 000 for 500 feeder calves) and the possibility of losing money with fluctuating cattle prices, this type of farming is definitely not suited to the amateur. There is opportunity, though, for the smaller farmer in some areas to participate in the finishing of his cattle. Some feedlot operators take in other farmers' cattle and either charge for each kilogram of gain or for the feed consumed. In either case the capital cost and risk are much reduced.

Swine

Swine production has become such a highly specialized business in Canada that most hogs are raised on a few single-enterprise farms. However, a farmer can keep a few sows and sell the weanling pigs at the local auction barn, or buy another farmer's weaners and feed them out to market weight. Even at a gross margin of \$20.00 per hog over the cost of feed and weaner, it is apparent that to get every \$1000 of income, 50 hogs will have to be housed and fed to a market weight of 85 to 100 kg, requiring 150 to 160 days.

Farrow to finish—The most profitable system is to keep sows and feed their young to market weight. When most of the feed is produced on the farm, additional profits are usually made. Since the prices of market hogs and feed grains fluctuate and are somewhat cyclical, controlling both the feeder-pig supply and feed supply during periods of low returns helps overcome otherwise unprofitable years. Of the three systems of pork production, this one requires the highest level of management, the most elaborate buildings and the most capital.

Sows-weaner — In this operation, a herd of sows is kept for raising weanling pigs to be sold later to a feeder of market hogs. The young pigs are sold when weaned, usually at 5-7 weeks of age, although some customers prefer them to weigh 20 kg when weaned, which would be at 7-8 weeks of age. Much more labor is needed to look after a herd of sows and weanling pigs than a comparable-sized herd of market hogs. A lower proportion of the total expenses, however, is required for feed. On the average, slightly over 1 tonne of feed per year will feed a sow and her litters to weaning. A sow should wean two litters (or a total of 18 pigs) per year, 70% of which should index 103 or higher (a high-quality carcass).

As sows will farrow at any hour of the day, often at night, someone must be present at farrowings and to care for sick baby pigs on a 24-hour, 7-day basis. This requires a strong commitment to animal care because the success of the operation depends in large measure on close attention to the details of breeding, housing, feeding, and health of the animals. Accurate records should be kept as a basis for management decisions.

Market-hog finishing—In this operation, the farmer buys the weaner pigs and feeds them until they reach market weight of 85 to 100 kg. In some parts of Canada the hog feeders grow most of their own feed (the Prairie Provinces and Ontario), while in others (Quebec and the Maritimes) nearly all rely totally on purchased feed. Feeders who purchase all of their feed are vulnerable to high feed costs over which they have no control.

Hogs are paid for on an indexed carcass grade basis (higher prices for higher quality carcasses). Therefore a hog feeder should aim to market

the highest possible quality of hogs. Carcass quality is largely inherited; it is, however, also influenced by feeding and shipping weight. Consequently, it is important to purchase weaners from swine breeders whose pigs are noted for their high quality, feed them a properly balanced ration and ship them before they become too heavy. As with other livestock, pigs are subject to a number of diseases. Herd health becomes more of a problem when the animals are raised in large numbers under stress, unless the building environment is carefully controlled and the animals are observed daily for signs of sickness.

Long-term capital investment is usually lower than for most other enterprises which return the same net income. Operating capital, however, will be higher when all the weaner pigs and feed are purchased. A hog-finishing operation where the feeding and manure removal are mechanically done will require less labor per dollar earned than almost any other type of livestock enterprise.

As this is essentially a feeding operation, the feed conversion ratio (i.e., number of kilograms of feed to produce 1 kg of liveweight market hog) is extremely critical to the profitability of the enterprise. A 20 kg weanling pig will eat approximately 225 kg of a balanced feed to reach market weight before 160 days of age. Barley and corn are the feed grains most used. These are blended with protein, mineral, and vitamin supplements to make a balanced ration. The principal source of protein in Canada is soybean meal.

A swine feeder who is marketing fewer than 70% of his hogs with an index of 103 should probably change his source of weanling pigs and check his feeding program. Also, higher than 3% death losses will reduce the profitability of the enterprise.

Before committing yourself to a sow or feeder-pig operation, talk to experienced operators, representatives of the provincial hog-marketing board and regional extension staff. These are sizeable undertakings for which you might lack the necessary managerial experience.

The cost of establishing or purchasing either a sow or hog-feeding operation will depend on the amount and quality of land, the size of the buildings, and the degree of automation of the materials-handling equipment. Since all provinces have hog-marketing boards, the new operator must be registered with them and sell his hogs as directed by them. By assembling all of the hogs, they attempt to get the highest possible price for them. As yet the boards have not imposed production or marketing quotas.

Sheep

Sheep farming is one of the few unregulated types of production and one for which there is an unlimited opportunity for expansion in Canada.

Sheep, like cattle, are ruminants and thus can use forages and rough pasture land to advantage. They do, however, require very good fences which are costly to build and time-consuming to repair. The biggest deterrent to expansion of sheep farming is the threat from predators. Dogs running at large, and in some areas wolves and bears, can ruin a flock of sheep. However, for those prepared to work long hours at lambing and shearing time and to provide adequate fencing and predator control, sheep farming will provide a great deal of satisfaction and a reasonable income. Less capital is required to establish a sheep farm than a cattle or hog operation. Except at lambing and shearing time, sheep farming is not a labor-intensive operation. One man can look after 300-400 ewes and their lambs and also produce their feed.

A 60 kg ewe requires about 2 kg of hay per day plus up to 0.5 kg of grain during late gestation and early lactation. Total feed required, in addition to pasture, will be approximately 340 kg of hay and 55 to 70 kg of grain. For a flock of 400 ewes this means a total of 150 tonnes of hay and 25 tonnes of grain (requiring approximately 40 ha of hay and 10 ha of grain). Because sheep will eat many different kinds of weeds it is a common misconception that they do not need high-quality hay and pasture. Five ewes need about the same amount of feed as one beef cow. On the most productive, well-managed pastures in Eastern Canada, it is possible to stock as many as 12 ewes/ha. For good to average pasture, it is more likely to be two to three. On fair to poor pasture one ewe may need 2 ha (and even more in parts of Western Canada.)

Start on a small scale and secure the services of an experienced flock owner when selecting foundation animals. Two-year-old ewes are preferable, but good ewe lambs are satisfactory and frequently more readily available, as are large uniform lots of Western Canada ewes. Only ewes with good teeth, feet, and udders should be purchased. Since the rams have far more influence on the quality of the lambs in proportion to their numbers (1 ram to 30-35 ewes), it is wise to purchase the best-quality rams that you can possibly afford. Many breeds of sheep are available from breeders in each of the provinces. Most commercial sheep farmers follow the practice of crossbreeding to not only take advantage of the additional vigor of the offspring but to combine the desirable traits of the different parents.

Good management should result in at least 1.4 lambs sold per ewe annually and a death rate of less than 3% in the ewe flock.

The capital cost of establishing a sheep farm will vary with the quality of the land and buildings and the number, age and quality of the ewes. It should be possible to start an economic unit for about \$175 000.

Poultry

Poultry farming may be either for fresh-egg production, hatching eggs, broiler chickens, starter pullets, turkeys or ducks. It has become such a large-scale, highly specialized, capitalized, and regulated business in all parts of Canada that there is very little opportunity for beginners. For example, one person in a modern automated, caged laying-hen building can look after 10-30 000 birds. With an average annual egg production of 20 dozen eggs per bird, one person is producing 200-600 000 dozen eggs. On the same scale, one person can look after 50 000 broiler chickens. Putting out five to six batches per year from the same building, one person produces approximately 225 000 to 338 000 kilograms of chicken per year.

If you are considering a full-time poultry business, you pretty well have to purchase a property with buildings, flocks, and marketing quota as a going concern from an established producer. As a side line, or if you are a part-time farmer, some provinces allow you to produce and market the eggs from a small flock (300-500 hens) without going through the marketing board. You can also raise a few hundred heavy birds (capons) and sell them locally as dressed roasters without going through the broiler-chicken marketing board.

Because few newcomers start poultry farming each year, request more information from the provincial poultry superintendent's office and the local egg-marketing or broiler-chicken marketing boards.

CASH CROPS

Many people have started into full-time farming in Canada by renting or buying land, renting or buying machinery and then producing crops that can be sold for cash. This is known as cash-crop farming. It appeals to those who want to farm but who have neither the experience nor the desire to operate a livestock farm. Cash crops are also grown on a more limited scale by livestock farmers who have more land than they need to produce the feed for their livestock. As this type of farming requires less capital, investment is attractive to someone with limited savings who wishes to start farming.

In most areas of Canada you are usually limited in the number of different kinds of crops that can be grown satisfactorily and sold profitably for cash. We will discuss some of the factors which may affect your choice.

Climate—The climatic factors that should be considered when choosing a cash crop are:

- the length of the growing season (number of frost-free days, the latest and earliest frosts, and the number of days the temperature is over 5°C);

- the average annual accumulated heat units;
- the amount and distribution of rainfall during the growing season;
- the day length during the growing season;
- average monthly temperatures;
- frequency and intensity of storms, including hail;
- the relative humidity; and
- winds.

The experience of present and former farmers in the community will have pretty well determined which of the common crops are suited to that particular part of the country. In general, few opportunities exist for establishing a farm outside the present agricultural areas in Canada.

Soil—The various characteristics of soil that influence its usefulness for crop production are:

- topography;
- stoniness;
- drainage;
- soil profile;
- texture (sand, silt, clay, or muck);
- PH (degree of acidity or alkalinity);
- moisture-holding capacity;
- fertility (nitrogen, phosphorous, potassium, minor elements);
- weeds (perennial, annual); and
- herbicide residues (such as atrazine) are important in crop rotation.

Yield potential—How the crop is likely to perform in the environment, as described under climate and soil.

Markets—The following should definitely be explored before producing crops intended for sale:

- the demand for the crop;
- the prevailing and projected price pattern;
- the proximity to market and transportation costs;
- whether it is a free or controlled market (marketing boards);
- the number of buyers in the area, and their integrity; and
- if there is an opportunity to contract the crop with a buyer.

Availability and cost of inputs—Before choosing crops to grow for cash, carefully check the availability and the cost of the various items required to produce, protect, and harvest them:

- suitable seed (preferably certified of recommended varieties);
- necessary operating capital (considerable expense will be incurred over a period of months before any returns are received from the sale of crops);
- machinery, including specialized items, e.g., bean puller (if not owned, are custom operators available locally?);
- labor (with grains and oilseeds extra labor is not usually required as they are easily mechanized with modern machinery and materials-handling equipment, but tobacco, fruit and vegetables do depend on additional hired workers, especially at harvest time);
- materials, such as fertilizer, fuel, pesticides, etc.;
- fencing; and
- water for spraying and possibly for irrigation.

Profit potential—Yield potential times market value minus costs of inputs equals the pay off. Obviously, because of the large number of variables in each part of the equation, it is not possible to accurately predict the net profit from producing a particular crop. Nevertheless, you should—using averages (yields, prices, cost of production)—attempt to project the profitability of the various crops you intend producing. In addition to total or per hectare profit, it is useful to calculate it on the basis of per hour worked with the crop, and as return on investment after allowing a reasonable rate of labor return. Projecting a cash flow and probable profit not only helps in choosing the cash crops to grow but also assists in obtaining operating capital from the banker.

