

# AG Ventures

## Agriculture Business Profiles

Revised June 1998

Agdex 238/830-1

### Commercial Saskatoon Berry Industry

The purpose of this factsheet is to provide an objective overview of the saskatoon industry. This overview is not intended to be a substitute for individuals making their own thorough assessment of all the key management issues that are part of this industry.

#### 1. Industry Highlights

- Commercial saskatoon production is practised by growing berries in orchards to achieve consistent, acceptable yields and marketing the berries to consumer and processor markets.
- Saskatoon producers are required to market their product. New entrants must be prepared to perform a large number of marketing activities to introduce their product to consumers, retailers and processors.
- The majority of saskatoon growers operate as u-pick or market garden enterprises. However, the greatest portion of the berries produced in Alberta are sold to processors. New entrants to the industry are likely to start out as u-pick operators. As they become established with larger acres, a larger portion of the crop is likely to be sold to processors rather than as fresh berries.
- The saskatoon berry is well known in the prairie provinces, however it is relatively unknown in other areas. As a result, the present market for saskatoons tends to be in the prairie provinces. The long-term market opportunity for saskatoons lies in reaching consumers in other locations. To increase the market for saskatoons means that consumers in other regions must become familiar with the berry.

- Industry data concerning the number of saskatoon growers and acreage is not readily available. The following estimates were made in 1993:<sup>1</sup>

Province	Acres Planted	Acres Producing	No. of Growers
Alberta	900 - 1100	500	100 - 130
Saskatchewan	400 - 600	300	100
Manitoba	400 - 600	55	54

- The marketed supply of saskatoons in North America for 1993 is estimated as follows:<sup>2</sup>

Area	Tonnes Produced
Alberta	275
Saskatchewan	181
Manitoba	88
Prairies	544
Canada	554
North America	563

1 Final Report, Specialty Berry Market Study, prepared by the Saskatchewan Indian Agriculture Program, funded by The Agriculture Development Fund, November 1994.

2 Estimated by Harvey Clark, Saskatchewan Irrigation Development Center, August 1995.

## 2. Market Basics

- Producers must have a thorough knowledge of their potential markets before any production activities are started. This means determining the market(s) for their berries and knowing the buyer's specifications and the production requirements necessary to supply these markets.
- Saskatoons are sold either as fresh berries or as berries for processing.
- Fresh berries require immediate cooling after harvesting to remove the field heat and reduce flavour loss. As a result, retail market opportunities for fresh berries are limited by the distance they can be shipped and by their short shelf life.
- Saskatoon growers market their berries through the following markets:
  - **u-pick operations** – Producers sell fresh berries directly to consumers who come to the farm, harvest the berries, pay for the berries and take them home. U-pick operations require proximity to high population centers, good roads, a parking area and good signage. U-pick consumers require fresh, plump berries with minimal damage. The u-pick season might last from 2 to 5 weeks near the end of July.
  - **fresh berries to consumers** – Producers sell fresh berries directly to consumers through farm gate sales or at farmers' markets. Producers must have access to large population centers and have the means of harvesting the berries in a timely fashion.
  - **fresh berries sold to retailers** – Producers might access this market by dealing directly with produce managers of stores, dealing with wholesalers or dealing with retail chains. This market is limited by the number of retailers who are prepared to give shelf space to a product that is both seasonal and may be subject to an unsteady supply. As well, wholesalers are reluctant to deal with small producers. This market requires a fresh, plump berry with no damage.
  - **berries sold to processors** – Processors use saskatoons to produce products such as syrups, jams, jellies, fillings, sauces, chocolates, muffins, liqueurs and wines. Processors require berries that have been cleaned, graded and frozen. Most processors are located outside of Alberta.

As a result, the capacity to freeze berries, store frozen berries and ship frozen berries throughout the year is essential in selling to this market. There is a marketer in the Peace River region that harvests, cleans, freezes and markets berries on a custom basis.

