

AG Ventures

Agriculture Business Profiles

November 1998

Agdex 230/830-1

Commercial Strawberry/Raspberry Industry

The purpose of this factsheet is to introduce strawberry and raspberry enterprises as potential business opportunities. The focus in this profile is on the key management issues involved in producing and marketing fresh raspberries and strawberries. This management overview is not intended to be a substitute for individuals making their own thorough assessment of all the key factors that would influence the success of their individual operation.

1. Industry Highlights

- The focus of commercial raspberry and strawberry enterprises in Alberta is producing fresh berries and marketing these berries directly to consumers.
- Industry data concerning the number of berry growers and acreage is not collected on a formal basis. However, industry estimates for Alberta in 1997 are 225 strawberry growers with 520 acres in production and 130 raspberry growers with 160 acres in production.
- Approximately 55 per cent of berry farms operate as individual enterprises. The remainder operate as complementary enterprises to market gardens and greenhouses.
- Alberta berry producers develop their own markets and sell all of their berries directly to consumers during the growing season. The majority of berries (85 - 90%) are sold as u-pick berries. The rest (10 - 15%) are sold through farm gate sales or at farmers' markets.
- Both raspberries and strawberries are extremely perishable. Fresh berries should reach consumers within two days (48 hours) of harvest with cooling, one day if cooling facilities are unavailable.
- Management ability is a significant factor in the success of a berry enterprise. Key management requirements include the ability to:
 - juggle several activities at once
 - manage field production requirements
 - manage labor
 - sell berries, to promote the farm and gain consumer loyalty
 - keep control of the financial affairs of the business as well as the production operations
- The following are basic requirements for entering the commercial berry industry.
 - suitable land with good shelter and access to an adequate quality and quantity of water for irrigation
 - a high level of production management and ability to apply intensive management skills to the crop
 - the ability to assess market potential and develop markets
 - financial resources to invest in the development and operation of the business
 - new entrants to commercial berry production must consider the inherent risks in producing and marketing fresh berries and develop strategies for reducing these risks

2. Regulatory Basics

- Fresh berries are marketed directly to consumers through pick-your-own sales, farm gate sales or farmers' markets. These markets are only regulated with respect to the location of the sales. Sales of berries to consumers that take place within the boundaries of a town or city will likely require the seller to have a peddler's licence.
- In Alberta, there are restrictions against produce stands being located on primary and secondary highways. Produce stands must be located beyond the road allowance, right-of-way boundary.
- Individuals wishing to place signs on private land adjacent to a highway will require permission from the local municipality, and Alberta Transportation and Utilities. It may be possible to place a sign within a highway right-of-way but it will require making an application to Alberta Transportation and Utilities.¹
- Access to an adequate supply of irrigation water is necessary when developing a commercial berry farm. An irrigation licence may be required, depending on the size of the proposed operation. Individuals considering developing a berry operation should contact an irrigation specialist with Alberta Agriculture, Food and Rural Development.

3. Market Basics

- The Prairies are not a major production area for berries. As a result, there are no large processing markets for raspberries or strawberries. The marketing activities for most berry operations focus on selling fresh berries, directly to consumers.
- Fresh berries must be picked at least every other day during the harvest, be handled as little as possible and cooled immediately after picking. Immediate cooling after harvesting is necessary to remove the field heat. This reduces flavor loss and extends shelf life. As a result, marketing opportunities for fresh berries are limited by both the distance they can be shipped and their short shelf life.
- The primary requirement for a commercial berry farm is close proximity to a large urban population. A general rule applied in the berry industry is that every acre of production requires a population of 2,000 people within a 50 to 60 mile radius (with no other competition). Because there

are fewer acres of raspberries, consumers may travel further for raspberries than for strawberries.

- Generally, the demand for fresh berries is greater than the available supply during the growing season. However, every local market area has its own unique supply and demand characteristics. New entrants must identify the market area they are considering selling to and determine if this market has room for additional production.
- Raspberries and strawberries are preferred fruits. This means they will sustain a greater level of demand at higher prices than most other fruit in the same price range.
- New entrants must be prepared to gather as much knowledge and information as they can about the consumer markets for fresh fruits and berries in their area. The focus of market research should be on determining consumer trends in fruit consumption, what berries are desired by consumers, the number of competitors in the market area, evidence of excess supply and trends of declining consumption or declining prices.
- Berry growers need to develop a marketing strategy for their berries. The strategy will determine who the target market is, how to reach the target market, and what promotion methods will provide market exposure and create consumer awareness.
- Berry growers will use u-pick marketing, farm gate sales or farmers' market sales to market their fresh berries directly to consumers. Most growers operate using some combination of these methods.
- **U-pick operations** – The growers sell fresh berries directly to consumers who come to the farm, pick the berries for a price and then take them home. U-pick operations require proximity to high population centres, good roads, a parking area, good signage, a selling area and facilities to accommodate customers. The marketing focus for u-pick marketing is that consumers are able to purchase "farm fresh" berries and enjoy a wholesome family oriented activity.
- The strengths of u-pick marketing are:
 - less labor required for harvesting, shipping and storage
 - immediate payment for the produce
 - the largest sales per customer relative to other marketing methods
 - ability to develop a loyal following of customers