Risks—It has been said that one needs to be a bit of a gambler to depend on the production and sale of cash crops for his livelihood because of the large number of risks involved.

Returns from cash crops are influenced more by weather than by any other factor except poor management. Favorable weather will nearly always result in high yield of high-quality crops. Adverse weather reduces quality as well as yields.

Diseases, especially ones that cannot be controlled by spraying or dusting with the proper fungicides, pose a threat to crop production.

Outbreaks of insects, such as grasshoppers, armyworm, aphids, alfalfa weevils, etc., will substantially reduce yield and quality of crops, unless they can be controlled by spraying or by dusting with insecticides. However, insecticides are costly, dangerous to use, and may cause some harm to crops.

Bears, raccoons, groundhogs, rabbits, birds, etc., can cause considerable damage, especially to fruit and vegetable crops.

Storage required—Crops (such as canning crops—peas, tomatoes, sweet corn, pumpkin) that go directly from the field to the processing plant require no on-farm storage. Others like wheat, barley and oats require dry on-farm storage bins. Potatoes, winter cabbage and carrots need insulated cold storage, and apples need refrigerated and controlled-atmosphere storage rooms. Ear corn is stored in cribs, shelled corn is stored dry in bins and high-moisture corn is kept in silos.

The farmer—Your knowledge of the different crops and their requirements, your preference, and your ability to get things done on time, all need to be considered when selecting a cash crop to grow either on a part-time or full-time basis.

Alternate uses or salvage value—Crop insurance and marketing-board negotiated contracts with processors of canning and freezing crops have eliminated the risk that all income will be lost because crops are unmarketable. However, some crops still are risky because they have little or no salvage value. Examples are tree fruits damaged by a severe wind or hail storm, and moldy timothy and birdsfoot trefoil seed. Other crops like corn and wheat have a reliable salvage value as livestock or poultry feed.

Characteristics of the crops—Choice of crops may be affected by:

- their effect on the soil—some like corn are soil depleting while others like forages are soil conserving;
- their by-products—wheat or barley straw can be sold or used for bedding, but white beans, soybeans, mustard, etc., have no useful by-products;
- the relative value per unit of weight (potatoes and sugar beets have low value per tonne compared with oilseeds and forage seeds), an important consideration from the standpoint of labor and energy required to handle the product;
- requirements for special machinery—with some crops the farmer will be able to handle them with the machines he already owns, whereas others like white beans will require a special bean puller;
- date of maturity, which is significant if harvesting is to be scheduled in with other farm work;
- whether the crops are annual or perennial (with a short-term lease on rented land one must choose annual crops, while a long-term lease or ownership permits the use of perennial crops); and
- the amount of applicable research data available. In a particular area, there will usually be plenty of data on which to base management decisions when growing crops common to that area. For other crops, there will likely be many questions for which local research has not supplied answers.



Grain

The Prairie Provinces have a world-wide reputation for the production of high-quality grain crops—wheat, barley, oats and rye. If you are thinking of producing grain crops for sale, consider locating in the Prairies. There are, however, more limited opportunities for grain farming in parts of all the other provinces, with the possible exception of Newfoundland.

Grain production is a large-scale operation. You will need very large, expensive machinery at seeding time, for harvesting, and in most areas, for summer fallowing. This will require a sizeable investment in addition to the price of the farm. Of equal or even more importance (you can borrow money but you cannot borrow aptitude and skill), the farmer must be able to not only operate but to mechanically maintain large tractors, combines, sprayers, and tillage machines. Unless he has a flair for this and a well-equipped workshop, he will be almost entirely dependent on servicemen to maintain and repair his machines, which can be very costly. Also mechanical breakdowns can cause critical delays in planting

and harvesting, unless they can be repaired quickly. It may even mean carrying an inventory of the parts that most commonly break or wear out.

The basic requirements for the production of grain crops are:

- large fields of reasonably level, fertile, well-drained soil;
- a climate in which they can be depended upon to mature before frost;
- tractors and machinery to till the soil, sow the seed, spray, harvest and transport the crop;
- adequate dry-storage bins that can be aerated;
- a line of credit that will pay for fuel, repairs, seed, fertilizer, spray materials, and living expenses from spring until the first returns are received in fall and winter; and
- experience and knowledge that will enable the operator to make sound management decisions. Sound management decisions, includes:
 - choice of crops, depending on market outlook, etc;
 - what rotation or crop sequence to follow;
 - what variety and grade of seed to sow;
 - when to start working the land in the spring;
 - how much tillage to give the soil;
 - date, rate, and depth of planting;
 - analysis and rate of fertilizer to use;
 - kind and amount of seed treatment to use;
 - when to spray, what herbicide and what rate to use for weed control;
 - when to consider insect infestations severe, and what to do about them, if anything;
 - when to swath;
 - when to combine;
 - how to adjust the combine for proper threshing;
 - what moisture content grain should have for safe storage;
 - how to control stored-grain insects;
 - which field machines to use for after-harvest cultivation.

This is just a sample of the many management decisions a grain farmer has to make every day from spring till fall. Some of these cannot be learned by reading or by questioning other people, although this will help; the know-how to make good decisions is learned only by experience.

Wheat—In Western Canada the principal wheat grown is hard red spring—used chiefly in the manufacture of bread flour. The low grades and damaged wheat (frozen, sprouted, etc.) are used in poultry and livestock feeds. Much durum wheat is also grown on the Prairies. This is used to make pasta for macaroni, spaghetti, and other foods of this type. Ontario grows large quantities of soft white winter wheat, used to manufacture pastry and cake flour. Winter wheat is sown in the fall (mid-September to mid-October) and harvested in late July.

All grains in Western Canada are marketed on a permit system through country elevators on the authority of the Canadian Wheat Board. Winter wheat is marketed in Ontario by the Ontario Wheat Producer Marketing Board. Before starting production of either type of wheat, check with a representative of the particular marketing board.

Barley and oats—Barley and oats are more widely grown in Canada than wheat because of their overall adaptability. They are used mainly as feed grains, but about 10% of the total barley crop is used in the making of malt for the brewing industry. Over the past 15 years, the area sown to barley has increased and the area sown to oats has decreased. In Eastern Canada, they are often grown together as mixed grain. As these grains are more or less replaceable by corn in livestock and poultry rations, their price fluctuates with the price of American corn. With the exception of a few thousand hectares in southwestern Ontario, all Canadian barley and oats are sown in the spring and harvested in the late summer. Yields, in various parts of Canada, range from 2000 to 3500 kg/ha for barley and from 1500 to 2500 kg/ha for oats. Prospective growers should check with local provincial department of agriculture representatives for market opportunity, yield potential, and current variety and fertilizer recommendations.

Rye—This is a fall-sown grain that is more winter hardy than wheat, and tolerates poorer soil conditions. However, it yields somewhat less and has a rather limited market demand. It is used for distilling and, on a limited basis, in livestock rations. The vegetative growth is used for green manure by tobacco growers and as late fall and early spring pasture by a few dairy farmers.

Corn—In the decade between 1960 and 1970, corn became the glamor grain crop in Canada. While the greatest increase in area was in Ontario, production started (and continues to expand) in Quebec, the Maritimes and the more favored areas of Manitoba and Alberta. During that decade and the first half of the next, Canada was in a deficit position for corn, and it was a very profitable crop to grow, especially if high yields were obtained. About the time Ontario reached an exportable surplus, the U.S.A. was producing its largest-ever crops of corn (and Western Canada



had large stocks of feed barley) which had a depressing effect on prices. This market and price situation, together with increased input costs, has made this crop no longer profitable for marginal producers to grow. Until the market situation improves, the area of corn for grain in the marginal areas will likely decrease.

Persons starting to farm and wanting to grow mainly corn as a cash crop should consider locating in areas where the climate is favorable and the soil reasonably level and productive, so that higher than average yields will consistently be obtained. Otherwise, the chances of making a satisfactory return on their investment and labor will be rather slim. Land values (up to \$4000/ha) have become so high in Canada's corn belt it is doubtful if a beginning farmer could pay mortgage interest on the land, bank interest on the machinery and operating capital, and still make a profit in times of low prices.

On fertile, well-drained soil and under favorable weather conditions, corn is a very dependable crop to grow. Yields will range from 4000 to 7500 kg/ha. Cooler than normal weather throughout the growing season or extremely hot, dry weather at the critical period of silking and tasselling will depress yields. In the corn-growing areas, ample information is available on recommended hybrids, fertilizer usage, chemical weed and insect control.

When grown for sale, corn is mostly combined when the moisture contents range from 25-28%; then it is dried to 14% at a local custom corn drier. It is either returned to the farm for on-farm storage, placed in storage at the country elevator, or sold at harvest time. Also, it may be picked by a machine that removes the ears and their husks from the stalks in the field, placed in a corncrib, and left to dry until spring. This is less expensive than heat drying. Unless it can be sold as ear corn to a livestock feeder corn will have to be shelled before it is sold as grain. With the increasing number of airtight silos on livestock farms, a market is developing for high moisture (25-28%) corn delivered directly from the combines at harvest time.

If the crop does not mature satisfactorily for harvesting either as shelled corn or ear corn, the whole plant can be harvested and sold to neighbors or placed in stacks or horizontal silos for sale later. If neither option is available, it can be foraged off by beef cows or steers during the fall and winter.

In addition to use as livestock and poultry feed, large quantities of corn are used by starch manufacturers and distillers. A small percentage is used for breakfast and snack food.

Oilseeds

Oilseeds, unlike grains, do not have alternate uses as livestock feeds. This means they are riskier as cash crops. However, if proper care is taken in the selection of varieties and in their production (i.e., not seeding too late, following necessary weed control, and combining when ready) these crops are usually dependable in their area of adaptation.

Soybeans, canola, flaxseed, sunflowers, and mustard can all be grown and harvested with the same machinery used in the production of grain crops. A special attachment for combines will be needed to harvest sunflowers.

General areas of adaptation are: soybeans in southern areas of Ontario, Quebec, Manitoba and the Maritimes; canola in Manitoba, Saskatchewan, and Alberta; flaxseed in Manitoba, Saskatchewan, and Alberta; sunflower in Manitoba, Saskatchewan, and Alberta; and mustard in Manitoba, Ontario and Quebec.

A summary of facts about these crops is in Table 1.