- The long-run viability of the saskatoon industry will be built on consumer acceptance in areas other than the Canadian Prairie Provinces. As a result, the greatest potential for the saskatoon industry lies in the processing sector. Consumer acceptance of processed products must be developed through consumer education, products that meet consumer demands and prices that are able to compete with other berry products.
- Producers with less than 5 acres and access to a large population center may be able to sell all their production to the u-pick market. Larger orchards or those without proximity to a large population are often only able to sell a portion of their crop into the fresh market. As a result, the majority of their crops are sold into the processing market. Processing prices can be significantly lower than fresh prices.
- The prices given for saskatoons will vary considerably due to available supply (growing conditions), location and the particular market in which the berries are sold.
- U-pick prices are set by growers. These prices have been along the following lines:
  - \$1.50 per pound where berries are picked by the consumer
  - \$2.00 to \$3.00 per pound for picked berries
- The prices for u-pick operations are limited by the price of other fresh fruits and the availability of saskatoons in the wild. In the processing markets, saskatoons must also compete (in price) with similar products such as blueberries. Accordingly, cost of production becomes an important issue to the producer.
- Historically, prices paid by processors have tended to be around \$1.50 per pound in order to move all of the harvested berries.<sup>3</sup> In recent years, the entrance of new processors has resulted in an increased demand for berries. As a result, prices paid by processors are expected to remain close to \$2.00 per pound in Alberta.<sup>4</sup>

3 Estimated by Harvey Clark, Saskatchewan Irrigation Development Center, August 1995.

4 This is an opinion based on discussions with industry observers. In years with exceptionally high yields, this price will be tested.

- Included in the price paid by processors is the cleaning, freezing, bagging and boxing of the berries by the grower. Shipping and storage of the berries are issues that are negotiated with the processors.
- *A critical marketing issue* for saskatoon producers is to develop markets for all acres currently producing and new acres coming into production. New entrants must recognize that the newly planted acres of saskatoons could be growing faster than the market is being developed. New entrants must thoroughly study their markets including processor specifications before making an investment in production.

### 3. Production Basics

- Marketing considerations are an important element in site selection for producers who have farm gate sales. Specific factors to consider are:
  - Parking requirements.
  - Access to main roads.
  - Row spacing; mechanical harvesters may require up to 6 m (20 feet) between rows while operations that will only have hand picking, can have rows as narrow as cultivation and spraying equipment allow. Wider row spacings are recommended so producers will have the flexibility to machine pick their berries in the future. Narrow row spacing works for u-pick operations but will present a problem if mechanically harvested.
- Basic production issues to consider in site selection are:
  - shelter from prevailing winds
  - south-facing slopes for early blooming
  - a slight slope to allow for water drainage and the escape of cold air
  - good quality irrigation water; a producing orchard will require 400 cubic metres per hectare (35,000 to 40,000 gallons of water per acre) per year<sup>5</sup>
  - good soil drainage
  - saskatoons are tolerant of a wide range of soil pH; however, levels of 6.0 to 8.0 are ideal
  - the suggested spacing between plants is 1 to 1.5 m (3 to 5 feet)<sup>6</sup>
- spacing of 1 m (3 feet) between plants and 5.5 to 6 m (18 to 20 feet) between rows requires 807 plants per acre
- wider spacing allows for better ventilation and lower disease risk
- Saskatoons will begin production 3 to 4 years after planting and can produce significant yields 6 to 8 years after planting. Orchards could be productive for periods of 30 to 50 years if cared for properly.
- There are 12 (and possibly more) registered saskatoon cultivars. There is very limited information concerning how different cultivars will perform under different conditions over time. At present the cultivar Smoky is used in most commercial orchards because it was the first cultivar to be released and become available in required quantities. Northline, Thiessen, Pembina and Honeywood are also used in commercial orchards.
- Key differences among cultivars are fruit size, acidity, soluble solid content, diameter, weight and yield.
- A basic recommendation is for producers to use a minimum of 3 cultivars when establishing an orchard. The advantages of this approach include:<sup>7</sup>
  - greater resistance variability to disease and insects
  - more consistent yields, and
  - better adaptability to future processing requirements
- Saskatoon plants may be established from seedlings, suckers, rooted cuttings and plantlets. Plant costs will vary widely. New producers must consider all possible sources of growing material.
- Once saskatoon plants are established, disease and insect control, weather problems, irrigation and harvesting become critical management issues.
- Disease problems include a wide variety of rusts, mildew, damping off, common leaf spot and many others. Disease problems are greater in years of higher rain fall. Disease problems can affect the establishment of an orchard, the yields of established orchards and the quality of the berries.