1 Further information should be obtained from district offices of Alberta Transportation and Utilities.

- The limitations of u-pick marketing are:
 - additional requirements for parking, washrooms and liability coverage
 - inexperienced pickers might cause crop damage
 - uncertainty as to whether the entire crop will be harvested at the right time
 - weather plays a significant role in the willingness of u-pick customers to come and pick their own
- U-pick operators need to be able to:
 - manage customers who are picking berries by ensuring that ripe berries are picked and there is minimal crop damage
 - manage the risk associated with having a crop ready for harvest and no customers picking due to poor weather
 - have a back-up marketing strategy for unharvested produce
- **Farm gate sales** – The growers pick the berries, prepare them for sale and essentially operate retail outlets on the farm for selling directly to the consumer. In addition to the requirements identified for u-pick operations, farm gate sales also require a cooler. Growers who market through farm gate sales also need to ensure that they have knowledgeable sales people to work with consumers.
 - The strengths of farm gate sales are:
 - growers receive payment from consumers without incurring transportation costs
 - growers are able to market their produce as “farm fresh”
 - operators have considerable flexibility in size and method of operation
 - The limitations to farm gate sales are:
 - additional staff requirements for harvesting and grading berries in a timely fashion
 - growers may have difficulty in marketing all of their produce through their outlet, meaning a back-up marketing plan is needed to deal with any oversupply of produce
 - growers need to develop a secondary market for second grade fruit
 - The critical management considerations for farm gate sales are the need to:
 - have a visible location that attracts customers
 - manage labor costs
 - A key strategy to be implemented by managers of farm gate sales is to ensure that one-on-one personal skills are in place to bring in customers, sell berries and have satisfied customers that become repeat customers.
- **Farmers’ markets** – These feature a number of growers selling their produce directly to consumers at a common location. Each grower has a separate stall or stand at the market. There are farmers’ markets located throughout Alberta. A publication listing the farmers’ markets is available from the offices of Alberta Agriculture, Food and Rural Development or on the department’s web site at www.agric.gov.ab.ca
 - The advantages of farmers’ markets are:
 - collective advertising attracts more people to the market location
 - there is an opportunity to gain exposure with consumers, especially for new growers
 - this is a means of marketing surplus berries not sold through u-pick or farm gate sales
 - parking and good access for consumers that may not be available to individual growers at their farm locations
 - an expanded customer base for growers who attend a number of farmers’ markets
 - the opportunity to market second grade fruit by processing them into jams, jellies and other food products
 - The limitations of farmers’ markets are:
 - a producer must pick, package and transport the berries to the market
 - competition from other producers offering berries
 - growers may have unsold berries at the end of the market and will need an alternative marketing plan
 - When marketing at farmers’ markets try to:
 - keep the same stall location in order to establish a market presence
 - avoid bright sunny stall locations
 - ensure that there are tables to display the product as some health regulations may prevent product from being sold, displayed or stacked on the ground
 - sell only high quality produce
 - establish a reputation as a grower of good quality crops
- Once growers have determined their products and market channels, they also need to develop strategies to achieve market exposure and create consumer awareness.

- Site selection is a critical factor for u-pick and farm gate operations. Producers need to consider the following issues when selecting a site for marketing their berries:
 - proximity to an urban center is needed in order to have access to a large consumer base
 - good visibility from highways and roads
 - easy entrance and exit for vehicles
 - using existing facility such as a barn or garage as a selling shed will help reduce costs
 - establishing a flow for customer traffic that passes all produce and leads to the check-out area
- Berry growers need to develop merchandising strategies that focus on packaging, pricing, display and customer service.
- Berry growers are required to price their products. For many consumers, price may be a secondary consideration to service. Therefore, berry farms need to provide a pleasant and enjoyable experience that consumers consider to be of good value.
- The general recommendation is for growers to price their produce based on their cost of production and the prices currently being received in their markets. Pricing assistance has been available each summer through a product price survey operated by the Alberta Market Gardeners Association.
- There are some specific issues that should be considered in the pricing decision.
 - **competition** – A producer selling the same berries as other sellers in the market needs to price at the going rate. However, producers whose berries are unique compared to the competition may be able to obtain a premium over the market price.
 - **production costs** – Growers must understand basic economic principals relating to the cost of production. Specifically, a price is acceptable as long as it covers all additional costs incurred in making the sale. When making the decision to produce the crop, growers need to ensure that the prices received cover all costs of production. This should include all of the operating costs such as plants, labor, pesticides and other inputs; marketing costs such as packaging, advertising and transportation; and, all fixed costs associated with owning assets such as land, buildings and machinery. This should also reflect opportunity costs that reflect the management and capital provided by the owner.