TABLE 1 SUMMARY OF COMMON FIELD CROP FACTS

Crop	Approx. planting date	Approx. harvest date	Harvesting method	On-farm storage
Winter wheat	mid-September to mid-October	late July	Direct combine	Bin
Oats	late April, early May	mid- to late August	Direct combine or swath and combine	Bin
Barley	late April, early May	mid-August	Direct combine or swath and combine	Bin
Grain corn	mid-May	October	Direct combine, picker-sheller	Dry and bin, corn crib; silo as high-moisture feed
Field beans	early June	September	Pull, windrow and combine	—
Soybeans	late May, early June	October	Direct combine	Bin
Spring wheat	late April, mid-May	late August to late September	Swath and combine	Bin
Rye	mid-September to mid-October	mid-July	Swath and combine	Bin
Canola	mid-May	late August	Swath and / or combine	Bin
Flax	May	August, September	Swath and combine	Bin
Sunflower	mid-May	late September	Combine	Bin
Mustard	May	August	Swath and / or combine	Bin

White Beans

White beans are grown as a cash crop primarily in southwestern Ontario. The majority of the crop is canned, a sizeable percentage exported, and the remainder packed in small bags and sold in grocery stores. Beans are a relatively easy crop to grow but very difficult to harvest in good condition, unless the weather is sunny and dry (not always the case in September when they are ready for harvesting). Row-crop tractors require a special attachment to pull the bean plants which are windrowed and dried before combining. Rainy weather during these operations will seriously lower the quality of the beans and, in some years, it may completely ruin the crop. Under ideal harvesting conditions, the crop can be profitable. Growers in Ontario are required to market all of their crop under regulations of the Ontario white bean growers' marketing board.

Field Peas

Field Peas are grown mainly for the canning of pea soup and for sale as dry peas in grocery stores. There is renewed interest in peas as a protein feed supplement in the Maritimes, especially in Prince Edward Island. Until 1937 this crop was grown principally in Eastern Canada, but is now produced almost exclusively in Manitoba and Alberta.

Tobacco

This crop is so regulated, so highly specialized and so capital intensive that its production is seldom (if ever) undertaken by those starting to farm in Canada, unless they have had considerable experience on tobacco farms here or in other countries. If it is their intention to produce either flue-cured or burley tobacco in Ontario or Quebec, they should contact the respective marketing boards. Production quotas or marketing rights have attained considerable value and are capitalized in the price of tobacco farms. There are small tobacco growing areas in the Maritimes, mainly in Prince Edward Island and also in Nova Scotia and New Brunswick.

Horticultural Crops

Fruits and vegetables are grown commercially in every province of Canada. When grown in Ontario, Manitoba, Alberta, and Prince Edward Island for processing or fresh packed for resale, almost all of these crops are covered by provincial marketing boards. In British Columbia and Nova Scotia large co-ops are predominant in marketing them. There are two ways to market fresh fruit and vegetables that are not regulated by marketing boards and these are becoming more popular each year. They are roadside stands and pick-your-own operations. While selling produce from a roadside stand could increase your net income, it does add the burden of harvesting and retailing as compared to a you-pick operation. Fruits such as strawberries, raspberries, cherries, apples and pears are adaptable to the pick-your-own system, as are vegetables such as sweet corn, tomatoes, carrots and asparagus.

Municipal markets have been operating in some cities and towns in Ontario and other provinces for many years. Growers rent stands or space in the market area from which they sell their produce directly to consumers. Some of these markets can be operated on a year-round basis. If you are contemplating the sale of fresh fruits and vegetables, consider locating near one of the year-round municipal markets.

A tremendous amount of technology is involved in the production of horticultural crops, because of the large number of diseases and insects to which they are susceptible, and the wide range of pesticides available.

Fortunately, each of the provincial departments of agriculture employ specialists to advise growers on production problems.

While the production and the harvesting of most vegetable crops has been mechanized, most fruit crops are still harvested by hand. Unless the farmer grows only what his family can harvest, he will have to hire workers to harvest crops such as tree fruits, grapes, and tomatoes.

In practically all provinces, canning and freezing crops such as sweet corn, tomatoes, green peas, snap beans, and cucumbers are grown under contract. The terms and prices are negotiated annually between the processors and the marketing boards. For those who can obtain a contract and produce average or above-average yields, these crops have become quite profitable. Unfortunately, there appears to be little or no room for expansion in this section of the industry; Canadian processed fruits and vegetables are not competitively priced for export, with the possible exception of frozen french-fried potatoes and one or two other items. In fact, more canned peaches, pears, tomatoes, etc., are being imported each year.

Seed Production

If you take pride and care in growing high-quality, nearly weed-free grain and forage seed crops there may be an opportunity to produce pedigreed seed for sale. Like so many of other types of farming, seed growing has become a specialized business. The basic requirements for the production of certified seed are:

- land that has not previously grown the same or a similar crop from non-pedigreed seed for one or more years;
- the use of registered or foundation seed;
- extreme care in cleaning seed drills, combines, and storage bins to prevent contamination from other seeds or non-pedigreed seed of the same kind;
- sufficient isolation around the seed field;
- roguing of off-types, other kinds of seed, and noxious weeds from the seed fields; and
- the harvesting of plump, sound, high-quality seed.

Before deciding to produce pedigreed seed, ask one or two local seed companies which varieties are likely to be in demand the next year and whether or not they would be interested in contracting for some production. Once a market has been obtained, a seed company will usually supply registered or foundation seed for the production of certified seed. They will also put new growers in touch with the local seed inspector from the Plant Health and Plant Products Directorate of Agriculture Canada. The Canadian Seed Growers

Association, whose address is P.O. Box 8455 Ottawa, K1G 3T1, will supply the necessary information and application forms for field inspection.

Seed production of grain and oilseed crops is relatively easy, compared with that from forage crops (especially birdsfoot trefoil, alfalfa and red clover). The area sown to pedigreed forage crops has dropped 50% in recent years, with a corresponding increase in the price of the seed. It would appear there is a real challenge and opportunity to produce more forage-crop seed in Canada

SPECIALTY FARMS

While livestock, poultry and cash crops provide practically all the farm income in Canada there are a number of special types of farming that might be of interest. Beekeeping, fur farming, greenhouse-crop production, horse breeding, raising rabbits and goats, operating a sugar bush and reforestation are all important examples of what may be termed specialty farms. If you have a yen for any of these, refer to the section Additional Sources of Information.

Some economic aspects of farming

CAPITAL REQUIRED

The capital needed to finance a farm business may be referred to as short, medium, or long term depending on the length of the repayment period. Short term is 12 months or less; medium term is 5 to 10 years; and long term is at least 20-30 years.

This might be a good place to distinguish between capital and credit, because many people say they need more credit when actually they need to borrow more capital. A borrower has credit to offer (some would say to sell); a lender has capital to lend to a borrower whose credit he values.

Short-term loans are made to provide operating capital so farmers can pay current expenses for such items as seed, fertilizer, feed, fuel, pesticides, repairs, hired help, etc.

Medium-term capital is borrowed to pay for machinery, equipment, breeding stock, ditching, tile drainage, land clearing, fencing, modification of farm buildings, and small parcels of land.

Long-term loans secured by a first mortgage are made to supplement the purchaser's equity when buying a farm (land and buildings) or adding new buildings to an existing farm.

One of the worst mistakes made in farm financing is to borrow capital on an inappropriate repayment term. For example, many farmers find themselves in a real bind when trying to repay short-term loans for machinery, equipment, and building improvements out of the first year's income. Farming is not that profitable a business. A repayment schedule for medium-term loans should be set up with the lender (usually a bank) that is realistic from the standpoint of both the earning capacity of the farm and the useful life of item paid for.

Another mistake is to incorporate loans for tractors and equipment, etc., into a long-term real-estate loan and then amortize their repayment over a period two to three times the useful life of the item. When this is done the farmer finds himself working with worn-out obsolete machinery he is still paying for.



SOURCES OF CAPITAL

Government of Canada

The Farm Credit Corporation, which has offices in each province, makes long-term mortgage loans available to farmers. To qualify for a loan, an applicant must:

- be a full-time farmer or intend to become principally occupied in farming within 5 years; and
- have plans that show promise of yielding income that will meet operating and maintenance costs, provide an adequate living for the family and pay off debts with interest over a specified period.

The Corporation will also lend money to a syndicate of three or more farmers for the joint purchase of machinery, buildings or equipment. Such a loan is secured by a promissory note signed by all members of the syndicate.

Under the National Housing Act, farm owners whose main income is derived from farming may obtain a loan for construction of a new house or the remodeling of an existing one. The Canada Mortgage and Housing Corporation administers this act and insures loans made by approved lenders—life insurance companies, trust and loan companies and banks. It may also make direct loans when insured loans are not available from approved lenders.

Another source of capital from the federal government is through the Federal Business Development Bank. It will provide long-term financing, usually in the form of mortgage loans, to new and existing farm operators who require capital for sound projects but are unable to obtain it elsewhere on reasonable terms and conditions.

Provincial Governments

Several of the provinces such as Quebec, Saskatchewan, Alberta and Nova Scotia extend loans to farmers. Provincial agencies tend to be somewhat more flexible in their loaning policies. Nova Scotia, for example, has made loans to part-time farmers since 1966. Some provinces have special lending programs for young farmers whereby they can obtain capital to purchase farms with relatively small down payments and at interest rates below the rate charged older (over 35) farmers.

Provincial governments also have a variety of other financial assistance programs, such as loans to assist farmers whose production is harmed by bad weather, and for livestock improvement.

An objective of all government (federal and provincial) lending agencies is to help farmers establish sound economic units. Persons planning to start farming in Canada should familiarize themselves with federal and provincial lending programs before making an offer to purchase a farm.

Chartered Banks

Banks are the main source of operating capital for farmers. Most established farmers have a revolving line of credit with their bank for this purpose.

Whereas the banks were formerly interested mainly in short-term loans, they are now becoming more involved in making intermediate-term and long-term loans to farmers. This could be a result of their experience in making guaranteed loans of this type under the federal Farm Improvement Loans Act. Being a federally guaranteed loan, the permitted interest rate is usually lower than for other borrowers.

All major banks have stepped up their agricultural lending programs and services. They now have regional specialists who are trained in agriculture as well as in credit use.

Credit Unions

Members of credit unions may obtain short- and intermediate-term loans for almost any reasonable purpose. Terms of these loans depend on the policies of the particular credit union.

Finance Companies

Considerable capital is obtained from finance companies, mainly for consolidating small debts, and for the purchase of farm machinery and equipment. Although these loans are easier to obtain, especially for low-equity borrowers, the interest rates are usually higher.

Farm Suppliers

Farm suppliers, especially feed, fertilizer and farm machinery companies, will defer payments on the purchase of their products. Generally the interest rates are higher than would have been paid to a bank. A problem often arises in taking advantage of these deferred-payment contracts in that the farmer has to be a particularly good businessman to keep track of his interest and repayment commitments to several lenders. Another problem in getting heavily in debt with one company is that the farmer loses his opportunity to shop around for better prices and services.

Municipalities

Some rural municipalities make low-interest loans to farmers to finance drainage projects. These loans and the interest are amortized over a 10-year period with payments made annually along with property taxes.

Private Lenders

While this is not as important a source of capital as it was 25 or 30 years ago, there are still a significant number of farm ownership transfers where the seller will hold a mortgage, at interest rates often less than those charged by commercial or government lenders.

FACTORS AFFECTING FARM INCOME

It is doubtful if there is another occupation or business in which the annual income will vary as much from one year to the next as in farming. Bankers have been known to say that farmers are the only ones who can lose money every year and still stay in business. Of course what the farmers are doing under these circumstances is living off their depreciation. This can go on only so long before the fences, roofs, machinery, etc., have to be replaced. Widely fluctuating incomes are undoubtedly the reason why farmers are permitted to average their incomes over a 5-year period for income tax purposes.