5 Managing A Bearing Saskatoon Orchard, by Lloyd Hausher, Alberta Special Crops and Horticulture Center, Brooks Alberta, November 1992.

6 Growing Saskatoons; A Manual for Orchardists, by Richard G. St. Pierre, University of Saskatchewan, Saskatoon, Saskatchewan, December 1992.

7 Growing Saskatoons, A Manual for Orchardists, by Richard St. Pierre, University of Saskatchewan, Saskatoon, Saskatchewan, December 1992.

- Producers are vulnerable to disease problems, and it is essential for producers to practice good sanitation, regular monitoring, weed control, and pruning out diseased plant material.
- There is a limited number of fungicides registered for use on saskatoons. Growers will need to seek the assistance of fruit specialists for the latest recommendations.
- A wide variety of insects can feed on saskatoon plants. The saskatoon bud moth, saskatoon sawfly, woody elm aphid, apple curculio, cherry shoot borer and lygus bugs can cause extensive damage through leaf feeding, fruit damage and reduced yields.
- There are a limited number of insecticides registered for use on saskatoon plants. Growers will need to seek assistance of a fruit crops specialist (Alberta Agriculture) for current recommendations.
- Weather-related problems include cold injury, wind damage, desiccation and sunscald. These problems can be managed through proper site selection, windbreaks and management practices to facilitate winter hardiness.
- Saskatoon yields may range between 2,300 to 7,000 pounds per acre for mature orchards.
- Pruning is the practice of removing parts of the saskatoon plant in order to increase fruit production, reduce disease problems and facilitate harvest.<sup>8</sup> At present there is limited research from which pruning recommendations might be made. Growers will need to seek the assistance of fruit specialists for the latest recommendations.
- Harvesting either by hand or mechanically is a major production cost. Economical mechanical harvesting is not always available for small orchards.
- Producers will be required to access and manage large amounts of seasonal labour for the harvesting and post-harvest activities.
- In order to reduce the field heat in berries to be harvested, actual harvesting operations may begin in the late evening and continue all night.
- Production practices are being reviewed and updated yearly as new growing techniques are discovered and verified. All potential growers and existing growers are encouraged to attend workshops to update their knowledge of new production techniques. Workshops and field days are sponsored by the Alberta Fruit Growers Society.

- *The critical production management issues* for producers are:
  - the need to continually seek out research information and production practices that will contribute to improved yields and quality
  - producers will be required to adjust their production processes to include cleaning, freezing, packaging and storage activities in order to meet processor requirements

#### 4. Economic/Finance Basics

- Individuals considering establishing and operating a saskatoon enterprise must be prepared to assess the profitability and cash flow performance of a proposed enterprise before committing capital.
- The most significant economic issue associated with saskatoon production is the high development costs and the time (6 to 7 years) required for orchards to provide a return on their initial investment.
- Detailed budgeting information is available in the following publications:
  - *Commercial Saskatoon Berry Production on the Prairies; A Growers Guide*, by Sara Williams, University Extension Press, Extension Division, University of Saskatchewan
  - *A Consensus of Costs and Returns No. 288; A 10 Acre Saskatoon Berry Production Enterprise in the Peace River Region*, Production Economics Branch, Alberta Agriculture, Food and Rural Development
  - *A Consensus of Costs and Returns No. 289; A 2 Acre Saskatoon Berry Enterprise in the Central Region*
- The following tables present budgets for the capital investment and operating requirements for the development and operation of both a 10 acre u-pick enterprise and a 10 acre machine harvest enterprise. These budgets will 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.
 