- However, in a situation such as the end of the day at a farmers' market, the additional cost of selling the remaining produce is quite low since most of the costs have been incurred. Therefore, the best economic decision would be to accept a lower price as long as it covers the additional costs that would be incurred in making the sale.
- Table No. 1 and Table No. 2 provide current information on Alberta u-pick and pre-picked prices for raspberries and strawberries.

Table No. 1 1997 Raspberry and Strawberry U-pick Prices

	Price Range	Average Price
Strawberries	\$8.00 - \$11.00/4L	\$8.50/4L
Raspberries	\$1.75 - \$3.00/L	\$2.50/L

Table No. 2 1997 Raspberry and Strawberry Pre-picked Prices

	Price Range	Average Price
Strawberries	\$9.00 - \$13.00/4L	\$11.00/4L
Raspberries	\$2.00 - \$4.00/L	\$3.00/L

- Berry farmers require promotional strategies for gaining customer awareness of the products and their location. Common promotional techniques include signs, advertising, direct mail-outs and materials for distribution at the point of sale. However, word of mouth advertising has the greatest impact for a berry farm. Accordingly, strategies should focus on having satisfied customers who will inform others.
- *The critical marketing issues* for berry farmers seeking to sell fresh berries directly to consumers are the proximity of the berry farm to potential consumers, gaining market exposure and consumer awareness, providing high quality products and ensuring that customers have a pleasant experience.

4. Production Basics

- Production management must be balanced with marketing management. Production and marketing considerations are required when determining what berries to produce, how to produce them and when to produce them.
- Alberta berry growers need to research the most up-to-date and detailed information available for berry production under different growing conditions. Growers also need to do their own on-farm research to determine the growing techniques that give the best results.

- Two sources of printed production information for berry growers in the Prairie provinces are:
 - *Commercial Raspberry Production on the Prairies, A Growers Guide*; published by the Extension Division, University of Saskatchewan
 - *Guide to Commercial Strawberry Production*; published by Alberta Agriculture, Food and Rural Development, Manitoba Agriculture, and Saskatchewan Agriculture and Food
- The Alberta Market Gardeners Association holds a two-day berry production school annually. They provide basic and detailed berry production and marketing information.
- The Alberta Horticultural Congress and Prairie West Trade Show provides production and marketing information as well as excellent exposure to suppliers of production and marketing materials and equipment. This event takes place annually in early November.
- **The critical management issues** for berry production are selection of: a site, cultivars, an irrigation system and equipment. Also critical is developing and managing the production process.
- The growth characteristics of berry crops influence the production practices and factors to be considered when establishing a berry operation.
 - Strawberries are shallow rooted plants. They require pollination by bees or other insects in order to produce fruit. Factors such as cool or wet weather which discourage bee activity has a detrimental affect on fruit production. Growing conditions and weather also affect the time required to produce fruit. Commercial strawberry plants are replaced every two to four years, depending on the type of strawberry.
 - Raspberries have a fibrous root system and require a well drained soil. Most raspberries grown in the Prairies produce fruit on year-old canes. After producing fruit, the canes die and are replaced by new ones. Thus, old canes need to be pruned out annually. Bees are required to effectively pollinate raspberry plants. Well managed raspberries can be productive for 10 to 20 years.
- There are several factors to consider when selecting a suitable site for a berry farm.
 - Deep, well drained, sandy loam soils are best for berries.
 - Poorly drained sites should be avoided. The ideal slope will contribute to longer growing season and have good air movement. Avoid low areas where cold air can build up.
- An adequate supply of high quality irrigation water is needed to achieve consistent, high yields and frost protection.
- Shelterbelts are essential to provide wind shelter and contribute to a uniform blanket of snow to insulate the plants from extreme winter temperatures.
- The cropping history of the land needs to be considered. Berries should not be planted where strawberries, raspberries, alfalfa, potatoes, tomatoes or eggplants have been grown in recent years.
- Berry growers need to select the berry type and cultivar that provides the best combination of winter hardiness, yield, disease and insect resistance, and consumer acceptance for their particular site.
- There are several types of strawberries that are available to growers.
 - **June-bearing** cultivars produce a single crop each year, usually lasting three to five weeks in July. The first crop can be harvested the year following planting. On average it takes about 30 days for flowers to develop into fruit. *Kent, Glooscap, Honeoye* and *Cavendish* are suitable cultivars for commercial production in Alberta.
 - **Day-neutral** cultivars produce fruit the same year as they are planted and produce throughout the growing season since they are not dependent on day length to produce flower buds. Production for day-neutrals is heaviest in August and September. *Fern, Seascape* and *Tristar* are proven for prairie conditions.
 - **Everbearing** cultivars produce fruit twice per year, usually in late June to early July and again in late August. These cultivars are lower yielding, have a higher cost of production, are a difficult plant to source and aren't recommended for commercial operations.
- There are two types of raspberries suitable for Alberta conditions.
 - **Summer-bearing** cultivars produce vegetative growth their first year and produce fruit on their second year cane. Most commercial plantings on the Prairies are summer-bearing types. *Boyne, Festival* and *Killarney* are recommended cultivars for commercial production in Alberta.

