



Guidelines for Estimating Saskatoon Berry Production Costs 2012

in Manitoba



Guidelines For Estimating Saskatoon Berry Production Costs

Date: November, 2012

The estimated saskatoon berry production costs in this publication have been prepared to assist you in developing your own production cost budgets.

The investment and cash input costs of growing saskatoon berries in Manitoba are substantial. Detailed budgeting and good financial planning are essential ingredients for success. The capital investment to establish and operate a 20 acre orchard may total in the range of \$66,000 to establish the orchard and an additional \$200,000 to purchase land, equipment and storage facilities. The establishment costs are incurred in the first 4 years and production doesn't begin until year 5. Saskatoons do not reach peak yield levels until 6-8 years after transplanting. However, a properly maintained orchard should maintain uniform yields for 20-30 years.

Commercial saskatoon production in Manitoba has been an important part of diversification in the province. Currently there are approximately 160 saskatoon growers in Manitoba whose orchards vary in size from 1 acre to 20 acres. The majority of the saskatoon orchards are harvested by hand for U-Pick sales and pre-picked direct farm sales; but mechanical harvesting for sales into processing has increased over the past few years.

Growers entering the industry need these basic requirements: (1) suitable land with adequate drainage and shelterbelts, (2) access to an adequate quantity and quality of water for irrigation, (3) financial resources that permit a significant level of investment on infrastructure and input costs, (4) the ability to apply management skills to the crop in a precisely timed manner, (5) the ability to determine market potential, and (6) the willingness to accept risk.

It is advised that new growers assess their potential customer base and marketing opportunities prior to establishing a saskatoon orchard and that they should start small and expand their orchards over several years.

Disclaimer: This budget is only a guide and is not intended as an in depth study of the cost of production of this industry. Interpretation and utilization of this information is the responsibility of the user. If you require assistance with developing your individual budget, please contact your local Manitoba Agriculture Food and Rural Initiatives office.

Summary - Saskatoon Berry Orchard Estimated Cost of Production

	Establishment ¹		Incremental Production Cost \$/acre	Subtotal Annual Establishment & Production Costs per Acre		Annual Cost/lb	Your Cost
	Cost \$/acre	Amortized Over		Costs per Acre	Costs per Acre		
	Years 1-4	Years 1-20	Years 5-20	Years 5-20	Cost/lb		
1. Operating Costs							
1.01 Plant Costs and Grass Seed ¹	\$1,870.00	\$93.50	N/A	\$93.50	\$0.0603		
1.02 Fertilizer	\$100.00	\$5.00	\$64.55	\$69.55	\$0.0337		
1.03 Herbicides	\$28.00	\$1.40	\$6.00	\$7.40	\$0.0037		
1.04 Insecticides	\$90.00	\$4.50	\$30.00	\$34.50	\$0.0171		
1.05 Fungicides	\$69.00	\$3.45	\$58.50	\$61.95	\$0.0299		
1.06 Field Fuel Costs	\$45.94	\$2.30	\$26.50	\$28.80	\$0.0140		
1.07 Irrigation Costs	\$80.00	\$4.00	\$10.00	\$14.00	\$0.0073		
1.08 Custom Costs	\$15.00	\$0.75	\$0.00	\$0.75	\$0.0005		
1.09 Repair & Maintenance	\$619.50	\$30.98	\$7.74	\$38.72	\$0.0236		
1.10 Miscellaneous	\$315.00	\$15.75	\$0.00	\$15.75	\$0.0102		
1.11 Land Taxes	\$160.00	\$8.00	\$40.00	\$48.00	\$0.0241		
Subtotal Operating	\$3,392.44	\$169.62	\$243.29	\$412.91	\$0.2243		
1.12 Interest on Operating	\$93.29	\$4.66	\$6.69	\$11.36	\$0.0062		
Total Operating Costs	\$3,485.73	\$174.29	\$249.98	\$424.27	\$0.2305		
2. Depreciation							
2.01 Machinery	\$714.00	\$178.50	\$0.00	\$178.50	\$0.1151		
2.02 Storage	\$1,188.00	\$297.00	\$0.00	\$297.00	\$0.1914		
Subtotal depreciation	\$1,902.00	\$475.50	\$0.00	\$475.50	\$0.3065		
Subtotal - Op. Costs & Depreciation	\$5,387.73	\$269.39	\$249.98	\$519.37	\$0.54		
3. Investment							
3.01 Land	\$365.00	\$91.25	\$0.00	\$91.25	\$0.0588		
3.02 Machinery	\$163.63	\$40.91	\$0.00	\$40.91	\$0.0264		
3.03 Storage	\$272.25	\$68.06	\$0.00	\$68.06	\$0.0439		
Subtotal investment	\$800.88	\$200.22	\$0.00	\$200.22	\$0.1291		
Subtotal - Op. Costs, Deprec. & Invest	\$6,188.61	\$469.61	\$249.98	\$719.59	\$0.67		
4. Labour	\$774.38	\$38.72	\$728.11	\$766.82	\$0.3691		
Total Cost of Production	\$6,962.99	\$508.33	\$978.09	\$1,486.41	\$1.04		

1. The cost of establishing the crop of \$6,962.99 per acre, over a four year period, was spread over 20 years at \$508.33 per year.