There are at least a dozen major factors that affect farm income. Anyone accustomed to a stable and steadily rising income and who is contemplating starting to farm full-time should be aware of them and prepared for the consequences. Of the twelve factors listed below, there are at least eight over which the farmer has absolutely no control.

The Weather

Perhaps no other factor so directly or greatly affects individual and total farm income in Canada as the weather pattern for any particular year. Nowhere in the country is this more pronounced than in the three Prairie Provinces. Due to weather, the wheat and coarse grains crop can vary 30% from the 10-year average. Likewise, livestock farmers in Eastern Canada who depend on pasture, hay, and feed-grain crops to supply feed for their cattle might have an abundant or over-supply one year; the following year adverse weather can force them to buy additional feed and sell off part of their herds as well. Poultry and pork producers who purchase all of their feed will be indirectly affected as their income will reflect changes in the price of feed brought about by either a surplus or a scarcity caused by the weather. Weather is certainly one of the factors beyond the control of farmers—unless they operate a greenhouse.

Fluctuations in Prices and Marketing Quotas

All provinces in Canada have marketing acts. Under these, provincial marketing boards have the power to regulate the sale of those farm commodities for which a majority of producers have voted in favor of a marketing plan. There are basically four types of plans or degrees of intervention in the marketing of farm products.

Product promotion—These are marketing plans, pretty well limited to promoting the sale of a particular farm product—mainly fruits and vegetables (an example is apples in Ontario). They are financed by a levy on containers, membership fees, area assessment or some other means.

Price negotiation—These marketing plans have a price negotiating board which attempts to speak for all producers in getting the best possible price from the buyers. Products under this type of plan include potatoes in P.E.I. and canning crops in Quebec and Ontario. Some boards represent growers who contract their production with processors, and bargain for better prices. Over the years, these boards have also been able to persuade the processors to include terms more favorable to growers in the contracts.

Total product assembly and sale—Marketing plans of this type attempt to obtain the highest possible price for a product by handling the sales of *all* of the product. This type of plan is in effect for hogs, milk and wheat

in Ontario, and for hogs in most of the other provinces. It is illegal to sell products controlled by these boards other than as directed by the boards. They are financed by deductions from the returns received by farmers in the sale of their products.

Marketing quotas—While most provincial marketing legislation does not permit the regulation of production per se, the notable exception being tobacco in Ontario, production is effectively controlled by the marketing quotas. Products for which producers have opted to come under this type of control are eggs, broiler chickens, turkeys, and milk in all of the provinces, and wheat and coarse grains in Western Canada. These marketing boards also require compulsory deductions to be made from the sale of products under their jurisdiction.

With the major exclusion of wheat, milk, and cattle, provincial marketing boards, with the sanction of their respective departments of agriculture, may petition the National Farm Products Marketing Council to establish national marketing agencies for eligible commodities. Up to now, only three such national boards have been brought into operation—one for eggs, one for chickens and one for turkeys.

It is not the purpose of this publication to go into more detail on marketing boards. Prospective producers of regulated commodities should first check with their provincial board for the commodity in which they are interested.

Prices—Prices of practically all manufactured goods and services, and salaries, wages, and professional fees have historically increased annually, seldom, if ever, decreasing. However, the prices received by farmers for their products, with a few exceptions such as milk, tend to fluctuate from year to year and even within the year. This is the main reason farmers have voted in favor of marketing boards whose principal objective is to stabilize prices.

With costs rising for practically everything farmers have to buy, fluctuating prices make for uncertain and at times declining net incomes.

As if fluctuating prices were not enough to contend with in planning production and managing a farm, variations in marketing quotas have as much or more impact on gross and net farm income. Producers of commodities that come under the regulation of certain marketing boards never know a year or two in advance how much of their product they will be able to produce and sell. A good example is milk, where quota adjustments are relatively frequent.

Inflationary cost of inputs

It is difficult to know which has the greater impact on the net farm income, prices received for products produced *or* prices paid for goods and services needed to produce them. The inflationary rise in the cost of inputs during the

past years has had a very depressing effect on farm net incomes. Again, this makes it extremely difficult to plan and organize a farm operation that will be profitable. It is the uncertainty of prices, both for inputs and for outputs, that plague the farmer trying to expand, modernize, reorganize, or otherwise invest in future productive capacity.

To date, one favorable effect of inflation for farmers has been a faster increase in their net worth. While inflated prices of inputs such as fuel, fertilizer, feed supplies, repairs, electricity and drugs depress annual net income, inflation increases the value of farms, especially those with ample marketing quotas and modern buildings and machinery. Budgeting for capital investments should always be based on the rate of return from an item, not on the rate of inflation.

Government Legislation and Policies

The statutes of Canada and of all of the provinces contain numerous acts which affect the welfare of farmers. Those administered by the departments of agriculture are to assist farmers and thereby strengthen the industry of agriculture. Under these statutes the federal and provincial governments have numerous programs and policies in effect. There are over 100 federal programs and policies and 650 in the ten provinces. Since many of these would be of direct benefit to a beginning farmer, you should obtain a list from your respective government.

Because food production is so important to consumers and to the economy (giving employment in farming, processing, packaging, transporting, storing, and retailing), hundreds of millions of dollars are paid to farmers annually in the form of government grants and subsidies. By taking advantage of as many as possible, farmers add substantially to their net farm income.

Not all legislation, though, is beneficial to farmers. In fact, some of it works against their interests, e.g., some labor legislation, some regulations under environmental legislation, and some tariff and trade policies. With increasing concern about the quality of the environment and with legislation having wide powers on the statutes of most jurisdictions, it would be prudent to check the status of a farm and its operations with the environmental authorities and the clerk of the local municipality before making an offer to purchase. Otherwise you could be responsible later for a considerable expenditure to comply with regulations.

World Crop Prospects

The prices of Canadian crops such as wheat, feed grains, soybeans, apples, and potatoes that are involved in international trade are very sensitive to crop prospects in other parts of the world. International

traders are constantly watching reports of the effect of weather on projected crop yields, as it may affect the supply and demand. The misfortunes of farmers in one part of the world become the good fortunes of farmers elsewhere in terms of higher prices for their crops. Alternatively, bumper crops in a nearby country will depress prices of that crop. For example, a large corn crop in the U.S.A. will result in lowered incomes in Canada for corn and feed grain producers. However, it should create higher net incomes for those livestock and poultry producers who purchase feed grains.

One of the most striking examples of the effect of the international supply situation on the price of a crop in Canada would be soybeans. In 1971 the farm value of this crop in Ontario was \$205/ha. Two years later it was worth more than twice as much at \$418/ha. Prices can fall too; in 1975 the price of soybeans was nearly 25% less than it was in 1974.

While the price swings may not have been so dramatic in other internationally traded crops, except for potatoes which have varied as much as 100% from year to year, their prices do reflect world crop conditions and export demand for them.

Management

Traditionally, land, labor, and capital have been the resources on which farm production was based. Since farming became a business many years ago rather than a way of life, management has become an indispensable resource. As this publication is not a manual on farm management, only a few of its effects on farm income will be cited.

Perhaps the place to start would be to set objectives or aim at specific targets. Unless this is done the business will tend to drift aimlessly like a ship without a rudder. Throughout the text, when the various types of farming were being discussed a number of specific targets were given. For example: amount of milk produced per man per year; pigs weaned per sow per year; amount of grain fed per steer per day; feed-conversion ratio for hogs; and percentage hog carcasses grading in the higher (103+) indexes. To this list should be added others such as level of desired labor income, annual rate of increase in net worth, and an annual vacation for the farmer and his family.

Once the objectives have been set it becomes a matter of organizing the resources to attain them. This requires planning. Successful farmers have stated that the most valuable time (that with greatest effect on income) they spend during the year is when they are planning the coming year's operations. It helps to write these plans down so they can be referred to later.

When the targets have been set and the plans made, it becomes a matter of implementing them. Since farming is a highly seasonal business, operations should be started and completed without delay at the most appropriate times. "Being caught up with one's work" or "getting things done on time" have a great bearing on how profitable a farm business will be.

Another aspect of management that ultimately has an influence on income is the keeping of a good set of records, not only of expenditures and receipts but of crop and livestock performance as well. Farming without them is like flying in the dark; one can neither see where he came from or where he's headed.

The good manager who wants to improve his income knows that he needs the best information available in order to make the best decisions. He will take advantage of as many of the sources listed under "Advisory Services and Sources of Information" as time permits.

In summary, farm income will be improved by the manager who:

- sets realistic objectives;
- makes sound plans to attain them;
- works to get things properly done on time;
- keeps a good set of records; and
- takes advantage of as many sources of information and advice as possible to aid him in decision making.

Type of Farming

The type of farming one engages in will have a bearing on net income because some are always more profitable than others.

Examples are:

- fluid milk versus industrial milk production;
- steer feeding versus cow-calf rearing;
- farrow to finish versus market-hog feeding; and
- cash crops for processing such as sweet corn and tomatoes versus cash crops for feeding such as barley and oats.

For some representative data on the spread in investment, expenses, and income, etc., refer to the tables in the appendix.

Prices for those commodities that are under supply management (milk, eggs, broiler chickens, turkeys and tobacco) tend to be more stable and less cyclical than ones that are not (cattle, hogs, corn, soybeans, apples, and potatoes).

Regardless of the type of farming, the other major factors will have more effect on income than the particular type a person is engaged in.

Size of Operation

A larger-sized operation does not always produce a higher net income, especially if its size is beyond the owner's managerial capability. There is, however, an approximate size (which will keep one person fully employed with, perhaps some seasonal family or hired help) below which net income will be inadequate for reasonable family living expenses. Examples are:

- milk sold per person—150 t per year
- 300-400 ewes per person
- a 500 ha grain farm on the prairies
- 50 000 broiler chickens per person
- at least 10 000 caged laying hens per person
- at least 300 steers in a feedlot

Operations of these sizes should produce an acceptable family living provided they are well managed. Larger ones would require an additional full-time worker which would decrease net income, unless they were large enough to generate the net income to pay the extra person's wages.

New farmers frequently expect a higher income from their farm than is possible, because the total production is too low to keep a well-organized person fully employed. For example, there is no way an 80 ha farm with 50 beef cows will net \$15 000 nor will 100 ha of barley. Since neither of these operations will keep a person fully employed year-round, he will need either additional enterprises or off-farm employment to supplement his income.

Established farmers are always at an advantage over beginners because their original capital investment was lower, and, having paid off part of their loans, their interest payments are much less.

Availability and Cost of Suitable Labor

For those enterprises that, because of their size, degree of mechanization, or their nature, require hired labor, finding suitable help at a price one can afford is usually a problem. Farmers generally do not have a very good reputation as employers, mainly because their business is not profitable enough to pay competitive wages for the long hours of work. Farm workers are certainly not attracted by the wages and the number of hours worked per week; rather, they are there because they prefer the working conditions.

Perhaps the scarcest help to find is experienced people to milk and properly look after a high-producing herd of dairy cows. The early morning milkings 7 days a week deter many who would otherwise enjoy working on a farm. It is usually easier to find workers who like to drive tractors and operate farm machinery.