- **Fall bearing (primocane)** raspberries produce fruit in their first year. However, fall bearing cultivars require a long growing season in order to produce marketable fruit and aren't widely used in the commercial production of fresh berries. The earliest varieties, *Red River* and *Double Delight* can be grown in many areas. The varieties *Summit* and *Autumn Bliss* also do well in site specific locations.
- Berry growers need to select the irrigation system that best fits their particular situation. The key factors to consider in selecting an irrigation system are the specifics of the site, capital cost, labor requirements and suitability of the system to the berry crop.
- Types of irrigation systems include trickle or sprinkler (hand or wheel move). Surface flooding and furrow irrigation aren't recommended for berry production.
- Trickle irrigation is efficient and cost effective for raspberries. Sprinkler irrigation may be the most efficient for many strawberry operations, depending on the availability of water. Producers are advised to consult an irrigation specialist to determine the most appropriate system for their operation.
- In addition to irrigation equipment, a berry operation requires transplanters, sprayers, rototillers, straw spreaders and pruners. Optional equipment includes fertilizer spreaders, a pipe trailer, a frost alarm and a sub-soiler.
- In developing a production process, each producer must consider the production resources (land, water, labor, machinery and management) available in order to determine the processes, methods and practices most appropriate for their particular situation.
- The production process will determine a specific approach to the key activities.
 - **plant bed preparation** – Ideally, the bed for planting berries will have good moisture holding capability, at least three per cent organic matter and be free of weeds. It may take two years to achieve these objectives.
 - **planting** – Berry growers need to consider a number of issues with respect to planting. The plant quality will have a direct effect on berry production. Only certified disease-free planting stock should be used.

Early spring planting allows plants to establish more developed root systems in the first year. Planting methods for berries range from transplanters to hand tools.

The spacing between rows and plants will affect growing conditions, machinery usage and the number of plants per acre (yield).

Recommended spacing for strawberries are to plant rows 1.2 to 1.5 metres apart with a spacing of 0.3 to 0.5 metres between plants. Variations can be made for individual situations.

Recommended spacing for raspberries are to plant rows 3 to 5 metres apart. Allow 0.6 to 1.0 metres between plants, depending on the weeding, pruning and harvesting machinery to be used.

- **irrigation** – This contributes to high yields and protection from drought stress and frost damage. Both raspberry and strawberry plants require irrigating immediately after planting. Growers need to carefully monitor soil moisture to determine irrigation rates. Inadequate moisture reduces berry yields. Excessive moisture will lead to soft fruit, greater vulnerability to disease and poor root development. The critical irrigation times for raspberries and strawberries are at planting, from bud development to the final enlargement of the fruit and just prior to winter covering.
- **fertility** – A fertilizer program is needed to achieve rapid growth of new plants, vigorous growth early in the growing season for old plants and high yields. Soil testing is used to measure the nutrients available in the soil while foliar analysis can be used to measure the level of nutrients in the plant. Interpreting soil test results or foliar analysis, determining fertilizer requirements and the method of applying fertilizer should be done in consultation with a production specialist.
- **mulching** – This is necessary to protect strawberry plants from cold weather injury. Wheat or oat straw can be applied as a mulch in the late fall before the temperature falls below -6.7° C. Effective mulching requires a properly sheltered site, an even cover over the entire area and achieving a thickness of eight to 10 cm after settling. Mulching isn't necessary for raspberries and generally not recommended.
- **weed control** – Effective weed control for both raspberries and strawberries involves proper weed identification together with appropriate cultural and chemical control. Growers should consult the provincial fruit specialist for recommended herbicides, rates of application and methods of application.

- **disease and insect control** – Strawberries and raspberries are vulnerable to a wide range of insect and disease problems. It's essential that growers practice good sanitation, use only certified disease-free planting stock, regularly monitor the crop, follow recommended practices for spraying, practice weed control and remove diseased plant material. Growers should consult with fruit specialists to identify the problem and the recommended control measures.
- **harvest** – The management of the harvest is essential to achieving high yields of high quality berries. Weather conditions will determine how often a berry crop should be picked. During hot weather, berries ripen faster and picking is required every two days. Cooler weather delays ripening and picking may only be necessary every three days.

U-pick operations need to manage customers to pick in assigned areas and fully ripened berries. Operations that pick berries for sale at roadside stands or at farmers' markets have to arrange adequate labor to coincide with the ripening of the crop.

Berries picked for sale at fruit stands or farmers' markets require pre-cooling within one or two hours of picking and should remain cool until consumed.

- **pruning** – This is needed to maintain the longevity and the productivity of raspberry stands. Specific objectives in pruning raspberries are to: maintain desired row widths; remove weak, damaged, diseased or spent canes, and limit cane density in the stand.