Disclaimer: This budget is only a guide and is not intended as an in depth study of the cost of production of the Manitoba Saskatoon Berry industry.

Saskatoon Berry Orchard Assumptions

Number of acres in production	20
Market Value - orchard (\$/acre)	\$2,400
Market Value - yardsite (\$/acre)	\$5,000
Land Taxes - orchard (\$/acre)	\$15.00
Land Taxes - yardsite (\$/acre)	\$100.00
Fuel Price (Diesel \$/litre)	\$0.98
Interest on Operating	5.5%
Interest on Investment	2.5%

Year	Acres	Orchard A ¹	Orchard B ¹	Orchard C ¹	Orchard D ¹	Orchard A	Orchard B	Orchard C	Orchard D	Total
		5	5	5	5	production per acre (lb)				prod'n (lb)
1		planted				0	0	0	0	0
2		2nd year establ.	planted			0	0	0	0	0
3		3rd year establ.	2nd year establ.	planted		0	0	0	0	0
4		1st year harvest	3rd year establ.	2nd year establ.	planted	250	0	0	0	1,250
5		2nd year harvest	1st year harvest	3rd year establ.	2nd year establ.	650	250	0	0	4,500
6		3rd year harvest	2nd year harvest	1st year harvest	3rd year establ.	1,350	650	250	0	11,250
7		4th year harvest	3rd year harvest	2nd year harvest	1st year harvest	1,900	1,350	650	250	20,750
8		5th year harvest	4th year harvest	3rd year harvest	2nd year harvest	2,350	1,900	1,350	650	31,250
9		6th year harvest	5th year harvest	4th year harvest	3rd year harvest	2,800	2,350	1,900	1,350	42,000
10		7th year harvest	6th year harvest	5th year harvest	4th year harvest	2,800	2,800	2,350	1,900	49,250
11		8th year harvest	7th year harvest	6th year harvest	5th year harvest	2,800	2,800	2,800	2,350	53,750
12		renovated-no prod'n	8th year harvest	7th year harvest	6th year harvest	0	2,800	2,800	2,800	42,000
13		1st year harvest	9th year harvest	8th year harvest	7th year harvest	450	2,800	2,800	2,800	44,250
14		2nd year harvest	renovated-no prod'n	9th year harvest	8th year harvest	1,000	0	2,800	2,800	30,250
15		3rd year harvest	1st year harvest	10th year harvest	9th year harvest	1,900	450	2,800	2,800	35,250
16		4th year harvest	2nd year harvest	renovated-no prod'n	10th year harvest	2,800	1,000	0	2,800	25,750
17		5th year harvest	3rd year harvest	1st year harvest	11th year harvest	2,800	1,900	450	2,800	35,250
18		6th year harvest	4th year harvest	2nd year harvest	renovated-no prod'n	2,800	2,800	1,000	0	25,750
19		7th year harvest	5th year harvest	3rd year harvest	1st year harvest	2,800	2,800	1,900	450	35,250
20		8th year harvest	6th year harvest	4th year harvest	2nd year harvest	2,800	2,800	2,800	1,000	39,750
21		9th year harvest	7th year harvest	5th year harvest	3rd year harvest	2,800	2,800	2,800	1,900	47,000
22		renovated-no prod'n	8th year harvest		4th year harvest	0	2,800	2,800	2,800	37,500
23		no production	9th year harvest	7th year harvest	5th year harvest	0	2,800	2,800	2,800	42,000
24		1st year harvest	renovated-no prod'n	8th year harvest	6th year harvest	450	0	2,800	2,800	44,250
Total Production (lb) - Years 4 to 20										527,500
Average production per acre (lb) - years 4 to 20										1,551

	Market Value	Allocated % Saskatoon	Allocated \$ Saskatoon	Useful Life	Salvage Value
Capital Costs					
Land Value					
Yardsite Cost	\$12,500	100%	\$12,500		
Land Cost	\$48,000	100%	\$48,000		
Machinery Costs					
Tractor 40 hp	\$20,000	100%	\$20,000	15	10%
Mech. Transplanter	\$0	100%	\$0	15	10%
Sprayer (used)	\$5,000	100%	\$5,000	15	10%
Mower	\$2,500	100%	\$2,500	15	10%
Cultivator	\$0	90%	\$0	15	10%
Harvester	\$30,000	100%	\$30,000	15	10%
Pruning Equipment	\$2,000	100%	\$2,000	15	10%
Total	\$59,500		\$59,500	15	10%
Other Costs					
Storage Shed	\$20,000	100%	\$20,000	15	10%
Quick Freeze Unit	\$25,000	100%	\$25,000	15	10%
Holding Freezer	\$15,000	100%	\$15,000	15	10%
Sorting Table & Sizer	\$12,000	100%	\$12,000	15	10%
Irrigation Equipment	\$27,000	100%	\$27,000	15	10%
Total	\$99,000		\$99,000	15	10%
Total Investment	\$219,000		\$206,500		
Average Investment per acre	Land	\$3,025 \$/acre			
	Machinery	\$2,975 \$/acre			
	Other	\$4,950 \$/acre			
	Total	\$10,325 \$/acre			

Note 1: It is assumed that the 20 acre orchard is planted over 4 successive years. To accommodate this staggered planting schedule, the orchard is divided into 4 orchards (Orchard A, B, C, & D) for our purposes.