Labor availability should be determined before deciding on the type of farm or enterprises to be undertaken. For example, before buying a farm and planting out a lot of fruit trees, asparagus, or raspberries, you should have a pretty definite knowledge that there will be workers in the area willing to harvest the crops at rates you can afford to pay. Otherwise it will end up as a pick-your-own operation and, hopefully, enough consumers will come to harvest the entire crop (which is seldom the case).

Those thinking of starting a farm that will employ one or more regular full-time workers should know that they will be required to pay the employer's portion of the worker's Canada Pension Plan deduction, unemployment insurance premium, and in some provinces, workmen's compensation premium as well.

Annual Interest Payments on Borrowed Capital

Those starting to farm full-time will be paying a high proportion of their income for interest on borrowed capital unless they have a sizeable share of their own equity to invest in the business. With investments in family farms of between \$150 000 and \$400 000 and assuming the purchaser has \$25 000 to \$50 000 equity for a down payment, interest will have to be paid on from \$125 000 to \$350 000. At 10% this would amount to combined interest and principal payments of approximately \$15 000 to \$40 000 per year. There will also be a revolving line of credit at the bank for operating capital. This could range between \$15 000 and \$30 000, adding another \$1500 to \$3000 per year in interest payments.

With this amount of annual expense for interest in addition to all of the other operating costs, it is readily apparent why a carefully prepared cash-flow projection will be needed to make the decision whether or not to go into so much debt.

Because of the high capital investment required, and because there are certain tax advantages for parents who sell their farms to sons or daughters rather than to unrelated persons, the majority of farm transfers are within the family. It appears this trend will increase in the foreseeable future. This situation has already existed in Great Britain and continental Europe for 20-25 years.

Health of Herds, Flocks, Crops, and Family

Outbreaks of diseases in herds and flocks and of insects and diseases in crops have a significant impact on farm income. Careful management and proper sanitation practices will keep losses from disease to a minimum and within tolerable limits. From time to time, however, accidents, isolated cases of sickness, and outbreaks of disease will occur for no apparent reason even with the best of management. Problems requiring the services of a veterinarian and treatment with costly drugs can add materially and unexpectedly to operating costs, thereby lowering the net income. Death of animals by accident or disease represents a sizeable loss of income, as does the lowered production and reproduction caused by sickness.

Mastitis and milk fever are widespread diseases of dairy cattle as are rhinitis in swine and Newcastle disease in poultry.

Under the Animal Contagious Diseases Act the federal government pays compensation to owners whose animals are ordered slaughtered because of infection with certain contagious diseases, eg., brucellosis, anthrax, rabies in cattle and bluetongue in sheep.

Outbreaks of disease and insects in field and horticultural crops will lower the yield and the quality of the crops and add to their cost of production, because of the additional pesticides required to control them. Many crops of potatoes and tomatoes have been ruined by late blight and rot, and periodic outbreaks of armyworms have wiped out grain crops, as have epidemics of leaf and stem rust. Crop insurance is available for most crops as a stop-loss measure (depending on the level of coverage purchased by the farmer, it will approximately cover costs of production), but it does not guarantee income as it was not intended for this purpose.

International Policies

The foreign policies of other nations, designed to protect their producers from imports and expedite their exports, has a direct bearing on the incomes of producers of similar commodities in Canada.

A country may decide, under pressure from its farmers, to restrict imports of certain agricultural commodities from other countries. This can be done by imposing quotas or restricting imports on the basis of animal health, plant diseases, pesticide residues or other reasons. Action of this kind will result in loss of income for those Canadian farmers a portion of whose produce is normally exported. Because other exporting countries will be similarly affected it will be difficult, if not impossible, to find another export market.

Some countries assist their exporters with special programs including favorable repayment terms and special deals whereby scarce items are only available to the importing country provided they purchase agricultural commodities as well. These policies increase the competition for international markets.

The federal government, for example, assists Canadian producers of some products by:

- imposing tariffs;
- providing a market-development fund to help expand sales of grains and oilseeds; and
- providing credit for up to 3 years to countries importing grains.

International trade and its implications for Canadian producers may be beyond the comprehension of beginning farmers at the outset of their career. But it is a factor they will have to contend with as they attempt to refine the management of their farm business. This will be especially relevant if they are producing items normally exported or subject to competition from imports.



Choosing a type and location of farm

PERSONAL EXPERIENCE AND PREFERENCE

Your first consideration in searching for a farm should be the preference of your family. A city family's home is usually miles and many minutes from their work; the farm home is both the office and the residence and will be in the midst of the farm business. Whereas some people want privacy and remoteness, others prefer close neighbors and proximity to a town. People who like animals may want a livestock farm, and others who are not keen about caring for animals might be better off producing cash crops. For those with limited experience seeking to invest their own capital in a farm, a successful "going concern" is a sounder proposition than a farm put together from "scratch". Families with limited capital might consider a more modest investment on which there is an opportunity to expand production and improve the buildings and facilities, thereby increasing their net worth out of profits.

AVAILABLE MARKETS

Once you have decided on the type of farm to purchase or rent, the next consideration is whether there is a market for the commodity you intend to produce. With the farm products under quota (milk, tobacco, eggs, broiler chickens and turkeys), or under contract (sweet corn, peas, and tomatoes for processing), it is essential that an adequate quota be available either as part of the assets of the farm being purchased, or from the particular marketing board. If you are looking at the possibility of growing canning crops, make certain there is a processor within reasonable trucking distance who will contract for the proposed production.

If you decide on fruit or vegetable production, choose a location near a larger center so you can rent a stall in the municipal market. It is also desirable to have a cold storage plant and/or a local wholesaler within a reasonable distance who might purchase fresh produce. A large number of nearby consumers is also an advantage for a 'pick-your-own' operation.

In some parts of Canada, there may be more opportunities than in others for the sale of particular products. For example, localities that have an expanding camp-ground business are areas with good potential for market gardening. It will be time well spent researching marketing opportunities whether they are for certified seed, canning crops, fresh fruit and vegetables, feed grains, or purebred breeding stock. For commodities requiring a marketing quota, be careful about paying more for the quota than it is worth, in terms of repaying its cost from anticipated income.

AVAILABILITY OF SUITABLE LABOR

If the type of farm chosen requires more labor than the farm family can supply, it is important that arrangements can be made to get workers with the necessary skills and experience. Farms located within commuting distance of large manufacturing plants will find it more difficult to recruit farm workers and the wages demanded will be much higher than in areas where there are fewer or no alternate opportunities for employment.

While experienced herdsmen and other full-time farm workers are becoming more difficult to locate, seasonal labor for harvesting is perhaps the most scarce. There are, however, government programs for bringing workers from other countries (particularly the Caribbean) to assist with the hand labor to harvest crops that cannot be completely mechanized.

SUITABILITY OF CLIMATE

Weather changes from day to day and month to month; but climate, which is the average of weather conditions over a long period for a particular region, remains fairly constant. For example, the Maritimes will receive twice as much precipitation during the growing season as the Prairies, and southern Ontario will have nearly twice as many frost-free days as Northern Ontario. Meteorological data are available for every part of Canada where farming is carried on. Before you decide to farm in a particular area, check the meteorological records to determine if the climate will be suitable for the crops you plan to grow. This is especially critical for ones that are sensitive to number of frost-free days, number of accumulated heat units, and to minimum winter temperatures.

Fortunately, Canada enjoys a wide range of climates that are favorable for the production of many kinds of crops. Since climate has so much influence on the yield and quality of crops, the ease with which the land can be prepared for seeding in the spring, and on the conditions at harvest time, it has already influenced the value and price of land for

farming. What may appear to be a bargain in the Gaspé Peninsula, compared with a similar-sized farm south of Montreal, will actually be much less valuable in terms of the kinds and yields of crops that can be grown there—mainly because of less favorable climate.

SUITABILITY OF SOIL

Climate determines *what* crops can be grown; but soil determines *how* well they grow. Generally speaking, other factors being equal, variation in the price of farms in a particular climatic zone will depend on the quality of the soil. Fertile, deep, stone-free, medium textured clay loams, naturally well drained or tile drained, may cost three or four times as much as soils that are infertile, shallow, stoney, sandy or very heavy clay and poorly drained. If one can possibly afford the better, higher priced soils it will be a much sounder investment. Not only will resale value be better, but the extra production per year will more than pay for the extra carrying charges. Then too, there will be the added satisfaction that comes from producing high-yielding crops year after year with a minimum of trouble at seeding and harvest time.

There are soil survey maps for most agricultural counties and municipalities in Canada that provide a wealth of information about the soil on a particular farm. Some of them may be out of print, but a reference copy can be examined in the office of the district agriculturist or agricultural representative. Do not purchase a farm when the fields are frozen and/or covered with snow without referring to a soil survey map. They indicate the types (usually more than one) of soil on a particular farm. You are then able to tell from their description whether or not they have features that seriously limit crop production. It is important to know the depth to bedrock, whether or not there is a hard pan (an impermeable layer beneath the top soil), stoniness, steepness of sloping land and whether it is strongly acid and imperfectly drained.

Care in checking the quality of soil before purchasing land will be repaid many times in the course of a lifetime of farming.

CONDITION OF PREMISES

Buildings—The condition of the buildings on a farm is usually (but not always) a reflection of the profitability of that farm. An attractive, well-kept modernized set of buildings is a pretty good indication that the farm operation has been an above-average profit maker—unless there has been a major source of off-the-farm income. Conversely a decrepit set of buildings with little or no evidence of recent improvements would probably indicate that a relatively low income has been made on such a farm. On the other hand, this could have been due to

illness, advanced age, or poor management, in which case the farm could have the potential for profitability. The price paid for such a farm should allow for the necessary expenditure to modernize the buildings and still keep the total investment in line with market value for such a property. Too often a “bargain” buy turns out to be an expensive purchase because of additional costs to bring the facilities up to a desired standard.

You should also beware of freshly painted buildings in case they are being disguised to cover up structural flaws and interiors that are inconvenient and in need of complete renovation.

Another precaution to take when buying a farm is to make sure that you are not buying more buildings than the farm will support. For example, three adjoining farms may have been consolidated with all new buildings, silos, grain storages, etc., being placed on one of them. Then one or two of the original farms has been sold to adjoining neighbors as bare land—leaving the center farm with too many buildings for the land to support. Careless purchases of this type have been made, after which there has been a real scramble to get more land within hauling distance to produce the crops—to feed the livestock—to fill the buildings—to generate enough income to make the payments.

Water supply—Urban residents tend to take water for granted, assuming clean water will always be “on tap” at a reasonable price. Farmers, however, being responsible for providing their own water supply, are very conscious of this essential resource. Most farm properties in Eastern Canada will have a good source of water for household needs and their livestock from either dug or drilled wells, or in some cases from ever-flowing springs. In some parts of Western Canada some farmers have to drive to the nearest city or town for their drinking water or else use rain water stored in ponds.

Some farms have never had a reliable source of good water. Check with the present owner and/or neighbors. If there is any doubt about the quality and adequacy of the water supply, investigate thoroughly. Where is it located? If it is a dug well, what is the condition of the cribbing? If drilled, how deep? Does it go dry? How often? What is the quality of the water? Is it subject to pollution or contamination? You can obtain a water-sample bottle from the local public health office, where the water can be tested for quality.