■ Berry yields will be influenced by winter survival, sunlight, temperature, soil fertility and water. Average Alberta yields for crops grown under irrigation with proper production management are:

- raspberries – 4,000 to 6,000 pounds per acre
- strawberries – 5,000 to 8,000 pounds per acre

■ Production practices should be reviewed and updated as new techniques and practices are developed. To update their production skills, growers are encouraged to attend workshops sponsored by the Alberta Market Gardeners Association or the Fruit Growers Society of Alberta.

- Management skills are also an important part of a successful production process. Two important considerations are:
 - the capacity to monitor crop performance on a daily basis
 - the desire to continually seek out research information and production practices to improved yields and quality

5. Economic/Finance Basics

- Berry growers are continually challenged to achieve a balance between producing a quality product, achieving a good market price and controlling production costs.
- Individual managers must be prepared to keep accurate records of their production costs to be used in developing price strategies for their products and monitoring the profitability of the berry enterprise.
- The *Planning For Profit* series, published by the Ministry of Agriculture, Fisheries and Food in British Columbia, includes a number of raspberry and strawberry budgets reflecting British Columbia conditions. *The Economics of Raspberry Production* is available through Saskatchewan Agriculture and Food.
- The production costs for individual enterprises vary due to factors such as location, crops, size, machinery, labor use and marketing activities. New entrants must be prepared to estimate the costs and returns for the specific operation(s) they are considering putting into place. New entrants should also develop budgets to determine if they have adequate resources to survive a poor year.
- The following budgets (Tables No. 3 through to Table No. 6) assess the investment requirements, operating performance and price sensitivity in starting a u-pick raspberry operation. They are intended to provide producers with a framework to identify the type of information required and the types of analysis required to assess the viability of their proposed operation. The assumptions made in compiling these tables are considered reasonable, however, individuals need to recognize that key financial variables will change as the industry develops.
- Table No. 3 estimates the capital investment required to establish a ten acre u-pick raspberry operation. Depreciation is calculated over the useful life of the assets while interest cost is calculated as the opportunity cost (eight per cent) of the capital committed to the asset.

- Table No. 4 provides an estimate of the operating requirements associated with establishing and operating the u-pick raspberry operation. Table No. 5 estimates the net operating income and cumulative net income over a 10 year period.
- Prices received for berries and yields will have a significant impact on the profitability of a berry enterprise. Table No. 6 estimates the impact of various prices levels on the cumulative net income projections over a 10 year operating period. The profitability of a raspberry enterprise is very sensitive to price levels. Therefore, individuals will need to obtain detailed information on potential market prices for their budgets.
- In addition to profitability, berry operators also need to assess the cash flow situation for their proposed enterprise. The key issue is whether the proposed operation can generate sufficient cash flows to meet the cash outflows required for living expenses, debt repayment, operating expenses and capital expenditures.
- Tables No. 7 through Table No. 10 estimate the investment requirements, operating requirements, profitability and price sensitivity with respect to starting a u-pick strawberry operation. In these budget scenarios, a June-bearing cultivar is planted in the second year and produces berries in the third, fourth and fifth years.
- Financing a commercial berry operation is a separate, but related issue. Conventional lenders, such as banks, may see berry enterprises as a high-risk venture. In order to acquire the capital needed to develop an enterprise, individual managers must have:
 - a solid business plan
 - high levels of equity capital to put into the venture
 - access to capital from private sources such as family and friends
 - a sound production process
- *The critical economic issue* for berry producers is to carefully evaluate the economics of berry production before investing in production. Individual producers need to achieve all of the following factors for their enterprise to be profitable.
 - produce a product that meets the buyer's specifications
 - ensure they have access to the market
 - achieve a good market price for the product
 - achieve effective production, harvest, and marketing performance at cost that is below the market price for their product

Table No. 3 10 Acre U-pick Raspberry Operation – Capital Investment Budget

	Purchase Price	Useful Life	Depreciation \$/Year	Interest Cost \$/Year
Equipment				
Storage building (1/4 used in berries)	\$1,875	10	\$187.50	\$75.00
Used 60 hp. tractor	\$6,000	8	\$750.00	\$240.00
Planter	\$2,500	15	\$166.67	\$100.00
Disc	\$1,500	15	\$100.00	\$60.00
Cultivator & harrow	\$2,000	15	\$133.33	\$80.00
Mower	\$3,500	15	\$233.33	\$140.00
Irrigation pump	\$5,000	10	\$500.00	\$200.00
Irrigation lines	\$25,000	7	\$3,571.43	\$1,000.00
Dugout or other source of water	\$7,500	20	\$375.00	\$300.00
Sprayer	\$8,000	7	\$1,142.86	\$320.00
Total Equipment Costs			\$7,160.12	\$2,515.00
Land				
12 acres	\$25,000			\$2,000.00
Facilities				
Buildings	\$1,000	15	\$66.67	\$40.00
Total Capital Costs	\$88,875		\$7,226.79	\$4,555.00

Interest cost is an opportunity cost calculated at 8 per cent

Table No. 4 10 acre U-pick Raspberry Operation – Annual Operating Requirements and Yields