Saskatoon Berry Cost of Production Worksheet Establishment Practices and Estimated Costs

Plant and Seed Costs

Saskatoon plants		
Planting rate plants/acre	880 plants/ac	
Plant Cost	\$2.00 \$/ plant	
Grass Seed	\$110.00 per acre	
Seeding rate/acre	40 lbs./acre	
Seed cost	\$2.75 \$/lb.	

Fertilizer

	<u>Est 1</u>	<u>Est 2</u>	<u>Est 3</u>	<u>Est 4</u>
	-----\$/acre-----			
Establishment Years	\$25.00	\$25.00	\$25.00	\$25.00
Applicator rental		\$0.00		\$/acre

Herbicides

	<u>Est 1</u>	<u>Est 2</u>	<u>Est 3</u>	<u>Est 4</u>
	-----\$/acre-----			
Pre Plant & Estab. Yrs.	\$10.00	\$6.00	\$6.00	\$6.00

Insecticides

	<u>Est 1</u>	<u>Est 2</u>	<u>Est 3</u>	<u>Est 4</u>
	-----\$/acre-----			
Pre Plant & Estab. Yrs.	\$0.00	\$45.00	\$45.00	0

Fungicides

	<u>Est 1</u>	<u>Est 2</u>	<u>Est 3</u>	<u>Est 4</u>
	-----\$/acre-----			
Pre Plant & Estab. Yrs.	\$0.00	\$0.00	\$23.00	\$46.00

Field Operations:

<u>Pre Transplant</u>	<u>Times Over</u>	<u>Width Feet</u>	<u>Speed MPH</u>	<u>Tractor HP</u>	
Cultivate	2	18	5	0	Custom

	<u>Times Over</u>	<u>Width Feet</u>	<u>Speed MPH</u>	<u>Tractor HP</u>
<u>Fall Transplanting</u>				
Transplanting	1	5	1	40
Mowing	9	6	5	40
Spray	0	25	4	40
Mulch application	1	4	2	40

Irrigation Fuel Costs

Inches applied	2
Hours per acre for 1" of water	2.0 times 4
Hourly pumping costs	\$5.00

Plant

Saskatoon Berry Cost of Production Worksheet Establishment Practices and Estimated Costs

Custom & Rental Operations

Custom 1	transplanter	\$100.00
Custom 2	Mulch layer	\$200.00

Repairs & Maintenance

% rate of investment	1.5%
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Miscellaneous

Plant replacement cost	\$150.00	second year only
Plastic Mulch	0.66	rolls/acre only in 1st year.
	\$250.00	\$/roll

Labour

	<u>Est 1</u>	<u>Est 2</u>	<u>Est 3</u>	<u>Est 4</u>	
			<u>Hours/acre</u>		
Weed Control	2.0	0.5	0.5	0.5	3.5
Pest control	0.0	2	2	3	7.0
Mowing	0.0	1.5	1.5	1.5	4.5
Irrigation	4.0	3.0	3.0	3.0	13.0
Mulch application	10.0	0.0	0.0	0.0	10.0
Field Operations	6.3	0.0	0.0	0.0	6.3
Total Labour Hours	22.3	7.0	7.0	8.0	44.3
Labour Rate per hour		\$17.50			

Saskatoon Berry Cost of Production Worksheet Estimated Establishment Costs

1. Operating Costs

Your Cost

1.01 Seed & Plants

Plants		880	plants/acre	
	x	<u>\$2.00</u>	<u>\$/ 1,000 plants</u>	
	=	\$1,760.00	\$/acre	
Grass Seed		\$40.00	lbs/acre	
	x	<u>\$2.75</u>	<u>\$/lb</u>	
		\$110.00	\$/acre	
Total Plant and Seed Cost		\$1,870.00	\$/acre	

1.02 Fertilizer

Establish Year 1		\$25.00	\$/acre	
Establish Year 2	+	\$25.00	\$/acre	
Establish Year 3	+	\$25.00	\$/acre	
Establish Year 4	+	\$25.00	\$/acre	
Total	=	\$100.00	\$/acre	

1.03 Herbicides

Establish Year 1		\$10.00	Non-selective herbicide	
Establish Year 2	+	\$6.00	Non-selective herbicide	
Establish Year 3	+	\$6.00	other	
Establish Year 4		\$6.00	other	
	=	\$28.00	\$/acre	

1.04 Insecticides

Establish Year 1		\$0.00	\$/acre	
Establish Year 2	+	\$45.00	\$/acre	
Establish Year 3	+	\$45.00	\$/acre	
Establish Year 4		\$0.00	\$/acre	
	=	\$90.00	\$/acre	

1.05 Fungicides

Establish Year 1		\$0.00	spray 1	
Establish Year 2	+	\$0.00	spray 2	
Establish Year 3	+	\$23.00	spray 3	
Establish Year 4		\$46.00		
	=	\$69.00	\$/acre	

Saskatoon Berry Cost of Production Worksheet Estimated Establishment Costs

1.06 Field Fuel Costs

Your Cost

Field Operations

Pre Plant

<u>Operation</u>	<u>Times Over</u>	<u>Width feet</u>	<u>Speed mph</u>	<u>Fuel \$/ac.</u>
Cultivate	2	18	5	\$0.00
Total	custom hired			\$0.00