**Note:** These multi year budgets assume good yields every year. In practice yields will vary greatly and your budgets should include at least one or two low or no income years.

8 Commercial Saskatoon Berry Production on the Prairies; A Growers Guide by Sara Williams, University Extension Press, Extension Division; University of Saskatchewan, pg. 6.9.

- Individual producers will have production processes that will vary according to the requirements of their markets and the unique costs they will incur in performing a particular component of the process. Of particular importance are cleaning, cooling, freezing and packaging activities. Producers will have different techniques for accomplishing these steps. For example growers may contract private operators to clean, freeze, bag and transport berries to a processor on a cost per pound basis.
- *The critical economic issues* for saskatoon producers are:
  - The combined effect of the high start-up costs and the delay in producing returns. New entrants must thoroughly analyze the level of returns and the timing of the returns for a new orchard.
  - Assessing the costs associated with the different harvesting and packaging techniques in order to determine the most cost-effective method of meeting the requirements of processor markets.

### **Saskatoon Enterprise No. 1      10 Acre U-pick Operation**

#### **Production Program**

18 ft. row spacings. 2.5 ft between plants , 22,400 feet of row  
 100% of crop harvested by u-pick  
 Cost of planting material: \$1.50 per plant  
 Replace 10% of plants in year 1, 2.5% in year 2 and 7.5% in year 3

#### **Capital Investment Required**

<b>Item</b>	<b>Purchase Price</b>	<b>Useful Life</b>	<b>Depreciation \$/Year</b>	<b>Interest Cost \$/Year</b>
Land (10 acre at \$500 per acre)	\$5,000			\$450
Storage building (1/4 used for berries)	\$2,500	10	\$250	\$113
Used 60 hp. tractor	\$10,000	8	\$1,250	\$450
Cultivator	\$2,600	15	\$173	\$117
Mechanical transplanter	\$1,000	15	\$67	\$45
Irrigation pump	\$5,000	10	\$500	\$225
Irrigation lines	\$12,000	7	\$1,714	\$540
Dugout or other source of water	\$7,500	20	\$375	\$338
Sprayer	\$8,000	7	\$1,143	\$360
Mower	\$5,000	15	\$333	\$225
Small tools	\$1,000	20	\$50	\$45
Pick-up truck	\$12,000	10	\$1,200	\$450
<b>Total Costs</b>	<b>\$71,600</b>		<b>\$7,055</b>	<b>\$3,447</b>

Note: The budgets presented in this publication should only be used as a guide. These budgets should not be used for business analysis without adjustments to reflect individual situations. Potential producers will need to develop budgets for their individual operations base on their personal expectations concerning production levels, costs and market prices.