Year	1	2	3	4	5	6	7	8	9	10
Harvest Output										
Harvest yields (lbs. per acre)	0	0	1,750	2,625	3,500	3,500	3,500	3,500	3,500	3,500
Total yield (pounds)	0	0	17,500	26,250	35,000	35,000	35,000	35,000	35,000	35,000
Labor Requirements (person - days)										
Planting	70	100	0	0	0	0	0	0	0	0
Land preparation	80	60	0	0	0	0	0	0	0	0
Irrigation, spraying, etc.	0	100	75	75	75	75	75	75	75	75
Mowing	0	0	80	100	100	100	100	100	100	100
U-pick harvest supervision			125	125	125	125	125	125	125	125
Total Person Days per Year	150	260	280	300						
Total Labor Costs (at \$7 per hour)	\$8,400	\$14,560	\$15,680	\$16,800						
Input Requirements (\$/acre)										
Plants		\$640								
Fertilizer	\$0	\$45	\$45	\$45	\$45	\$45	\$45	\$45	\$45	\$45
Cover crop		\$4	\$4	\$4	\$4	\$4	\$4	\$4	\$4	\$4
Insecticide			\$6	\$6	\$6	\$6	\$6	\$6	\$6	\$6
Fungicides			\$125	\$125	\$125	\$125	\$125	\$125	\$125	\$125
Herbicides		\$150	\$150	\$150	\$150	\$150	\$150	\$150	\$150	\$150
Containers			\$100	\$175	\$200	\$200	\$200	\$200	\$200	\$200
Trellising materials			\$300	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Input Costs (10 acres)	\$0	\$1,986	\$7,296	\$5,046	\$5,296	\$5,296	\$5,296	\$5,296	\$5,296	\$5,296
Machinery Operating Costs (\$/acre)										
Fuel costs	\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$80
Machinery repairs & maintenance	\$125	\$125	\$125	\$125	\$125	\$125	\$125	\$125	\$125	\$125
Total Machinery Operating Costs	\$205	\$205	\$205	\$205	\$205	\$205	\$205	\$205	\$205	\$205

Table No. 5 Revenue and Expense Estimates for 10 Acre U-pick Operation

Revenues	1	2	3	4	5	6	7	8	9	10
Sale of u-pick berries (\$1.60/lb.) (Based on 95% of total yield)	\$0	\$0	\$26,600	\$39,900	\$53,200	\$53,200	\$53,200	\$53,200	\$53,200	\$53,200
Total Revenues	\$0	\$0	\$26,600	\$39,900	\$53,200	\$53,200	\$53,200	\$53,200	\$53,200	\$53,200
Variable Costs										
Labour costs	\$8,400	\$14,560	\$15,680	\$16,800	\$16,800	\$16,800	\$16,800	\$16,800	\$16,800	\$16,800
Fertilizer costs	\$0	\$450	\$450	\$450	\$450	\$450	\$450	\$450	\$450	\$450
Cover crop	\$0	\$36	\$36	\$36	\$36	\$36	\$36	\$36	\$36	\$36
Insecticide costs	\$0	\$0	\$60	\$60	\$60	\$60	\$60	\$60	\$60	\$60
Fungicide costs	\$0	\$0	\$1,250	\$1,250	\$1,250	\$1,250	\$1,250	\$1,250	\$1,250	\$1,250
Herbicide costs	\$0	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
Containers	\$0	\$0	\$1,000	\$1,750	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000
Machinery operating costs	\$2,050	\$2,050	\$2,050	\$2,050	\$2,050	\$2,050	\$2,050	\$2,050	\$2,050	\$2,050
Trellis costs	\$0	\$0	\$3,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Miscellaneous expense	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200
Operating interest	\$533	\$940	\$1,261	\$1,205	\$1,217	\$1,217	\$1,217	\$1,217	\$1,217	\$1,217
Total Variable Costs	\$11,183	\$19,736	\$26,487	\$25,301	\$25,563	\$25,563	\$25,563	\$25,563	\$25,563	\$25,563
Gross Operating Margin	(\$11,183)	(\$19,736)	\$113	\$14,599	\$27,637	\$27,637	\$27,637	\$27,637	\$27,637	\$27,637
Fixed Costs										
Plants	\$0	\$6,400	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Property taxes	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50
Depreciation expense	\$7,227	\$7,227	\$7,227	\$7,227	\$7,227	\$7,227	\$7,227	\$7,227	\$7,227	\$7,227
Interest on capital investment	\$4,555	\$4,555	\$4,555	\$4,555	\$4,555	\$4,555	\$4,555	\$4,555	\$4,555	\$4,555
Total Fixed Costs	\$11,832	\$18,232	\$11,832	\$11,832	\$11,832	\$11,832	\$11,832	\$11,832	\$11,832	\$11,832
Net Operating Income	(\$23,015)	(\$37,968)	(\$11,719)	\$2,767	\$15,805	\$15,805	\$15,805	\$15,805	\$15,805	\$15,805
Cumulative Net Income	(\$23,015)	(\$60,982)	(\$72,702)	(\$69,934)	(\$54,130)	(\$38,325)	(\$22,520)	(\$ 6,716)	\$9,089	\$24,894