Field Operations

Planting

<u>Operation</u>	<u>Times Over</u>	<u>Width feet</u>	<u>Speed mph</u>	<u>Fuel \$/ac.</u>
Transplanting	1	5	1	\$14.70
Mowing	9	6	5	\$22.05
Spray	0	25	4	\$0.00
Mulch application	1	4	2	<u>\$9.19</u>
Total				\$45.94

Total Field Operation Fuel Costs **\$45.94**

1.07 Irrigation Fuel Costs

Establish Years 1-4

	2	inches of water applied	
x	4	times during the establishment period	
x	2	hours/acre for 1" of water	
<u>x</u>	<u>\$5.00</u>	<u>rate/hour</u>	
=	\$80.00	\$/acre	

1.08 Custom Costs

Transplanter

\$100.00 total cost

Other

\$200.00 total cost

÷ 20 acres
= **\$15.00 \$/acre**

1.09 Repairs and Maintenance

	1.5%	percentage rate	
x	\$10,325	investment/acre	
<u>x</u>	<u>4</u>	<u>years</u>	
=	\$619.50	\$/acre	

1.10 Miscellaneous

Plant replacement

\$150.00 \$/acre

Plastic Mulch

0.66 bales/acre

x \$250.00 \$/bale
= **\$165.00 \$/acre**

Total Misc. Cost

\$315.00 **\$/acre**

Saskatoon Berry Cost of Production Worksheet Estimated Establishment Costs

Your Cost

1.11 Land Taxes

	\$40.00	\$/acre			
±	4	<u>years</u>			
=	\$160.00	\$/acre			

1.12 Interest on Operating

	\$3,392.44	subtotal operating			
÷	2	average			
x	<u>5.5%</u>	<u>interest rate</u>			
=	\$93.29	\$/acre			

Original Value - Salvage Value Useful Life

2. Depreciation

2.01 Machinery

	\$2,975.00	cost/acre			
-	\$297.50	salvage value			
÷	<u>15</u>	<u>useful life</u>			
=	\$178.50	\$/acre			
x	4	years			
	\$714.00	\$/acre			

2.02 Other Equipment

	\$4,950.00	cost/acre			
-	\$495.00	salvage value			
÷	<u>15</u>	<u>useful life</u>			
=	\$297.00	\$/acre			
x	4	years			
	\$1,188.00	\$/acre			

3. Investment

Original Value + Salvage Value x Investment Rate 2

3.01 Land

	\$3,650.00	cost/acre			
x	4	years			
x	<u>2.5%</u>	<u>% investment rate</u>			
=	\$365.00	\$/acre			

3.02 Machinery

	\$2,975.00	cost/acre			
+	\$297.50	salvage value			
÷	2	average			
x	4	years			
x	<u>2.5%</u>	<u>% investment rate</u>			
=	\$163.63	\$/acre			

Saskatoon Berry Cost of Production Worksheet Estimated Establishment Costs

				<u>Your Cost</u>
3.03 Other Equipment				
	\$4,950.00	cost/acre		_____
+	\$495.00	salvage value		_____
÷	2	average		_____
x	4	years		_____
<u>x</u>	<u>2.5%</u>	<u>% investment rate</u>		_____
=	\$272.25	\$/acre		_____
4. Labour				
		3.5 hrs/ac weed control		_____
+		7.0 hrs/ac pest control		_____
+		4.5 hrs/ac mowing		_____
+		13.0 hrs/ac irrigation		_____
+		10.0 hrs/ac mulching		_____
+		6.3 hrs/ac field operations		_____
<u>x</u>	<u>\$17.50</u>	<u>\$/hour</u>		_____
=	\$774.38	\$/acre		_____

Saskatoon Berry Cost of Production Worksheet Production Year Practices and Estimated Costs

A. Operating Costs

1.01 Saskatoon Plants see establish

1.02 Fertilizer

	<u>Cost \$/lb</u>	<u>lbs/acre</u>
Nitrogen	\$0.64	25
Phosphate	\$0.53	50
Potash	\$0.49	45
Sulfur	\$0.43	0

Applicator rental **\$0.00 per acre**

1.03 Herbicides

Spot spray	\$6.00
	\$0.00

1.04 Insecticides

Decis	\$15.00 per spraying
	\$0.00
	\$0.00

1.05 Fungicide

Topa 250EC	\$23.00 per spraying
Kumulus DF	\$16.00 per spraying

1.06 Fuel Costs

Estimated fuel cost per acre of picking year **\$0.98**

<u>Field Operations</u>	<u>Times Over</u>	<u>Width Feet</u>	<u>Speed MPH</u>	<u>Tractor HP</u>
Spray	5	25	4	40
Mowing	6	6	4	40
Harvesting	2	16.5	2	40

1.07 Irrigation Fuel Costs

Inches applied	1
Hours per acre for 1' of water	2.0
Hourly pumping costs	\$5.00

Saskatoon Berry Cost of Production Worksheet Production Year Practices and Estimated Costs

1.08 Custom & Rental Operations

none

1.09 Repairs & Maintenance

% rate of investment **1.5%**

1.10 Miscellaneous

Utilities **\$0.00**

Labour Costs (\$/acre)

Rate per hour **\$17.50**

	<u>Hours/acre</u>
Weed Control	1.0
Pest control	3.0
Mowing	1.5
Irrigation	3.0
Pruning	20.0
Harvesting	4.5
Initial processing	5.0
Field Operations	<u>3.6</u>
Total Labour Hours	41.6