### 10 Acre U-pick Saskatoon Enterprise – Annual Operating Inputs

Year	1	2	3	4	5	6	7	8	9	10
<b>Harvest Output</b>										
Harvest yields (pounds per 100 ft. of row)	0	0	0	20	50	100	125	125	125	125
<b>Total Yield (pounds)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4,480</b>	<b>11,200</b>	<b>22,400</b>	<b>28,000</b>	<b>28,000</b>	<b>28,000</b>	<b>28,000</b>
<b>Labour Requirements (person – days)</b>										
Planting & pruning	30	15	10	0	10	10	10	10	10	10
Irrigation, spraying, etc.	20	60	60	20	20	20	20	20	20	20
U-pick harvest supervision				20	20	20	20	20	20	20
<b>Total Person Days per Year</b>	<b>50</b>	<b>75</b>	<b>70</b>	<b>40</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>40</b>
<b>Total Labor Costs (at \$10 per hour)</b>	<b>\$4,000</b>	<b>\$6,000</b>	<b>\$5,600</b>	<b>\$3,200</b>	<b>\$4,000</b>	<b>\$4,000</b>	<b>\$4,000</b>	<b>\$4,000</b>	<b>\$4,000</b>	<b>\$3,200</b>
<b>Input Requirements (dollars per 100 ft. of row)</b>										
Plants	\$56.00	\$1.40	\$4.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Fertilizer	\$0.23	\$0.23	\$0.23	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54
Insecticide & fungicide	\$0.00	\$0.21	\$0.00	\$1.28	\$1.28	\$1.28	\$1.28	\$2.28	\$1.28	\$1.28
Herbicide	\$0.52	\$0.21	\$3.28	\$3.21	\$0.03	\$3.21	\$0.03	\$3.21	\$0.03	\$3.21
<b>Total Input Costs (22,400 feet of row)</b>	<b>\$12,712.00</b>	<b>\$459.20</b>	<b>\$1,727.04</b>	<b>\$1,126.72</b>	<b>\$414.40</b>	<b>\$1,126.72</b>	<b>\$414.40</b>	<b>\$1,350.72</b>	<b>\$414.40</b>	<b>\$1,126.72</b>

## Revenue and Expense Estimates for 10 Acre U-pick Saskatoon Enterprise

Year	1	2	3	4	5	6	7	8	9	10
<b>Revenues</b>										
Sale of u-pick berries (price per pound) \$1.60	\$0	\$0	\$0	\$7,168	\$17,920	\$35,840	\$44,800	\$44,800	\$44,800	\$44,800
<b>Total Revenues</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$7,168</b>	<b>\$17,920</b>	<b>\$35,840</b>	<b>\$44,800</b>	<b>\$44,800</b>	<b>\$44,800</b>	<b>\$44,800</b>
<b>Variable Costs</b>										
Plant material	\$12,544.00	\$313.60	\$940.80	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Labor	\$4,000.00	\$6,000.00	\$5,600.00	\$3,200.00	\$4,000.00	\$4,000.00	\$4,000.00	\$4,000.00	\$4,000.00	\$3,200.00
Fertilizer	\$51.52	\$51.52	\$51.52	\$120.96	\$120.96	\$120.96	\$120.96	\$120.96	\$120.96	\$120.96
Insecticide/fungicide	\$0.00	\$47.04	\$0.00	\$286.72	\$286.72	\$286.72	\$286.72	\$510.72	\$286.72	\$286.72
Herbicide	\$116.48	\$47.04	\$734.72	\$719.04	\$6.72	\$719.04	\$6.72	\$719.04	\$6.72	\$719.04
Advertising, pails etc.			\$1,100.00	\$1,100.00	\$1,100.00	\$1,100.00	\$1,100.00	\$1,100.00	\$1,100.00	
Equipment operating	\$1,500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500
Miscellaneous expense	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000
Interest expense on operating (10%)	\$1,010.60	\$447.96	\$491.35	\$396.34	\$400.72	\$436.34	\$400.72	\$447.54	\$400.72	\$396.34
<b>Total Variable Costs</b>	<b>\$21,222.60</b>	<b>\$9,407.16</b>	<b>\$10,318.39</b>	<b>\$8,323.06</b>	<b>\$8,415.12</b>	<b>\$9,163.06</b>	<b>\$8,415.12</b>	<b>\$9,398.26</b>	<b>\$8,415.12</b>	<b>\$8,323.06</b>
<b>Gross Operating Margin</b>	<b>(\$21,222.60)</b>	<b>(\$9,407.16)</b>	<b>(\$10,318.39)</b>	<b>(\$1,155.06)</b>	<b>\$9,504.88</b>	<b>\$26,676.94</b>	<b>\$36,384.88</b>	<b>\$35,401.74</b>	<b>\$36,384.88</b>	<b>\$36,476.94</b>
<b>Fixed Costs</b>										
Property taxes	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00
Depreciation expense	\$7,055.48	\$7,055.48	\$7,055.48	\$7,055.48	\$7,055.48	\$7,055.48	\$7,055.48	\$7,055.48	\$7,055.48	\$7,055.48
<b>Total Fixed Costs</b>	<b>\$7,105.48</b>	<b>\$7,105.48</b>	<b>\$7,105.48</b>	<b>\$7,105.48</b>	<b>\$7,105.48</b>	<b>\$7,105.48</b>	<b>\$7,105.48</b>	<b>\$7,105.48</b>	<b>\$7,105.48</b>	<b>\$7,105.48</b>
<b>Net Operating Income</b>	<b>(\$28,328.08)</b>	<b>(\$16,512.64)</b>	<b>(\$17,423.87)</b>	<b>(\$8,260.53)</b>	<b>\$2,399.40</b>	<b>\$19,571.47</b>	<b>\$29,279.40</b>	<b>\$28,296.27</b>	<b>\$29,279.40</b>	<b>\$29,371.47</b>
<b>Cumulative Net Income</b>	<b>(\$28,328.08)</b>	<b>(\$44,840.71)</b>	<b>(\$62,264.58)</b>	<b>(\$70,525.11)</b>	<b>(\$68,152.71)</b>	<b>(\$48,554.24)</b>	<b>(\$19,274.84)</b>	<b>\$9,021.43</b>	<b>\$38,300.83</b>	<b>\$67,672.30</b>

