Protecting Your Saskatoon Yields

A simple way to sum up Saskatoon Berry Disease Management is to remember the phrase…Protect the flowers from rain showers!

Figure 1: White tip stage in Saskatoons

Application of a recommended fungicide to ensure the flowers are protected from disease-causing fungi is often necessary in Saskatoon orchards. The primary disease of saskatoon plants in the spring is Entomosporium Leaf and Berry Spot disease. If conditions are not favourable for disease development, i.e., dry and/or cool temperatures, then the number of control applications needed to protect the flowers may be reduced.

Plants that are left unprotected during a rainfall are at great risk of severe crop losses. If a disease outbreak caused crop losses the previous year, then the occurrence of favourable infection conditions the following year will likely mean potential disease issues again. Once the flowers and fruit are infected, those fruit are unmarketable.

The bloom period, which extends from the green tip stage to petal fall, is the best time to manage a number of Saskatoon berry diseases particularly Leaf and Berry Spot Disease (Remember—***Protect the Flowers from Rain Showers***).

Previous Manitoba-based research has shown that if Entomosporium inoculums are present in an orchard at full bloom, then ideally, a fungicide application should be made within four days of a rain event (see full bloom definition below)**.** A second fungicide application should be applied if at least seven days have elapsed since the first application, especially if rain has fallen during that time period.

Timing for fungicide applications is often based on an estimate of when a certain proportion of the flower buds are fully open. For purposes of pest management, the term "full bloom" refers to the point at which the majority of flowers in the orchard are fully open. By this time, some will be past full bloom, while others will be at earlier stages.

Most fungicides recommend a control application at white tip (see figure 1), at petal fall and again at green fruit stage if conditions are still favorable for disease development.

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Entomosporium infections are ideal when there is high humidity, moderate temperatures (20 ^{o}C to 25 ^{o}C) and rainy conditions. Spores are spread by rain splash, wind and insects that can affect both fruit and foliage. In extreme cases, infections can cause total defoliation and up to 100% loss of marketable fruit. Symptoms are reddish-brown spots on leaves or berries followed by leaf yellowing (see page 83 Saskatoon Production Manual).

Saskatoon-Juniper Rust is another disease that infects berries and leaves. It occurs when we have a cool spring and Saskatoon growth is delayed. The fungus requires two hosts to complete its life cycle – saskatoons and junipers. The obvious solution is to remove all junipers within a two kilometer radius but this is impractical and ineffective most of the time. The best method of control is to prune out rust galls from junipers and apply control fungicides on saskatoons. Symptoms are very distinct with yellowish-orange spiky projections on leaves and berries (see page 87-88 Saskatoon Production Manual). Most fungicides recommend a control application at white tip, again at petal fall, and also at green fruit stage if conditions are still favorable for disease development.

The chart below lists the timings for fungicides registered for use on Saskatoon berry (*Amelanchier alnifolia*).

Saskatoon Berry Disease Management Chart

Disease	Product	Chem. Group	Active Ingredient	Maximum Applications per Season	Pre-harvest interval day(s) (PHI)	Restricted Entry Interval (REI)
Entomosporium leaf and berry spot (*Entomosporium mespili*) AND Saskatoon-Juniper Rust (*Gymnosporangium clavipes*)	Bumper 432EC	3	Propiconazole	3	38	12 hours
	Coop Pivot	3	Propiconazole	3	38	12 hours
	Fitness	3	Propiconazole	3	38	12 hours
	Funginex DC	3	Triforine	1	60	12 hours
	IPCO Pivot	3	Propiconazole	3	38	12 hours
	Jade	3	Propiconazole	3	38	12 hours
	Princeton	3	Propiconazole	3	38	12 hours
	Pristine	7,11	Boscalid Pyraclostrobin	4	Mechanical harvest= 0 days Hand harvest= 29 days	Once residues have dried
	Propiconazole 250E	3	Propiconazole	3	38	12 hours

	Mission 418 EC	3	Propiconazole	3	38	12 hours
	Tilt 250E	3	Propiconazole	3	38	12 hours
Entomosporium Leaf Spot (*Entomosporium mespili)* *ONLY*	Cosavet DF Edge	M	Sulfur	8	1	24 hours
	Button	9,12	Cyprodinil Fludioxonil	3	Mechanical harvest= 1 day Hand Harvest= 10 days	12 hours
	Switch 62.5WG	9,12	Cyprodinil Fludioxonil	3	Mechanical harvest= 1 day Hand Harvest= 10 days	12 hours
	Kumulus DF	M1	Sulfur	8	1	24 hours
	Microthiol Disperess	M	Sulfur	8	1	24 hours

This table is a guide only. Always refer to the product label for application details and precautions. The information contained in the above table is current to April 2023.

Resources

Province of Manitoba|Agriculture-Saskatoon Berries
Saskatoon Berry Production Manual

Contact Us

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