Saskatoon Berry Cost of Production Worksheet Production Year Estimated Costs

1. Operating Costs

Your Cost

1.02 Fertilizer

Nitrogen

	25	lbs/acre cropping			
x	<u>\$0.640</u>	<u>cost/lb cropping</u>			
=	\$16.00	\$/acre			

P₂O₅

	50	lbs/acre cropping			
x	<u>\$0.530</u>	<u>cost/lb cropping</u>			
=	\$26.50	\$/acre			

K₂O

	45	lbs/acre cropping			
x	<u>\$0.490</u>	<u>cost/lb cropping</u>			
=	\$22.05	\$/acre			

Sulfur

	0	lbs/acre cropping			
x	<u>\$0.430</u>	<u>cost/lb cropping</u>			
=	\$0.00	\$/acre			

Applicator rental = \$0.00 \$ /acre

Annual Cost = \$64.55 \$ /acre

1.03 Herbicides

	\$6.00	\$/acre glyphosate			
±	<u>\$0.00</u>				
=	\$6.00	\$/acre			

1.04 Insecticides

	\$15.00	\$/acre Various Bugs			
	<u>2</u>	<u>number of sprayings</u>			
=	\$30.00	\$/acre			

1.05 Fungicide

	\$23.00	\$/acre Topas 250EC			
	\$16.00	\$/acre Kumulus DF			
=	\$19.50	\$/acre (average)			
	<u>3</u>	<u>number of sprayings</u>			
	\$58.50				

Saskatoon Berry Cost of Production Worksheet Production Year Estimated Costs

1.06 Field Fuel Costs

<u>Operation</u>	<u>Times Over</u>	<u>Width feet</u>	<u>Speed mph</u>	<u>Fuel \$/ac.</u>	<u>Your Cost</u>
Spray	5	25	4	\$3.68	_____
Mowing	6	6	4	\$18.38	_____
Harvesting	2	16.5	2	<u>\$4.45</u>	_____
				\$26.50	_____

1.07 Irrigation Costs

	1	inches of water applied	_____
x	2	hours/acre for 1" of water	_____
<u>x</u>	<u>\$5.00</u>	<u>rate/hour</u>	_____
=	\$10.00	\$/acre	_____

1.08 Custom Operations

	\$0.00	\$/acre	_____
<u>÷</u>	<u>20</u>	<u>acres</u>	_____
=	\$0.00	\$/acre	_____

1.09 Repair & Maintenance

	1.5%	percentage rate	_____
<u>x</u>	<u>\$516</u>	<u>investment/acre</u>	_____
=	\$7.74	\$/acre	_____

1.10 Miscellaneous

	\$0.00	\$/acre	_____
<u>÷</u>	<u>20</u>	<u>acres</u>	_____
=	\$0.00	\$/acre	_____

1.11 Land Taxes

=	\$15.00	\$/acre	_____
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1.12 Interest on Operating

	\$243.29	subtotal operating	_____
<u>÷</u>	<u>2</u>	average	_____
<u>x</u>	<u>5.5%</u>	<u>interest rate</u>	_____
=	\$6.69	\$/acre	_____

Saskatoon Berry Cost of Production Worksheet Production Year Estimated Costs

2. Depreciation	<u>Original Value - Salvage Value</u>	<u>Useful Life</u>	<u>Your Cost</u>
2.01 Machinery			
	\$2,975.00	cost/acre	
-	\$297.50	salvage value	
÷	<u>15</u>	<u>useful life</u>	
=	\$178.50	\$ /acre	
2.02 Other Equipment			
	\$4,950.00	cost/acre	
-	\$495.00	salvage value	
÷	<u>15</u>	<u>useful life</u>	
=	\$297.00	\$ /acre	
3. Investment			
	<u>Original Value + Salvage Value</u>		<u>x Investment Rate</u>
	2		
3.01 Land			
	\$2,400.00	cost/acre	
x	<u>2.5%</u>	<u>% investment rate</u>	
=	\$60.00	\$ /acre	
3.02 Machinery			
	\$2,975.00	cost/acre	
+	\$297.50	salvage value	
÷	2	average	
x	<u>2.5%</u>	<u>% investment rate</u>	
=	\$40.91	\$ /acre	
3.03 Other Equipment			
	\$4,950.00	cost/acre	
+	\$495.00	salvage value	
÷	2	average	
x	<u>2.5%</u>	<u>% investment rate</u>	
=	\$68.06	\$ /acre	

Saskatoon Berry Cost of Production Worksheet Production Year Estimated Costs

			<u>Your Cost</u>
4. Labour			
	1.0	hrs/ac weed control	
+	3.0	hrs/ac pest control	
+	1.5	hrs/ac mowing	
+	3.0	hrs/ac irrigation	
	20.0	hrs/ac pruning	
	4.5	hrs/ac harvesting	
	5.0	hrs/ac initial processing	
+	3.6	hrs/ac field operations	
<u>x</u>	<u>\$17.50</u>	<u>\$/hour</u>	
=	\$728.11	\$/acre	

For more information contact your local Manitoba Agriculture, Food and Rural Initiatives office.