**Saskatoon Enterprise No.2      10 Acre Machine Harvest**

**Production Program**

18 ft. row spacings. 2.5 ft between rows, 22,400 feet of row  
 100% of crop harvested by machine  
 Machine harvest rate .8 acre per hour  
 Cost of planting material: \$1.50 per plant  
 Replace 10% of plants in year 1, 2.5% in year 2 and 7.5% in year 3  
 Lease reefer (freezing) \$90 per day

**Capital Investment Required**

<b>Item</b>	<b>Purchase Price</b>	<b>Useful Life</b>	<b>Depreciation \$/Year</b>	<b>Interest Cost \$/Year</b>
Land (5 acres at \$500 per acre)	\$5,000			\$250.00
Storage building (1/4 used in berries)	\$3,500	10	\$350.00	\$175.00
Used 80 hp. tractor	\$15,000	8	\$1,875.00	\$750.00
Cultivator	\$2,600	15	\$173.33	\$130.00
Weed badger, harrows, mower	\$12,000	15	\$800.00	\$600.00
Mechanical transplanter	\$1,000	15	\$66.67	\$50.00
Grass planter	\$500	15	\$33.33	\$25.00
Irrigation pump	\$5,000	10	\$500.00	\$250.00
Irrigation lines	\$12,000	7	\$1,714.29	\$600.00
Pruning equipment	\$2,000	7	\$285.71	\$100.00
Sorting table and sizer (1/4 share)	\$9,375	7	\$1,339.29	\$468.75
Dugout or other source of water	\$7,500	20	\$375.00	\$375.00
Pick-up truck	\$10,000	10	\$1,000.00	\$500.00
Sprayers	\$10,000	7	\$1,428.57	\$500.00
Pull type harvester (1/4 share)	\$20,000	7	\$2,857.14	\$1,000.00
<b>Total Costs</b>	<b>\$115,475</b>		<b>\$12,798.00</b>	<b>\$5,774.00</b>