Table No. 6 Effect of Raspberry Prices on Cumulative Net Income

Cumulative Net Income	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Raspberry Prices (\$/lb.)										
\$1.50	-\$23,014	-\$60,982	-\$74,363	-\$74,090	-\$61,610	-\$49,130	-\$36,650	-\$24,170	-\$11,690	\$790
\$1.60	-\$23,014	-\$60,982	-\$72,701	-\$69,934	-\$54,129	-\$38,324	-\$22,519	-\$6,714	\$9,091	\$24,896
\$1.80	-\$23,014	-\$60,982	-\$69,376	-\$61,621	-\$39,166	-\$16,711	\$5,744	\$28,199	\$50,654	\$73,108
\$2.00	-\$23,014	-\$60,982	-\$66,051	-\$53,309	-\$24,204	\$4,901	\$34,006	\$63,111	\$92,216	\$121,321

Table No. 7 10 Acre U-pick Strawberry Operation – Capital Investment Budget

Equipment	Purchase Price	Useful Life (Years)	Depreciation \$/Year	Interest Cost \$/Year
Storage building (1/4 used in berries)	\$500	10	\$50	\$20
Planter	\$2,500	15	\$167	\$100
60 HP tractor	\$6,000	8	\$750	\$240
Disc	\$1,500	15	\$100	\$60
Cultivator & harrow	\$2,000	15	\$133	\$80
Mower	\$3,500	15	\$233	\$140
Irrigation pump	\$5,000	10	\$500	\$200
Irrigation lines	\$25,000	7	\$3,571	\$1,000
Dugout or other source of water	\$7,500	20	\$375	\$300
Sprayer	\$3,000	7	\$429	\$120
Total Equipment Costs			\$6,308	\$2,260
Land				
12 acres	\$25,000			\$2,000
Facilities				
Sales building	\$1,000	15	\$67	\$40
Sales equipment	\$500	5	\$100	\$20
Total Facilities Costs	\$1,500		\$167	\$60
Total Capital Costs	\$82,500		\$6,475	\$4,400

Interest costs are an opportunity costs calculated at 8 per cent

Table No. 8 10 Acre U-pick Strawberry Operation – Annual Operating Requirements and Yields

	1	2	3	4	5
Harvest Output					
Harvest yields (lbs./acre)	0	0	8,000	7,000	3,000
Total yield (pounds)	0	0	80,000	70,000	30,000
Labor Requirements (person – days)					
Planting		60	0	0	0
Land preparation	25	15	0	0	0
Irrigation, spraying etc.	0	125	75	75	75
Mowing	0	0	100	100	100
U-pick harvest supervision			150	150	150
Total Person Days per Year	25	200	325	325	325
Total Labor Costs (at \$7/hour)	\$1,400	\$11,200	\$18,200	\$18,200	\$18,200
Input Requirements (10 acres)					
Plants		\$6,000			
Fertilizer	\$0	\$800	\$800	\$800	\$800
Insecticide		\$200	\$200	\$200	\$200
Fungicides		\$1,200	\$1,200	\$1,200	\$1,200
Herbicide	\$1,750	\$1,500	\$1,500	\$1,500	\$1,500
Straw mulch		\$2,000	\$2,000	\$2,000	\$2,000
Containers			\$1,000	\$1,750	\$2,000
Total Input Costs (10 acres)	\$1,750	\$11,700	\$6,700	\$7,450	\$7,700
Machinery Operating Costs (10 acres)					
Fuel costs	\$900	\$900	\$900	\$900	\$900
Machinery repairs & maintenance	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Total Machinery Operating Costs	\$1,900	\$1,900	\$1,900	\$1,900	\$1,900

Table No. 9 Revenue and Expense Estimates for 10 Acre U-pick Strawberry Operation

Revenues	1	2	3	4	5
Sale of u-pick berries (\$1.25/lb.) (based on 95% of total yield)	\$0	\$0	\$95,000	\$83,125	\$35,625
Total Revenues	\$0	\$0	\$95,000	\$83,125	\$35,625
Variable Costs					
Labor costs	\$1,400	\$11,200	\$18,200	\$18,200	\$18,200
Plants	\$0	\$6,000	\$0	\$0	\$0
Fertilizer costs	\$0	\$800	\$800	\$800	\$800
Insecticide costs	\$0	\$200	\$200	\$200	\$200
Fungicide costs	\$0	\$1,200	\$1,200	\$1,200	\$1,200
Herbicide costs	\$1,750	\$1,500	\$1,500	\$1,500	\$1,500
Straw mulch	\$0	\$2,000	\$2,000	\$2,000	\$2,000
Containers	\$0	\$0	\$1,000	\$1,750	\$2,000
Machinery operating costs	\$1,900	\$1,900	\$1,900	\$1,900	\$1,900
Miscellaneous expense	\$400	\$400	\$400	\$400	\$400
Interest expense on operating	\$273	\$1,260	\$1,360	\$1,398	\$1,410
Total Variable Costs	\$5,723	\$26,460	\$28,560	\$29,348	\$29,610
Gross Operating Margin	(\$5,723)	(\$26,460)	\$66,440	\$53,778	\$6,015
Fixed Costs					
Property taxes	\$50	\$50	\$50	\$50	\$50
Depreciation expense	\$6,475	\$6,475	\$6,475	\$6,475	\$6,475
Interest on capital investment	\$4,400	\$4,400	\$4,400	\$4,400	\$4,400
Total Fixed Costs	\$10,925	\$10,925	\$10,925	\$10,925	\$10,925
Net Operating Income	(\$16,648)	(\$37,385)	\$55,515	\$42,853	(\$4,910)
Cumulative Net Income	(\$16,648)	(\$54,033)	\$1,483	\$44,335	\$39,425