Prepared by:

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Saskatoon Berry Orchard - Estimated Annual Revenue & Expense Statements

Estimated Revenue:	20 acres	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12
Berry production (lb)		0	0	0	1,250	4,500	11,250	20,750	31,250	42,000	49,250	53,750	42,000
Selling price/lb		\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00
Berry sales revenue		\$0	\$0	\$0	\$2,500	\$9,000	\$22,500	\$41,500	\$62,500	\$84,000	\$98,500	\$107,500	\$84,000

1. Estimated Operating Costs

Establishment costs (years 1-4)	Establishment cost amortized over 20 years												
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	
1.01 Plant Costs	\$37,400	\$1,870	\$1,870	\$1,870	\$1,870	\$1,870	\$1,870	\$1,870	\$1,870	\$1,870	\$1,870	\$1,870	\$1,870
1.02 Fertilizer	\$2,000	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
1.03 Herbicides	\$560	\$28	\$28	\$28	\$28	\$28	\$28	\$28	\$28	\$28	\$28	\$28	\$28
1.04 Insecticides	\$1,800	\$90	\$90	\$90	\$90	\$90	\$90	\$90	\$90	\$90	\$90	\$90	\$90
1.05 Fungicides	\$1,380	\$69	\$69	\$69	\$69	\$69	\$69	\$69	\$69	\$69	\$69	\$69	\$69
1.06 Field Fuel Costs	\$919	\$46	\$46	\$46	\$46	\$46	\$46	\$46	\$46	\$46	\$46	\$46	\$46
1.07 Irrigation Costs	\$1,600	\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$80
1.08 Custom Costs	\$300	\$15	\$15	\$15	\$15	\$15	\$15	\$15	\$15	\$15	\$15	\$15	\$15
1.09 Repair & Maintenance	\$12,390	\$620	\$620	\$620	\$620	\$620	\$620	\$620	\$620	\$620	\$620	\$620	\$620
1.10 Miscellaneous	\$6,300	\$315	\$315	\$315	\$315	\$315	\$315	\$315	\$315	\$315	\$315	\$315	\$315
1.11 Land Taxes	\$3,200	\$160	\$160	\$160	\$160	\$160	\$160	\$160	\$160	\$160	\$160	\$160	\$160
Total establishment costs	\$67,849	\$3,392	\$3,392	\$3,392	\$3,392	\$3,392	\$3,392	\$3,392	\$3,392	\$3,392	\$3,392	\$3,392	\$3,392
1.12 Interest on Operating	\$1,866	93	93	93	93	93	93	93	93	93	93	93	93
Subtotal - costs of establishing orchard	\$69,715	\$3,486	\$3,486	\$3,486	\$3,486	\$3,486	\$3,486	\$3,486	\$3,486	\$3,486	\$3,486	\$3,486	\$3,486

	Operating cost during production years (years 5-20)							
1.02 Fertilizer	\$1,291	\$1,291	\$1,291	\$1,291	\$1,291	\$1,291	\$1,291	\$1,291
1.03 Herbicides	\$120	\$120	\$120	\$120	\$120	\$120	\$120	\$120
1.04 Insecticides	\$600	\$600	\$600	\$600	\$600	\$600	\$600	\$600
1.05 Fungicides	\$1,170	\$1,170	\$1,170	\$1,170	\$1,170	\$1,170	\$1,170	\$1,170
1.06 Field Fuel Costs	\$530	\$530	\$530	\$530	\$530	\$530	\$530	\$530
1.07 Irrigation Costs	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200
1.08 Custom Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1.09 Repair & Maintenance	\$155	\$155	\$155	\$155	\$155	\$155	\$155	\$155
1.10 Miscellaneous	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1.11 Land Taxes	\$800	\$800	\$800	\$800	\$800	\$800	\$800	\$800
Total production costs	\$4,866	\$4,866	\$4,866	\$4,866	\$4,866	\$4,866	\$4,866	\$4,866
1.12 Interest on Operating	\$134	\$134	\$134	\$134	\$134	\$134	\$134	\$134
Subtotal - costs during productive years	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000