## 10 Acre Machine Harvest Saskatoon Enterprise – Annual Operating Requirements

Year	1	2	3	4	5	6	7	8	9	10
<b>Harvest Output</b>										
Harvest yields (pounds per 100 feet of row)	0	0	0	20	50	100	125	125	125	125
<b>Total Yield (pounds)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4,480</b>	<b>11,200</b>	<b>22,400</b>	<b>28,000</b>	<b>28,000</b>	<b>28,000</b>	<b>28,000</b>
<b>Labour Requirements (person – days)</b>										
Planting & pruning	30	10	0	0	10	10	10	10	10	10
Irrigation, spraying, etc.	20	20	20	20	20	20	20	20	20	20
Machine harvest labor				10	10	10	10	10	10	10
<b>Total Person Days per Year</b>	<b>50</b>	<b>30</b>	<b>20</b>	<b>30</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>
<b>Total Labor Costs (at \$10 per hour)</b>	<b>\$4,000</b>	<b>\$2,400</b>	<b>\$1,600</b>	<b>\$2,400</b>	<b>\$3,200</b>	<b>\$3,200</b>	<b>\$3,200</b>	<b>\$3,200</b>	<b>\$3,200</b>	<b>\$3,200</b>
<b>Input Requirements (dollars per 100 feet of row)</b>										
Plants	\$56.00	\$1.40	\$4.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Fertilizer	\$0.23	\$0.23	\$0.23	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54
Insecticide & fungicide	0.00	0.21	\$0.00	\$1.28	\$1.28	\$1.28	\$1.28	\$2.28	\$1.28	\$1.28
Herbicide	\$0.52	\$0.21	\$3.28	\$3.21	\$0.03	\$3.21	\$0.03	\$3.21	\$0.03	\$3.21
<b>Total Input Costs</b>	<b>\$12,712</b>	<b>\$459</b>	<b>\$1,727</b>	<b>\$1,127</b>	<b>\$414</b>	<b>\$1,127</b>	<b>\$414</b>	<b>\$1,351</b>	<b>\$414</b>	<b>\$1,127</b>
Container costs				\$100	\$260	\$500	\$775	\$900	\$1,000	\$1,000
Rental costs reefer	\$0	\$0	\$0	\$134	\$336	\$672	\$840	\$840	\$840	\$840
Packaging costs				\$700	\$1,400	\$2,000	\$8,000	\$8,000	\$8,000	\$8,000

## Revenue and Expense Estimates for 10 Acre Machine Harvest Saskatoon Enterprise

Year	1	2	3	4	5	6	7	8	9	10
<b>Revenues</b>										
Sale of processing berries (price per pound) \$2.00	\$0	\$0	\$0	\$8,960	\$22,400	\$44,800	\$56,000	\$56,000	\$56,000	\$56,000
<b>Total Revenues</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$8,960</b>	<b>\$22,400</b>	<b>\$44,800</b>	<b>\$56,000</b>	<b>\$56,000</b>	<b>\$56,000</b>	<b>\$56,000</b>
<b>Variable Costs</b>										
Plant material	\$12,544.00	\$313.60	\$940.80	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Labor	\$4,000	\$2,400	\$1,600	\$2,400	\$3,200	\$3,200	\$3,200	\$3,200	\$3,200	\$3,200
Fertilizer	\$52	\$52	\$52	\$121	\$121	\$121	\$121	\$121	\$121	\$121
Insecticide/fungicide	\$0	\$47	\$0	\$287	\$287	\$287	\$287	\$287	\$287	\$287
Herbicide	\$116	\$47	\$735	\$719	\$7	\$719	\$7	\$719	\$7	\$719
Marketing			\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500
Packaging				\$700	\$1,400	\$2,000	\$8,000	\$8,000	\$8,000	\$8,000
Container			\$100	\$260	\$500	\$775	\$900	\$1,000	\$1,000	\$1,000
Equipment operating	\$500	\$500	\$500	\$1,500	\$1,500	\$2,000	\$3,000	\$3,000	\$3,000	\$3,000
Reefer rental				\$134	\$336	\$672	\$840	\$840	\$840	\$840
Miscellaneous expense	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000
Interest expense on operating (10%)	\$333	\$252	\$244	\$423	\$481	\$600	\$936	\$990	\$948	\$983
<b>Total Variable Costs</b>	<b>\$19,545</b>	<b>\$5,611</b>	<b>\$6,071</b>	<b>\$8,884</b>	<b>\$10,091</b>	<b>\$12,599</b>	<b>\$19,666</b>	<b>\$20,780</b>	<b>\$19,902</b>	<b>\$20,650</b>
<b>Gross Operating Margin</b>	<b>(\$19,545)</b>	<b>(\$5,611)</b>	<b>(\$6,071)</b>	<b>\$76</b>	<b>\$12,309</b>	<b>\$32,201</b>	<b>\$36,334</b>	<b>\$35,220</b>	<b>\$36,098</b>	<b>\$35,350</b>
<b>Fixed Costs</b>										
Property taxes	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50	\$50
Depreciation expense	\$12,798	\$12,798	\$12,798	\$12,798	\$12,798	\$12,798	\$12,798	\$12,798	\$12,798	\$12,798
<b>Total Fixed Costs</b>	<b>\$12,848</b>	<b>\$12,848</b>	<b>\$12,848</b>	<b>\$12,848</b>	<b>\$12,848</b>	<b>\$12,848</b>	<b>\$12,848</b>	<b>\$12,848</b>	<b>\$12,848</b>	<b>\$12,848</b>
<b>Net Operating Income</b>	<b>(\$32,394)</b>	<b>(\$18,460)</b>	<b>(\$18,920)</b>	<b>(\$12,773)</b>	<b>(\$539)</b>	<b>\$19,353</b>	<b>\$23,486</b>	<b>\$22,371</b>	<b>\$23,250</b>	<b>\$22,502</b>
<b>Cumulative Net Income</b>	<b>(\$32,394)</b>	<b>(\$50,854)</b>	<b>(\$69,773)</b>	<b>(\$82,546)</b>	<b>(\$83,085)</b>	<b>(\$63,732)</b>	<b>(\$40,246)</b>	<b>(\$17,875)</b>	<b>\$5,375</b>	<b>\$27,876</b>

