

Saskatoon Berry: Production Information

Market Research & Economic Feasibility on Specialty & Alternative Crops in the Bulkley-Nechako Regional District

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<http://fat-of-the-land.blogspot.com/2013/06/saskatoon-berry-sauce.html>

Crop Varieties

Varieties that will be grown for a U-pick operation can tolerate uneven blooming and ripening, while operations using of mechanical harvesting require uniform ripening varieties.

Crop Overview

The Saskatoon berry (*Amelanchier alnifolia*) is a deciduous, fruit-bearing shrub in the Rosaceae family. Also known as Pacific or Western Serviceberry, Alder Leaf, Dwarf Shadbush and Juneberry, the Saskatoon berry is native to North America and grows widely across Western Canada. The shrub grows to 1-2m (~3-10ft) in height, with oval to circular leaves, and white flowers. The round blue-purple fruit is similar to a blueberry but seedier.

While Canadians have consumed fresh and dried Saskatoon berries for centuries, and have grown Saskatoon bushes as ornamental plants and windbreaks, interest in Saskatoon berries as a commercial crop is relatively recent. Saskatoon berries are rich in antioxidants and have high nutrient density.

Variety	Traits
Honeywood	Vigorous late-blooming variety, producing large, pleasant tasting fruit with few seeds. Producers heavy within three or four years.
Theissen	Large plant, reaching 4.5m tall and wide. Large, pleasant flavoured fruit, though late and uneven in ripening.
Martin	A variety developed from Theissen, but with more uniform fruit ripening. Shrub reaches 3m high and large berries are 14mm+.
Northline	Upright, spreading shrub, very productive and suckers freely. Fruits are characteristically sweet.
Smoky	Upright, spreading shrub, very productive and suckers freely. Fruit are large, round, fleshy, sweet and milk-flavoured.
JB30	Compact bush with low suckering. High yielding, large fruit.

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Growing Considerations

- Crop yields range from 2-8 tonnes/hectare (~0.8-3.2 tonnes/acre).
- Adaptable to a wide range of soil types, including fine clay, the Saskatoon berry grows best on deep, moist, well-drained, neutral to slightly acidic (pH 6-7.5) sandy loam soils with organic matter content of 2-3%.
- Before planting Saskatoon berry stock fields should be well-tilled, ideally cultivated for several years before planting to control perennial weeds.
- The Saskatoon Berry has a minimum chilling requirement of 3 months 4°C, and requires ~14-28" precipitation annually.
- After three years of growth Saskatoon berries are produced, they require 90- 100 frost free days from the onset of flowering to berry ripening. Flowers are vulnerable to spring frosts.
- Changing climate projections may have a positive impact on Saskatoon berry production, as long as the risk of frost is reduced and water availability is maintained during establishment, flowering and fruit development.



Crop Nutrient Needs

Soil nutrient levels at time of planting should be close to:

Nitrogen	60 lb/acre
Phosphorous	90 lb/acre
Potassium	360 lb/acre

Annually nutrient demands (applied in the spring season) are:

Nitrogen	30-50 lb/acre
Phosphorus	20-40 lb/acre



Equipment & Infrastructure

Deep planting in row furrows is recommended to reduce frost damage. Irrigation is required during establishment, and possibly during flowering and fruiting stages in subsequent years. Organic or plastic mulching also helps to reduce soil moisture loss and reduces growth of weeds.

Saskatoon berries are harvested mid-July to mid-August, depending upon the variety and weather. Equipment options include over the row/upright harvesters for tall plants with narrow rows, or side row harvesters for shorter plants or more densely planted orchards.

Fresh berries have a very short shelf life and must be kept at 0-5°C with high humidity. Freezing or processing is recommended.

Market & Economic Information

Key finding of market analysis:

Saskatoon Berry represents a significant and growing opportunity, with several value-added opportunities available once a significant local production base is established.

Market trends: Saskatoon berry is benefiting from the broader trend of “superfood” diets and supplements. The overall category is seeing increased interest from health-oriented consumers in North America and Asia. Juices and powders are particularly strong uses of products in these categories, with powders being particularly popular in Asian markets. A processing facility to create juices or powders is essential to add value. Consumers demand “superfoods” in juice or powder form. In the absence of a processing / bottling option, volume production of Saskatoon berry is based on wholesale pricing.

Pricing: Producer pricing of \$5/kg-\$7/kg (\$2.25/lb-\$3.25/lb) is consistent with interviews with surveys of berry buyers in the Prairie Provinces. Based on the sensitivity analysis with varying \$/kg and kg/ha, the crop revenue ranged from **\$15,825-\$65,825**. The following 10-year cash-flow, assuming midrange prices (\$6/kg) and mid-level yields (7,500 kg/ha) by Year 5 the net cash is \$40,825.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
	Start-Up										
Yield (kg/plant)		0	1	2	3	3	3	3	3	3	
Yield (kg/ha)		0	2,500	5,000	7,500	7,500	7,500	7,500	7,500	7,500	
Price (\$/kg)		\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	
Revenue		\$0	\$15,000	\$30,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	
Expenses	\$15,135	\$4,175	\$4,175	\$4,175	\$4,175	\$4,175	\$4,175	\$4,175	\$4,175	\$4,175	
Net Cash	-\$15,135	-\$4,175	\$10,825	\$25,825	\$40,825	\$40,825	\$40,825	\$40,825	\$40,825	\$40,825	\$262,295

For more information:

UNBC Cash and Bioenergy Crop Feasibility Study for the BNRD

<https://www.unbc.ca/research/supplementary-data-unbc-publications>

UNBC Market Research & Economic Feasibility on Specialty & Alternative Crops in the BNRD

Saskatoon Berry Council of Canada

<https://www.saskatoonberrycouncil.com>

Saskatoon Berry Institute of North America

<http://saskatoonberrynstitute.org/institute/>

Saskatoon Berry Production Manual

[https://www1.agric.gov.ab.ca/\\$Department/deptdocs.nsf/all/agdex14362/\\$FILE/238_20-2.pdf](https://www1.agric.gov.ab.ca/$Department/deptdocs.nsf/all/agdex14362/$FILE/238_20-2.pdf)

Government of Alberta Saskatoon Berry Production

<http://www.agric.gov.ab.ca/crops/hort/bv2014/saskatoon-berry-production.pdf>

This project was funded in part by Agriculture and Agri-Food Canada and the Government of British Columbia through the Agri-Food Futures Fund. This program is delivered by the Investment Agriculture Foundation of B.C.

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