A well that may have been adequate for the former owner may very well be inadequate for a new owner with a larger family, who installs a dishwasher, an automatic clothes washer and increases the number of livestock on the farm. In addition to household requirements and drinking water for livestock in the barns, there could be other demands for water, i.e., for crop spraying, fire fighting, and irrigation.

Ditches and drainage outlets—Drainage of farmland is important for crop production and for getting the crops planted and harvested on time. The condition of ditches and drainage outlets should be carefully checked. In some cases there will be no apparent outlets for the surface water to drain away into a large ditch or water course. When such is the situation it will mean one of two things: either the neighbors are uninterested and unwilling to share the cost of a new ditch or cleaning out an old one across their property, or there is not enough fall between the lowest land on the farm and the water in the nearest river or lake. The first of these situations is a difficult personal one to resolve; the latter is physically impossible to solve unless a dam or dyke is built and the water pumped over it.

When you look at a tile-drained farm property, ask the owner for a copy of the surveyor's plan of tile installation so the outlets can be found and checked to see whether they are in good condition or partially or totally plugged up. In some provinces (Ontario for one), check at the municipal office to determine whether or not there is any outstanding debenture or drainage assessment against the property.

Purchasers should become familiar with possible community drainage responsibilities and liabilities for assessment (sharing cost) for large outlet ditches that may need to be constructed across their property as provided by legislation.

Farm ponds to store water for any of a number of purposes have become popular. If there is not already one on the farm being considered, check the property for the possibility of constructing either a dug-out pond that collects surface water or one created by a dam or a diversion (bypass) on a flowing stream. The first is a rather simple operation within the right of the land owner, but the others will require engineering advice and permission by the appropriate department of the provincial government.

If you are thinking of a project that will have a significant impact on a natural watercourse that crosses your property, either by adding to or reducing the flow, ask the advice of the proper provincial department. In some provinces, a water rights permit is needed if you take irrigation water from a stream. You may also need a permit to divert a stream or build a bridge across it.

Fences—In areas where livestock are kept, (except in Newfoundland), the land owner has certain obligations with respect to the line fences that form the boundary of his property. It has been said that disputes over fences have caused more bad feelings between neighbors than any other reason, a close second are disputes over cross-ditches that need cleaning or constructing. It is very aggravating to have a neighbor's cattle break



out through a fence in need of repair, run at large through your fields, and damage the crops and gardens. Good fences are necessary to prevent these unpleasant happenings. Since they are becoming expensive to build, a farm with good fences will be worth quite a bit more than one where the fences are in need of replacement.

Before you purchase a farm, learn what previous arrangements are in existence with the neighbors. Determine what you will be required to do, and what practices are followed in that community. Most municipalities have fence viewers appointed to settle disputes when the need arises.

Farmyards—The most noticed and used areas on the farm are the yards around the buildings and the laneway between the road and the buildings. If possible, view the farm after a heavy rain to see how muddy the yard is around the buildings. A paved or well-gravelled laneway and farmyard is a valuable asset not

only for appearance, but for keeping mud off the floors of buildings and for having clean parking space for cars, trucks, wagons and machinery.

A solid driveway and yard is an absolute necessity for pick-up of milk by large tank trucks, delivery of feed to barns by bulk feed trucks and hauling heavy loads of product over. Whereas in many European countries and some American states the majority of farmyards are paved, only a minority are paved in Canada. It is not necessary to have paved lanes and yards so long as they will support heavy traffic in all kinds of weather. It is a definite advantage, though, to have the barnyard paved to facilitate manure removal.

Lanes, bridges and fence rows—Large farm machines and heavy loads must move quickly over lanes, through the gateways, and over culverts and bridges. Consequently, check these carefully when considering the purchase of a farm. If the gateways and culverts are too narrow or in need of repair, and the lane will not support heavy loads during wet weather, allow for the cost of improving them when making an offer to purchase the farm. These items may be regretfully overlooked by the inexperienced, and the replacement of several gates, widening of culverts or bridges, brushing out lane fence rows, and gravelling and grading lanes will all add considerably to the eventual capital cost of the farm.

Another consideration would be the condition of cross fences and fence bottoms. In Eastern Canada there are still many farms with small fields surrounded by old fence bottoms full of stones and growing up with dense brush and small trees. It is not only more economical to operate machinery on large fields, but wide fence bottoms around small (2 to 4 ha) fields waste valuable land as well. Therefore, when choosing a farm, more can be paid for one on which the cross-fence rows have been removed than for one on which this work still has to be done.

Sewage and pollution—If the original septic tank was installed many years ago or if you are planning to add another bathroom, it will likely be necessary to construct a sewage disposal system. If the soil is shallow (less than 7.5 m to bedrock) near the house, or of a type with impervious drainage, the installation of a weeping tile bed could present expensive problems. In practically all jurisdictions it is necessary to get a permit and approval of the design before putting in a new septic tank and a weeping-tile bed.

Farm waste disposal has become more of a problem since governments have passed legislation to protect the quality of the environment. Ordinarily, farming is not a polluting industry. Rather, it is the reverse, because its main waste product—livestock and poultry manure—is put back on the farmer's own land where it decomposes and is recycled.

There are, however, some instances when waste material escaping from farm property may be accused of contaminating the environment. These include effluents from silos, waste wash water from milk houses, and liquid from manure piles draining into natural water courses. To these could be added the odors coming from large livestock operations.

The two main points to keep in mind are:

- the effect of existing regulations on the operation being considered for purchase; and
- the application of zoning and environmental regulations to any new or expanded production planned for the farm. This is particularly pertinent for properties adjacent to urban areas. In this case, check first with the local municipality about any zoning bylaws, and with the provincial department of the environment for regulations that might apply to the proposed production.

TAXES

As there are several types of taxes to consider, information on them should be obtained before any decision to buy a farm is made.

Property tax and assessment information—The current levy on the property and the payment schedule can be obtained from the local municipal office. Some provinces have special farm tax reduction programs. Details may be obtained from the local office of the provincial department of agriculture.

Income tax—For information on what Revenue Canada requires of you, obtain a copy of the *Farmer's and Fisherman's Income Tax Guide* from the local post office.

Sales tax—Some items used in the production of agricultural commodities are exempt from federal and provincial sales taxes. Examples are machinery, fertilizer, seed, etc. The collection of these taxes being the responsibility of the vendor, there is not much a farmer can do other than make sure he doesn't pay them on items that are exempt.

Other taxes—Taxes on items such as gasoline, capital gains, land transfer (and in some provinces a type of tax on land speculation) should be understood as they apply to farms and farmers.

RESALE POTENTIAL

Farms are frequently bought as a hedge against inflation. If this is one of the main reasons for buying a farm, or in case you should have to sell it for any reason a year or so after purchase, it would be wise to:

- have it appraised first by a qualified appraiser to make sure it is not already overpriced;
- make certain there are no features (e.g. a big old house that is too costly to heat) that will cause it to depreciate rather than appreciate in value;
- look for one with features likely to increase its value in the future, such as water frontage, proximity to a town, large fields of high-quality soil, and buildings that might have alternate uses; and
- make sure an adequate-sized quota for products under supply management is included with the purchase.

SOCIAL SERVICES

Except in very remote areas, most farming locations in Canada are well served by school busses and by churches and hospitals in the nearest towns. Regular church attendants should ascertain if one of 'their' churches is in the community, otherwise they will have to travel a considerable distance to church. Also, when moving into a rural community, it will help in making new friends quickly if neighbors attend the same church and fraternal organizations. Urban families will find as much or more opportunity for involvement in community affairs as they had in the city. In addition to joining the church, home and school, and fraternal organizations, most farm families participate in Women's Institute, 4-H Clubs, organized sports, and numerous farm organizations.

ETHNIC BACKGROUND

Some families have such strong ethnic ties that they want to live near others of the same background. For such families it should not be too difficult to find a suitable farm in a community that has been previously settled by their countrymen. By providing the Information Branch of the provincial department of agriculture with a list of the features desired in a community, it should be possible to find a locality that meets your requirements.

THE DECISION AND THE SEARCH

By now you will likely have decided whether or not to pursue your inclination to start farming in Canada. If the text has seemed discouraging, that was not the intention. But many considerations must be taken into account before establishing a farm business; if you have found this book has raised relevant questions, provided basic information, defined some of the options, and pointed out some pitfalls that could be economically disastrous, it has achieved its purpose.

A list of realtors doing business in the community selected can be obtained from the Chamber of Commerce or Board of Trade serving that area. Their agents will be pleased to show you properties they have listed for sale.

Bearing in mind all of the factors to be considered when buying a farm for the first time, it will likely be difficult to find one that meets all of the criteria selected. Eventually, compromises will have to be made. Make some ranking of priorities so you do not sacrifice major or essential features for minor preferences.

Before making a last decision it would be prudent to check your intentions with experienced farmers. Farmers are noted for their willingness, in fact eagerness, to share their business experience with others.

Advisory services and sources of information

GOVERNMENT OF CANADA

General information on farming, as well as the names and addresses of other government departments, private agencies, and individuals who can be of assistance to beginning farmers, are available from Communications Branch, Agriculture Canada, Ottawa, Canada K1A 0C7. Persons in foreign countries who are interested in farming in Canada should contact the nearest Canadian Immigration Office, or where there is no such office, the nearest Canadian ambassador or consul. If this is not possible, inquiries may be directed to Employment and Immigration Canada, Ottawa, Canada, K1A 0J9.

Canadian farmers and the agriculture industry generally are well served by research done by Agriculture Canada research stations and laboratories across the country. A list of these may be obtained from Communications Branch. Results of this research are made available to farmers by means of publications, films, demonstrations, field days, and through the press and radio. Short- and long-range outlook reports for various agricultural commodities are issued periodically to help farmers plan their production and marketing.

PROVINCIAL DEPARTMENTS OF AGRICULTURE

All Canadian provinces have agricultural extension services that provide information and advice to farmers on practically all aspects of farming, including production, marketing and farm business management. These advisory services are usually free; in some provinces there are small charges for soil testing, diagnosis of disease in livestock and poultry, farm records analysis, etc. Most provinces emphasize farm business management counselling, e.g. farm record systems, farm business analysis, budgeting, credit use, business arrangements (father—son, partnerships, corporation) and estate planning.

Extending information and advice on crop and livestock was originally, and continues to be, the major focus of provincial departments of agriculture. They deal through their agricultural representatives, district agriculturists or specialists in county and district offices. Lists of them are available from the information offices of each of the provincial departments. Specialists in livestock, field crops, horticultural and special crops provide information and advice to farmers on request, to help them make decisions on the techniques and inputs to use. Agricultural engineers advise on farm building construction and alterations, machinery and equipment selection, manure-storage options, and land-drainage plans, etc. The extension staff interpret both federal and provincial farm policies and programs. They administer the provincial ones of guaranteed loans, grants, and subsidies, etc. Fact sheets and bulletins are kept in their offices for distribution to farmers.

Many country or district offices have a home economist who develops programs and services for rural women. Each county also has a number of interesting 4-H programs for rural boys and girls.

Although individual consultation is the most frequent method of obtaining advice, much information is given through farm meetings, demonstrations, bus trips (even plane trips), short courses, bulletins, newspapers, and radio broadcasts.