## 5. Resources

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

### Industry Associations

Fruit Growers Society of Alberta  
Box 3979  
Leduc, Alberta T9E 6M8  
Phone/Fax: (403) 986-0658

### Publications

*Growing Saskatoons*  
A Manual for Orchardists  
By Dr. Richard St. Pierre  
Department of Hort. Science  
University of Saskatchewan  
Saskatoon, Saskatchewan S7N 0W0

*Commercial Saskatoon Berry Production*  
*A Grower's Manual*  
By Sara Williams  
Kirk Hall, Extension Division  
University of Saskatchewan  
Saskatoon, Saskatchewan S7N 0W0

*A Consensus of Costs and Returns – 10 Acre Saskatoon Berry Production Enterprise in the Peace River Region*  
Alberta Agriculture, Food and Rural Development district offices

*A Consensus of Costs and Returns – 2 Acre Saskatoon Berry Production Enterprise in the Central Region*  
Alberta Agriculture, Food and Rural Development district offices

Videos available from Alberta Agriculture, Food and Rural Development offices:

- *Pick of the Crop*
- *The In's and Out's of Saskatoon Production*

### Government Resources

#### Production and Marketing

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

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.

### Business Planning

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

## 6. Key Management Issues

- If you continue to investigate this agricultural business opportunity, it is essential that you are able to answer the following questions concerning the saskatoon berry industry and the management requirements of a saskatoon berry enterprise.
  - Have you clearly defined the market segment(s) that you will be marketing to?
  - Have you clearly defined the production process and the production resources that you will require to produce for the specific market(s) mentioned above?
  - 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 intensive management required by the production activities of a saskatoon enterprise?
  - Are you aware of the amount of time you will have to devote to continuously research your markets and to adjust your production activities to best meet the needs of processors?
  - Are you aware of the key performance factors and the level of performance you will have to achieve for each, in order for your business to be economically viable?
  - Have you objectively and thoroughly assessed the marketing, production, economic and management requirements of a saskatoon enterprise together with their impact on your personal situation?

**Compiled by:**

Dennis Dey – Farm Management Consultant

**Technical Advisors:**

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

George Monner – Farm Management Specialist;  
Alberta Agriculture, Food and Rural Development

Shirley Alton – Fruit Growers Society of Alberta