Table No.10 Effect of Strawberry Prices on Cumulative Net Income

Cumulative Net Income	Year 1	Year 2	Year 3	Year 4	Year 5
Strawberry Price (\$/lb.)					
\$1.00	-\$16,473	-\$53,683	-\$9,393	\$23,660	\$14,650
\$1.25	-\$16,473	-\$53,683	\$2,008	\$45,035	\$40,300
\$1.40	-\$16,473	-\$53,683	\$13,408	\$66,410	\$65,950
\$1.60	-\$16,473	-\$53,683	\$28,608	\$94,910	\$100,150

6. Resources

The following resources are available to individuals seeking to take a more detailed look at the berry industry.

Industry Associations

Alberta Market Gardeners Association
Crop Diversification Centre – South
SS 4
Brooks, Alberta T1R 1E6
Phone (403) 362-1300

Fruit Growers Society of Alberta
54474 Range Road 215
Fort Saskatchewan, Alberta T8L 3Z7
Phone (403) 998-0481

Publications

*Commercial Raspberry Production on the Prairies;
A Growers Guide*
By Sara Williams
Extension Division, University of Saskatchewan
Saskatoon, Saskatchewan S7N 0W0

Government Resources

Production and Marketing

Lloyd Hausher
Fruit Crops Specialist
Crop Diversification Centre South
SS 4
Brooks, Alberta T1R 1E6
Phone: (403) 362-1309

Dennis Roll
Irrigation Specialist
Irrigation Branch
280 Bridge Road
Strathmore, Alberta T1P 1B6
Phone: (403) 934-3355

Betty Vladicka
Horticulture Development Officer
Crop Diversification Centre North
RR 6, 17507 Fort Road
Edmonton, Alberta T5B 4K3
Phone: (403) 415-2305

Economics

Farm Management Specialist; contact your local Alberta Agriculture, Food and Rural Development district office.

Production Economics Branch – Economic Services Division; contact Alberta Agriculture, Food and Rural Development; 7000 - 113 Street, Edmonton, Alberta T6H 5T6.

Business Planning

Rural Development Specialist – Business; contact your local Alberta Agriculture, Food and Rural Development district office.

7. Key Management Issues

- Berry operations require intensive production management, high labor input, access to markets and overall attention to detail. The following “rules of thumb” are suggested to assist new entrants to berry production and marketing.
 - Take time to study how raspberries and strawberries grow and the specific soil and climate requirements of the plants.
 - Prepare to spend large amounts of time in researching and implementing production information. Attend grower meetings for contacts and up-to-date information.
 - Learn about the markets for berries and the market channels for accessing these markets.
 - Expect higher labor requirements than you would incur for growing cereals crops or other horticultural crops.
 - Start small.
 - If you continue to investigate this agricultural business opportunity, it’s essential that you are able to answer the following questions concerning the production and marketing of berry crops as well as the management of such an enterprise.
 - Are you prepared to learn all you can about berry production and marketing, visit existing operations, join the industry associations, attend workshops and read all you can about production and marketing?
 - Have you clearly defined the market(s) and the buyers that you will be marketing to?
 - Have you clearly defined the production practices you need to implement in order to produce the quality of product required by your markets?
 - Have you clearly defined the marketing activities that you will be required to perform in order to market your product to the specific market segment mentioned above?
 - Are you aware of the amount of time you will have to devote to continuously marketing your product and improving your production performance?
 - Are you aware of the resources required to establish a berry enterprise and the returns that can be expected?
 - Are you prepared to develop a complete business plan for your proposed berry enterprise and to test this plan on a scale that you can afford?
 - Are you prepared to take the risks associated with berry production?

Compiled by:

Dennis Dey – Farm Management Consultant

Technical Advisors:

Nabi Chaudhary – Crops Economic Analyst; Alberta Agriculture, Food and Rural Development

Lloyd Hausher – Fruit Crops Specialist; Alberta Agriculture, Food and Rural Development

Betty Vladicka – Horticulture Development Officer; Alberta Agriculture, Food and Rural Development

Tam Anderson – Grower; Alberta Market Gardeners Association