FARM CREDIT CORPORATION

The Farm Credit Corporation, through its field staff and loan officers, provides a farm management service and an advisory service free of charge whether the client is a borrower or not. Since it is the major source of long-term farm mortgage credit in Canada this is a very significant advisory service. Corporation staff specialize in the use of credit to purchase, enlarge, or restructure farm businesses.

AGRICULTURAL COLLEGES AND UNIVERSITIES

Although the primary function of agricultural colleges and faculties of agriculture at universities is teaching prescribed courses leading either to a degree or a diploma in agriculture, they also provide a wide range of specially designed short courses. Some universities and provincial departments of agriculture offer correspondence courses that would be of particular interest to beginning farmers.

In addition to formal education, the agricultural colleges are actively engaged in research and in the extension of information and advice to



farmers—usually in cooperation with the provincial department of agriculture.

INDUSTRY, CHARTERED BANKS AND FARM SUPPLIERS

All of the major banks now have agricultural departments staffed with regional specialists, who by their training and experience, are able to offer valuable advice to farmers using their banking and lending services. This is a fairly recent development, but one that appears to be expanding.

Farm supply companies, especially those in seed, feed, fertilizer, pesticides, machinery, materials-handling equipment, buildings, and storages, provide a tremendous amount of technical information. Their purpose is to match their goods and services to the requirements of particular farmers.



AGRICULTURAL ORGANIZATIONS AND ASSOCIATIONS

Perhaps no other industry is served to such a large extent by a multiplicity of organizations and associations as is farming. While it is incumbent on each farmer to support the group that is organized and committed to furthering his particular interests, it can become very time consuming. In fact, if he participates as an office holder in any of the agricultural organizations that claim to represent his interests, it may be at the expense of his own business.

Livestock breed associations—These are well organized and worthy of the support of pure-bred breeders. They are staffed by fieldmen who assist in organizing field days, and judge courses and competitions at fairs and exhibitions, sales, annual meeting, etc. They publish magazines containing much valuable information for farmers. The addresses of their head

offices and provincial secretaries or fieldmen can be obtained from Communications Branch of Agriculture Canada. These associations are particularly active in promoting sales of members' livestock both within Canada and for export.

Marketing boards—While not ordinarily considered a major source of information, marketing boards should be and in fact are the best source of information on markets—their requirements and opportunities, marketing quotas, price, trends, contractual arrangements, etc. for the particular commodity over which they have control (an outstanding example is the Canadian Wheat Board). Their local representative should be contacted before starting production of a regulated product.

General farm organizations—The Canadian Federation of Agriculture and the National Farmers Union are structured on a national, provincial and local basis. They maintain lobbies with the federal and provincial governments to further the special interests of their members. While not sources of technical information, they do, however, attempt to keep their members informed on major issues and the progress of policies and resolutions which they are promoting.

The Canadian Seed Growers Association—This association of approximately 5000 seed growers is responsible for the production and pedigreeing of about 350 000 ha of pedigreed seed crops in Canada annually. In addition, it serves its members by providing information related to seed production at its annual and branch meetings, in its quarterly magazine, and in reports and special publications. Provincial branches of the association hold field days, educational meetings and short courses. They also have educational exhibits at the large farm shows and exhibitions. This is just one example of how the many similar farmer associations provide information and advice to their members and to other farmers.

FARM PRESS, RADIO AND T.V.

Information on farm markets and prices is distributed daily and weekly on radio and T.V., in farm magazines and in numerous newspapers. In addition to market information, the media publicize timely topics to help farmers keep up to date on the latest developments in farming. Of course, they are also a constant source of news of events such as fairs, sales, and meetings.

NEIGHBORS

Among the most reliable sources of advice and certainly the closest and most convenient, are other farmers in the community. Anyone thinking



of buying a farm could find out a lot about what would be involved in operating it from those who would be his neighbors. Farmers are noted for their willingness to help one another. This custom is traditional, dating back to the early settlers who were more dependent on each other than is the case today.

REAL ESTATE AGENCIES

Frequently realtors are the first contact for those looking for a farm. Although their first responsibility is to the owner who has listed his property with them, they are a good source of information on the farms they have for sale. By viewing the farms listed by the realtors in an area you will be able to do comparative shopping for the farm that best suits your requirements. The price of a farm that has been listed for one or more years is usually more negotiable than those which have recently been listed for sale. If buying the livestock and machinery with the farm, be

sure to have a complete inventory taken, and make certain some of it does not leave the farm before you take possession.

COMPUTERIZED INFORMATION

The electronics revolution has reached the farmers and the potential for computers is vast.

Computers can be a useful tool for farm management; however, before considering buying one, you should find out what applications exist and then test out software so that your current needs are filled and expansion to meet your future needs is allowed.

Computer scheduled irrigation, for instance, can save farmers dependent upon irrigation time, trouble and possibly their crops. Irrigation scheduling is vital in areas such as southern Alberta and this computer program provides up-to-date information on soil moisture for any individual field and the projected date and amount of water required for the next irrigation. This software program can be obtained from the Agriculture Canada Lethbridge Research Station or from the Irrigation Division of Alberta Agriculture.

Through a hookup to your private telephone you can now get much vital farm information from the Grassroots service if your computer is compatible with Telidon technology. The Grassroots system gives you access to a huge agriculture information bank on weather forecast, farm management, electronic messaging and market analyses. The system is available in several provinces and it has even spread to the United States.

ADDITIONAL SOURCES OF INFORMATION

More information on farming can be obtained by writing to the information services of the federal and provincial departments of agriculture. Ask for a list of their publications. In most cases, up to five are available free of charge. In addition to government sources, many books have been written and published about farming. Publications and lists are available from Communications Branch, Agriculture Canada, Sir John Carling Building, Ottawa K1A 0C7.

Periodicals

1. *Le Bulletin des agriculteurs*. 110 Crémazie Blvd. West, Montreal, Quebec H2P 1B9 (monthly)
2. *Canada Poultryman/L'Aviculteur canadien*. 605 Royal Ave., New Westminster, British Columbia V3M 1J4 (monthly)
3. *Canadian Fruit Grower*. 222 Argyle Ave., Delhi, Ontario N4B 2Y2 (9 times a year)
4. *Cash Crop Farming*. 222 Argyle Ave., Delhi, Ontario N4B 2Y2 (11 times a year)

5. *Cattleman*. 1760 Ellice Ave., Winnipeg, Manitoba R3H 0B6 (monthly)
6. *Country Guide*. 1760 Ellice Ave., Winnipeg, Manitoba R3H 0B6 (monthly)
7. *Ontario Farmer*. Box 7400, Station E, London, Ontario N5Y 4X3 (weekly)
8. *Farm & Country*. 950 Yonge St., Toronto, Ontario M4W 2J4 (18 times a year)
9. *Free Press — Report on Farming*. 300 Carlton St., Winnipeg, Manitoba R3C 3C1 (monthly)
10. *Hog Guide*. 1760 Ellice Ave., Winnipeg, Manitoba R3H 0B6 (bi-monthly)
11. *Orchardist Magazine*. P.O. Box 1056, Kelowna, British Columbia V1Y 7P7
12. *Le Producteur agricole*. P.O. Box 1367, Place d'Estrie, Bedford, Quebec J0J 1A0 (monthly)
13. *Le Producteur de lait québécois*. 555 Therrien Blvd., Longueuil, Quebec J4H 3Y9 (monthly)
14. *La Terre de chez-nous*. 555 Therrien Blvd., Longueuil, Quebec J4H 3Y9 (weekly)
15. *Western Producer*. P.O. Box 2500, Saskatoon, Saskatchewan S7K 2C4 (weekly)
16. *Le Coopérateur agricole*. P.O. Box 500, Station Youville, Montreal, Quebec H2P 2W2 (monthly)
17. *The Canadian Tobacco Grower*. 222 Argyle Avenue, Delhi, Ontario, N4B 2Y2 (11 times/year)
18. *Farm Focus*. Box 128, 2 Second Street, Yarmouth, Nova Scotia, B5A 4B1 (semi-monthly)
19. *Grainews*. Box 6600, Winnipeg, Manitoba, R3C 3A7 (monthly)
20. *Hog Market Place Quarterly*. 7th Floor, 950 Yonge Street, Toronto, Ontario, M4W 2J4 (quarterly)
21. *Macdonald Journal*. Box 284, Macdonald College, Ste-Anne-de-Bellevue, Quebec, H X 1C0 (quarterly)
22. *Le Producteur de porc québécois*. Box 1367, Bedford, Québec, J0J 1A0 (bi-monthly)
23. *Agriculture* (Ordre des Agronomes du Québec). 262 Henri-Bourassa ouest, Montréal, Québec, H3L 1N6

Books

- Aldrich, S.R. et al. *Modern Corn Production*. Thomson Publishing Co., Second Edition, 1975.
- Boyd, James S. *Practical Farm Buildings*. Danville, Illinois: The Interstate Printers & Publishers Inc., 1973
- Briggs, Hilton M. *Modern Breeds of Livestock*. London: The Macmillan Company, Fourth Edition, 1980
- Conseil des productions animales du Québec. *Principes fondamentaux en production animale*. Government of Quebec, 1979

- Conseil des productions animales du Québec. *Bovins laitiers*. Government of Quebec, 1981
- Cullison, Arthur. *Feeds and Feeding*. Reston Publishing Co., Third Edition, 1982
- Ensminger, M.E. *The Stockman's Handbook*. Danville, Illinois: The Interstate Printers & Publishers Inc., Fifth Edition, 1978
- Hopkin, J.A. et al. *Financial Management in Agriculture*. Danville, Illinois: The Interstate Printers & Publishers Inc., Second Edition, 1979
- Hughes, Harold and Darrel Metcalfe. *Crop Production, Principles and Practices*. New York: Macmillan, Fourth Edition, 1980
- Hunt, Donnell. *Farm Power and Machinery Management*. Ames, Iowa: Iowa State University Press, Seventh Edition, 1977
- Librairie Larousse. *Le Larousse agricole*. Paris: 1981
- Ontario Ministry of Agriculture. *Agricultural Handbook* (periodically revised fact-sheets)
- Regaudie, Roger and Louis Reveleau. *Le mouton*. Editions J.B. Baillière. Paris: Second Edition, 1977
- St-Pierre, Claude-André and Ghislain Gendron. *Les céréales et le maïs*. Québec: Les Presses de l'Université Laval, 1982

Information Available from Other Sources

Most Canadian agricultural universities have an extension department that publishes a variety of agricultural publications.

All provincial departments of agriculture, located in provincial capitals, have a number of publications available upon request.

