

Polyphenols

Saskatoons are high in Polyphenols, which are antioxidants

Polyphenols, including anthocyanins, contributes to the antioxidant capacity of Saskatoon Berries. Phenolic acids have proven health benefits when tested in animals. For example, caffeic acid and ellagic acid improve kidney function and glucose regulation of diabetic mice. Caffeic acid and chlorogenic (caffeoylquinic) acid helped protection of the intestinal wall from oxidation induced damage.

Saskatoons have 20.9-36.56 mg of total polyphenols in each gram of dried fruit and which is higher than the values reported for blueberries (13.5 mg/g dw) and cranberries (11.5 mg/g dw) in the literature. The high polyphenol concentration is an indication of the fruits' high potential to scavenge free radicals in general. However, it is important to know the composition of important polyphenols. Saskatoons have 5.56-12.99 mg of anthocyanins in each gram of dried fruit. Anthocyanins are the group of polyphenols responsible for dark blue-purple color of fruits and are potential antioxidants.

Phenolic compound	mg/100g fresh Saskatoon berry	<i>Flavan-3-ols</i>	
<i>Flavonols</i>		(-)-Epicatechin	0.45
Kaemferol-glucoside & galactoside	0.31	<i>Phenolic acids</i>	
Quercetin	0.16	p-Hydroxybenzoid acid	0.01
Quercetin-3-glucoside	8.71	Protocatechuic acid	0.59
Quercetin-3-arabinoside	0.16	Gallic acid	0.01
Quercetin-3-rutinoside	2.21	p-Coumaric acid	0.02
Quercetin-3-xyloside	2.43	Caffeic acid	0.06
Quercetin-galactoside	1.81	Ferulic acid	0.02
Quercetin-rhamnoside	1.29	Coumaric acid glucoside	0.97
		Caffeic acid glucoside	0.35
		Shikimic acid	0.04
		Ellagic acid	1.03
		3-caffeoylquinic acid	3.20
		4-caffeoylquinic acid	2.07
		5-caffeoylquinic acid	16.3

How do we know?

Tested berries (2012 and 2013) by the Brunswick Laboratories, USA
Represented all economically important cultivars and Canadian provinces, SK, AB, MB
Source: Prior, R.L., and Gu, L. 2005. Phytochemistry, 66, 2264-2280.