Total Operating Costs	\$69,715	\$4,648	\$4,648	\$4,648	\$4,648	\$8,485	\$8,485	\$8,485	\$8,485	\$8,485	\$8,485	\$8,485	\$8,485
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	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12
Capital costs amortized over 20 years												
2. Depreciation												
2.01 Machinery	\$14,280	\$3,570	\$3,570	\$3,570	\$3,570	\$3,570	\$3,570	\$3,570	\$3,570	\$3,570	\$3,570	\$3,570
2.02 Storage	\$23,760	\$5,940	\$5,940	\$5,940	\$5,940	\$5,940	\$5,940	\$5,940	\$5,940	\$5,940	\$5,940	\$5,940
Subtotal depreciation	\$38,040	\$9,510	\$9,510	\$9,510	\$9,510	\$9,510	\$9,510	\$9,510	\$9,510	\$9,510	\$9,510	\$9,510
Subtotal - Operating Costs & Depreciation	\$107,755	\$14,158	\$14,158	\$14,158	\$14,158	\$17,995	\$17,995	\$17,995	\$17,995	\$17,995	\$17,995	\$17,995
3. Investment												
3.01 Land	7,300	\$1,825	\$1,825	\$1,825	\$1,825	\$1,825	\$1,825	\$1,825	\$1,825	\$1,825	\$1,825	\$1,825
3.02 Machinery	3,273	\$818	\$818	\$818	\$818	\$818	\$818	\$818	\$818	\$818	\$818	\$818
3.03 Storage	5,445	\$1,361	\$1,361	\$1,361	\$1,361	\$1,361	\$1,361	\$1,361	\$1,361	\$1,361	\$1,361	\$1,361
Subtotal investment	16,018	\$4,004	\$4,004	\$4,004	\$4,004	\$4,004	\$4,004	\$4,004	\$4,004	\$4,004	\$4,004	\$4,004
Subtotal - Operating Costs, Depreciation & Investment Costs	\$123,772	\$18,162	\$18,162	\$18,162	\$18,162	\$22,000	\$22,000	\$22,000	\$22,000	\$22,000	\$22,000	\$22,000
4. Labour	\$15,488	\$774	\$774	\$774	\$774	\$15,336	\$15,336	\$15,336	\$15,336	\$15,336	\$15,336	\$15,336
Total Cost of Production	\$139,260	\$18,936	\$18,936	\$18,936	\$18,936	\$37,336	\$37,336	\$37,336	\$37,336	\$37,336	\$37,336	\$37,336
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12
Cumulative costs	\$18,936	\$37,873	\$56,809	\$75,746	\$113,082	\$150,418	\$187,754	\$225,091	\$262,427	\$299,763	\$337,099	\$374,436
Cumulative production (lbs)	0	0	0	1,250	5,750	17,000	37,750	69,000	111,000	160,250	214,000	256,000
Costs/lb				\$60.60	\$19.67	\$8.85	\$4.97	\$3.26	\$2.36	\$1.87	\$1.58	\$1.46
Annual Net Income	-\$18,936	-\$18,936	-\$18,936	-\$16,436	-\$28,336	-\$14,836	\$4,164	\$25,164	\$46,664	\$61,164	\$70,164	\$46,664
Cumulative Net Income	-18936.418	-37872.84	-56809.25	-73245.67	-101581.9	-116418.1	-112254.4	-87090.62	-40426.86	20736.902	90900.664	137564.43

Saskatoon Berry Orchard - Estimated Annual Revenue & Expense Statements

Estimated Revenue:	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
Berry production (lb)	44,250	30,250	35,250	25,750	35,250	25,750	35,250	39,750
Selling price/lb	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00
Berry sales revenue	\$88,500	\$60,500	\$70,500	\$51,500	\$70,500	\$51,500	\$70,500	\$79,500

Establishment cost amortized over 20 years

	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
1.01 Plant Costs	\$1,870	\$1,870	\$1,870	\$1,870	\$1,870	\$1,870	\$1,870	\$1,870
1.02 Fertilizer	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
1.03 Herbicides	\$28	\$28	\$28	\$28	\$28	\$28	\$28	\$28
1.04 Insecticides	\$90	\$90	\$90	\$90	\$90	\$90	\$90	\$90
1.05 Fungicides	\$69	\$69	\$69	\$69	\$69	\$69	\$69	\$69
1.06 Field Fuel Costs	\$46	\$46	\$46	\$46	\$46	\$46	\$46	\$46
1.07 Irrigation Costs	\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$80
1.08 Custom Costs	\$15	\$15	\$15	\$15	\$15	\$15	\$15	\$15
1.09 Repair & Maintenance	\$620	\$620	\$620	\$620	\$620	\$620	\$620	\$620
1.10 Miscellaneous	\$315	\$315	\$315	\$315	\$315	\$315	\$315	\$315
1.11 Land Taxes	\$160	\$160	\$160	\$160	\$160	\$160	\$160	\$160
Total establishment costs	\$3,392	\$3,392	\$3,392	\$3,392	\$3,392	\$3,392	\$3,392	\$3,392
1.12 Interest on Operating	93	93	93	93	93	93	93	93
Subtotal - costs of establishing orchard	\$3,486	\$3,486	\$3,486	\$3,486	\$3,486	\$3,486	\$3,486	\$3,486

Operating cost during production years (years 5-20)

1.02 Fertilizer	\$1,291	\$1,291	\$1,291	\$1,291	\$1,291	\$1,291	\$1,291	\$1,291
1.03 Herbicides	\$120	\$120	\$120	\$120	\$120	\$120	\$120	\$120
1.04 Insecticides	\$600	\$600	\$600	\$600	\$600	\$600	\$600	\$600
1.05 Fungicides	\$1,170	\$1,170	\$1,170	\$1,170	\$1,170	\$1,170	\$1,170	\$1,170
1.06 Field Fuel Costs	\$530	\$530	\$530	\$530	\$530	\$530	\$530	\$530
1.07 Irrigation Costs	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200
1.08 Custom Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1.09 Repair & Maintenance	\$155	\$155	\$155	\$155	\$155	\$155	\$155	\$155
1.10 Miscellaneous	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1.11 Land Taxes	\$800	\$800	\$800	\$800	\$800	\$800	\$800	\$800
Total production costs	\$4,866	\$4,866	\$4,866	\$4,866	\$4,866	\$4,866	\$4,866	\$4,866
1.12 Interest on Operating	\$134	\$134	\$134	\$134	\$134	\$134	\$134	\$134
Subtotal - costs during productive years:	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Total Operating Costs	\$8,485	\$8,485	\$8,485	\$8,485	\$8,485	\$8,485	\$8,485	\$8,485