Appendix

SUMMARY FOR ONTARIO PROVINCIAL DAIRY FARMS, 1983

	Average of 207 farms (\$)
NET FARM INCOME STATEMENT	
<i>Farm income</i>	
Milk sales	122 913
Dairy livestock sales	14 669
Other livestock sales	4 847
Crop sales	10 016
Custom work	1 455
Other farm sales	4 566
Total cash income	158 466
Current receivable changes	274
Inventory change:	
— Dairy	-1 119
— Other livestock	17
Feeds, crops, and supplies	3 074
GROSS FARM INCOME	160 712
<i>Farm expenses</i>	
Dairy livestock purchases	3 656
Dairy feed purchases	20 778
Marketing and trucking	14 898
Vet and medicine	2 959
Breeding fees	2 028
Stable supplies	2 356
Other dairy expenses	1 249
Non-dairy livestock expenses	1 118
Seed	3 274
Fertilizer	5 999
Sprays	1 572
Custom work	3 039
Other crop expenses	792
Machinery repairs	6 989
Gas, oil, fuel	4 989
Car expenses	913
Wages and salaries	10 543
Land rent	2 494
Interest paid	16 984

(continued)

SUMMARY FOR ONTARIO PROVINCIAL DAIRY FARMS, 1983

	<i>Average of 207 farms (\$)</i>
Real estate taxes	3 013
Building repair	3 047
Hydro and telephone	3 250
General farm insurance	2 374
Other farm expenses	2 694
Total cash expenses	121 008
Current payable charges	- 416
Depreciation	15 559
TOTAL FARM EXPENSES	136 151
NET FARM INCOME	24 561
INVESTMENT SUMMARY	
<i>Farm assets</i>	
Current	
Cash and receivables	6 291
Crops and supplies	27 388
Market livestock	2 796
Intermediate	
Breeding livestock	93 396
Machinery and equipment	105 081
Fixed	
Land and buildings	293 225
Other assets	164 451
TOTAL FARM ASSETS	692 627
<i>Farm liabilities</i>	
Current	
	20 525
Intermediate	
	39 378
Long term	
	117 228
TOTAL FARM LIABILITIES	177 132
EQUITY IN FARM BUSINESS	515 496 (74.4%)
DAIRY PHYSICAL SUMMARY	
Average number of cows	49 head
Total milk sold	276 832 L
Milk sold/cow	5 702 L
Milk sold/person	126 346 L
Return/hL milk	\$44.40
Direct cost/hL milk	\$27.98
NOTES: Debt load/cow	\$3 648.20
Debt load/hL	63.99
Interest paid/cow	349.80
Interest paid/hL	6.14
Tillable hectares/cow	2.04

Source: OMAF

COST AND RETURNS OF COW-CALF ENTERPRISE, ALBERTA, 1982

<i>Based on:</i>					
	1. 320 cows	4. 90 % calf crop			
	2. 10 bulls	5. Keep 50 heifers			
	3. 1 % death loss				
<i>Receipts:</i>					
	Total	Per cow	Per head ¹	Per kg ¹	
144 steer calves					
227 kg @ \$1.69/kg	\$ 55 242.72	\$172.63	\$235.08	\$1.08	
91 heifer calves					
204 kg @ \$1.48/kg	27 474.72	85.96	116.91	0.54	
50 cull cows					
499 kg @ \$1.02/kg	25 449.00	79.53	108.29	0.50	
3 cull bulls					
816 kg @ \$1.19/kg	2 913.12	9.10	12.40	0.06	
Total receipts	111 079.56	347.12	472.68	2.18	
<i>Cash costs:</i>					
<i>Feed:</i>					
Hay	225 t @ \$ 55/t	\$ 12 375.00	\$ 38.68	\$ 52.66	\$0.24
Straw	302 t @ \$ 22/t	6 644.00	20.76	28.27	0.13
Barley	5 t @ \$126/t	630.00	1.97	2.68	0.01
Pasture	2007.5 AUM @ \$8/AUM ²	16 060.00	50.19	68.34	0.31
Minerals	1.5 t @ \$716/t	1 074.00	3.35	4.57	0.02
Salt	5 t @ \$165/t	825.00	2.58	3.51	0.02
Total feed costs		37 608.00	117.53	160.03	0.73
<i>Other cash costs:</i>					
Purchase 3 bulls		6 000.00	18.75	25.53	0.12
Hired labor	1208 h @ \$ 4/h	4 832.00	15.10	20.56	0.09
Bedding	33 t @ \$20/t	660.00	2.06	2.81	0.02
Veterinary, medicine		1 232.00	3.85	5.24	0.02
Taxes, utilities, insurance		2 080.00	6.50	8.85	0.04
Marketing and transportation costs		1 762.50	5.51	7.50	0.03
Operating costs and repairs		3 468.00	10.84	14.76	0.07
Interest on operating capital (1 year @ 15 %)		3 873.19	12.10	16.48	0.08
Total other cash costs		23 907.69	74.71	101.73	0.47
Total cash costs		61 515.69	192.24	261.76	1.20
<i>Non-cash costs:</i>					
Operators' labor	2400 h @ \$8/h	\$ 19 200.00	\$ 60.00	\$ 81.70	\$0.37
Depreciation: buildings and equipment		7 675.20	23.98	32.66	0.15
Interest on investment		131 919.30	412.25	561.36	2.57
Total non-cash costs		158 794.50	496.23	675.72	3.09
Total costs		\$220 310.19	\$688.47	\$937.48	\$4.29
Return over cash costs		49 563.87	154.89	210.91	0.97
Return to unpaid labor and management		- 90 030.63	-281.35	-383.11	-1.76
Return to management		-109 230.63	-341.35	-464.81	-2.13

(continued)

COST AND RETURNS OF COW-CALF ENTERPRISE, ALBERTA, 1982

<i>Based on:</i>	1. 320 cows	4. 90 % calf crop
	2. 10 bulls	5. Keep 50 heifers
	3. 1 % death loss	

<i>Investment:</i>	Livestock	\$ 279 000
	Buildings	125 340
	Machinery and equipment	121 100
	Land 2072.9 ha @ \$247/ha	512 000
		1 037 440

¹ Based only on the number of calves sold: excludes culls

² Animal-unit-month

Source: Production Economics Branch, Alberta Agriculture

COST OF PRODUCING CERTAIN CROPS IN WESTERN CANADA, 1982 (\$/ha)

	Wheat	Barley	Canola	Flaxseed
<i>Operating costs</i>				
Seed	26.00	19.80	7.00	21.15
Fertilizer — Nitrogen	37.20	37.20	49.60	37.20
— Phosphorus	24.50	24.50	14.00	—
Chemical and seed treatment	40.75	40.75	44.50	37.00
Machinery operating costs (repairs, fuel, lubricants)	37.00	37.00	37.00	37.00
Crop insurance	4.84	6.62	10.50	7.00
Miscellaneous (hydro, telephone, etc.)	12.50	12.50	12.50	12.50
Interest on operating costs	16.45	16.05	15.76	13.67
Total operating costs	199.24	194.42	190.86	165.52
<i>Fixed costs</i>				
Land investment cost	104.00	104.00	104.00	104.00
Machinery depreciation	34.60	34.60	34.60	34.60
Machinery investment cost	31.14	31.14	31.14	31.14
Grain storage fixed costs	11.31	11.31	11.31	11.31
Labor and management	40.00	40.00	40.00	40.00
Total fixed costs	221.05	221.05	221.05	221.05
Total costs	420.29	413.51	418.67	386.57

Source: MDA, Economics

COST OF PRODUCING GRAIN CORN, 1985

These example costs are based on many assumptions, including estimates of land costs, prices of purchased inputs, and fertilizer use, etc.

	Estimated costs (\$/ha)
<i>Materials</i>	
Seed — 64 000 kernels	61.75
Fertilizer — 175 kg (8-32-16)	52.00
— 135 kg nitrogen (82% anhydrous)	64.25
Herbicide — annual grasses	32.00
— broadleaf weeds	10.00
— Other weed control, where needed	0.00
Insecticide — root worm control	28.25
Seed treatment	1.25
TOTAL	249.50
<i>Preharvest</i> (based on prevailing custom rates)	
Plowing	37.00
Seedbed preparation (2X)	33.25
Planting — fertilizer applied	21.50
Spraying (1X)	12.25
Applying nitrogen	21.00
Row cultivating or spraying (1X)	13.50
TOTAL	138.50
<i>Harvesting and marketing</i> (based on prevailing custom rates — assumed yield 5.9 t/ha)	
Combining	76.50
Trucking @ \$6.50/t	38.25
Drying charges @ \$15.50/t	80.00
Storage to end of March @ \$6.95/t	41.25
Marketing board fee	1.75
TOTAL	237.75
<i>Other costs</i>	
Land rent (or interest on your cost of land, plus net taxes)	160.50
Crop insurance	17.25
Interest on operating capital	37.50
Miscellaneous, phone, use of car, etc.	37.00
TOTAL	252.25
TOTAL OF ALL COSTS/ha	878.00

Source: OMAF

COST OF PRODUCING SOYBEANS, 1985

These example costs are based on many assumptions, including estimates of land costs, prices of purchased inputs, and fertilizer use, etc.

	Estimated costs (\$/ha)
<i>Materials</i>	
Seed — 67 kg	32.00
Fertilizer — 175 kg (8-32-16)	53.25
Herbicide — annual grasses	35.25
— broadleaf weeds	33.25
— other weed control, where needed	0.00
Seed treatment	3.75
Manganese and/or inoculant, where needed	0.00
TOTAL	157.50
<i>Preharvest</i> (based on prevailing custom rates)	
Primary tillage	29.50
Seedbed preparation (1X)	16.75
Seedbed preparation, herbicide incorporation (1X)	26.00
Planting	19.75
Spraying manganese (1X), where needed	0.00
Row cultivating and/or rotary hoeing (2X)	22.25
TOTAL	114.25
<i>Harvesting and marketing</i> (based on prevailing custom rates — assumed yield 2.25 t/ha)	
Combining	69.25
Trucking @ \$6.50/t	14.50
Storage to end of March @ \$6.95/t	15.50
Marketing board fee	2.00
TOTAL	101.25
<i>Other costs</i>	
Land rent (or interest on your cost of land, plus net taxes)	160.50
Crop insurance	14.75
Interest on operating capital	25.75
Miscellaneous, phone, use of car, etc.	37.00
TOTAL	238.00
TOTAL OF ALL COSTS/ha	611.00

Source: OMAF

CONVERSION FACTORS

Metric units	Approximate conversion factors	Results in:
LINEAR		
millimetre (mm)	x 0.04	inch
centimetre (cm)	x 0.39	inch
metre (m)	x 3.28	feet
kilometre (km)	x 0.62	mile
AREA		
square centimetre (cm ²)	x 0.15	square inch
square metre (m ²)	x 1.2	square yard
square kilometre (km ²)	x 0.39	square mile
hectare (ha)	x 2.5	acres
VOLUME		
cubic centimetre (cm ³)	x 0.06	cubic inch
cubic metre (m ³)	x 35.31	cubic feet
	x 1.31	cubic yard
CAPACITY		
litre (L)	x 0.035	cubic feet
hectolitre (hL)	x 22	gallons
	x 2.5	bushels
WEIGHT		
gram (g)	x 0.04	oz avdp
kilogram (kg)	x 2.2	lb avdp
tonne (t)	x 1.1	short ton
AGRICULTURAL		
litres per hectare (L/ha)	x 0.089	gallons per acre
	x 0.357	quarts per acre
	x 0.71	pints per acre
millilitres per hectare (mL/ha)	x 0.014	fl. oz per acre
tonnes per hectare (t/ha)	x 0.45	tons per acre
kilograms per hectare (kg/ha)	x 0.89	lb per acre
grams per hectare (g/ha)	x 0.014	oz avdp per acre
plants per hectare (plants/ha)	x 0.405	plants per acre