	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
Capital costs amortized over 20 years								
2. Depreciation								
2.01 Machinery	\$3,570	\$3,570	\$3,570	\$3,570	\$3,570	\$3,570	\$3,570	\$3,570
2.02 Storage	\$5,940	\$5,940	\$5,940	\$5,940	\$5,940	\$5,940	\$5,940	\$5,940
Subtotal depreciation	\$9,510	\$9,510	\$9,510	\$9,510	\$9,510	\$9,510	\$9,510	\$9,510
Subtotal - Operating Costs & Depreciation	\$17,995	\$17,995	\$17,995	\$17,995	\$17,995	\$17,995	\$17,995	\$17,995
3. Investment								
3.01 Land	\$1,825	\$1,825	\$1,825	\$1,825	\$1,825	\$1,825	\$1,825	\$1,825
3.02 Machinery	\$818	\$818	\$818	\$818	\$818	\$818	\$818	\$818
3.03 Storage	\$1,361	\$1,361	\$1,361	\$1,361	\$1,361	\$1,361	\$1,361	\$1,361
Subtotal investment	\$4,004	\$4,004	\$4,004	\$4,004	\$4,004	\$4,004	\$4,004	\$4,004
Subtotal - Operating Costs, Depreciation & Investment Costs	\$22,000	\$22,000	\$22,000	\$22,000	\$22,000	\$22,000	\$22,000	\$22,000
4. Labour	\$15,336	\$15,336	\$15,336	\$15,336	\$15,336	\$15,336	\$15,336	\$15,336
Total Cost of Production	\$37,336	\$37,336	\$37,336	\$37,336	\$37,336	\$37,336	\$37,336	\$37,336
	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
Cumulative costs	\$411,772	\$449,108	\$486,444	\$523,781	\$561,117	\$598,453	\$635,789	\$673,125
Cumulative production (lbs)	300,250	330,500	365,750	391,500	426,750	452,500	487,750	527,500
Costs/lb	\$1.37	\$1.36	\$1.33	\$1.34	\$1.31	\$1.32	\$1.30	\$1.28
Annual Net Income	\$51,164	\$23,164	\$33,164	\$14,164	\$33,164	\$14,164	\$33,164	\$42,164
Cumulative Net Income	188728.19	211891.95	245055.71	259219.475	292383.237	306546.999	339710.762	381874.524

Saskatoon Berry Orchard - Estimated Annual Cash Flow Statements

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
Capital Costs:										
Yardsite - 5 acres @ \$2,500	\$12,500									
Land - 20 acres at \$1,500/acre	\$30,000									
Production Equipment	\$56,500									
Harvester & Cleaning/Sorting Equipment				\$42,000						
Freezers & Storage				\$60,000						
Total Capital Costs	\$99,000	\$0	\$0	\$102,000	\$0	\$0	\$0	\$0	\$0	\$0
Orchard Establishment Costs		\$17,429	\$17,429	\$17,429	\$17,429	\$0	\$0	\$0	\$0	\$0
Annual production costs						\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Subtotal - Cash Costs	\$99,000	\$17,429	\$17,429	\$119,429	\$17,429	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Revenue:	\$0	\$0	\$0	\$0	\$2,500	\$9,000	\$22,500	\$41,500	\$62,500	\$84,000
Annual (Shortfall) or Surplus	-\$99,000	-\$17,429	-\$17,429	-\$119,429	-\$14,929	\$4,000	\$17,500	\$36,500	\$57,500	\$79,000
Cummulative (Shortfall) or Surplus	-\$99,000	-\$116,429	-\$133,857	-\$253,286	-\$268,215	-\$264,214	-\$246,714	-\$210,213	-\$152,713	-\$73,713
Financing (equity or debt) required	\$99,000	\$116,429	\$133,857	\$253,286	\$268,215	\$264,214	\$246,714	\$210,213	\$152,713	\$73,713

Saskatoon Berry Orchard - Estimated Annual Cash Flow Statements

	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
Capital Costs:											
Land - 20 acres at \$1,500/acre											
Production Equipment											
Harvester & Cleaning/Sorting Equipment											
Freezers & Storage											
Total Capital Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Orchard Establishment Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Annual production costs	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Subtotal - Cash Costs	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Revenue:	\$98,500	\$107,500	\$84,000	\$88,500	\$60,500	\$70,500	\$51,500	\$70,500	\$51,500	\$70,500	\$79,500
Annual (Shortfall) or Surplus	\$93,500	\$102,500	\$79,000	\$83,500	\$55,500	\$65,500	\$46,500	\$65,500	\$46,500	\$65,500	\$74,500
Cummulative (Shortfall) or Surplus	\$19,788	\$122,288	\$201,288	\$284,789	\$340,289	\$405,790	\$452,290	\$517,790	\$564,291	\$629,791	\$704,292
Financing (equity or debt) required	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

A decorative graphic at the top of the page consists of three horizontal bars: a green bar on the left, a dark blue bar in the middle, and an orange bar on the right. From the bottom edge of the dark blue bar, several thin, dashed orange lines extend downwards and outwards, creating a fan-like pattern across the page.

For more information

- Contact your local Manitoba Agriculture, Food and Rural Initiatives (MAFRI) Growing Opportunities (GO) Office.
- Visit us at manitoba.ca/agriculture.

