Fungicide Guidelines For Saskatoon Orchards

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Overview Of Fungicides Registered For Use In Saskatoon Orchards		
Fungicide	**Registered Use**	**Timing**
Pristine WG	Entomosporium leaf & berry spot, saskatoon-juniper rust	Apply a maximum 4 times per season; prior to disease development, and subsequently at intervals of 7 to 14 days; there is no pre-harvest interval.
Switch 62.5 WG	Entomosporium leaf & berry spot	Apply 2 to 3 times per season; at early bloom, 7 to 10 days later, and a third if disease pressure warrants, but no later than 1 day before harvest.
Topas 250E	Entomosporium leaf & berry spot	Apply 3 times per season; at white tip, petal drop, and green fruit stages, no later than 38 days before harvest.
Kumulus DF	Entomosporium leaf & berry spot	Apply first at flower bud break and subsequently at 10-14 day intervals.
Nova 40W	Powdery mildew	Apply first at flowering and subsequently at 14 day intervals; do not apply more than 3 times per season or within 14 days of harvest.
Funginex 190EC	Entomosporium leaf & berry spot, saskatoon-juniper rust	Apply one application per season, only between flower bud break and white tip stage; efficacy limited because of this restriction.
***Important Note: Fungicide use should be based on information derived from scouting of orchards for the presence of disease, disease history, and previous fungicide use. Reliance on a single fungicide will increase the probability of resistance developing, with the consequence that future disease control will become increasingly difficult. If possible, rotate use of one fungicide with others registered for the same disease during the growing season.**		

Caution - This information is solely meant as a guide. Application of all pesticides must be in accordance with instructions on the product label as prescribed under the Pest Control Products Act. Always refer to the label.

1. Guidelines To The Use Of Pristine WG

1.1. Manufacturer – BASF Canada, Inc.

1.2. Trade Names - Pristine WG Fungicide.

1.3. Formulation - Broad spectrum fungicide; water dispersible granule; boscalid 25.2% and pyraclostrobin 12.8%.

1.4. Registered Use - Suppression of Entomosporium leaf and berry spot and saskatoon-juniper rust.

1.5. Timing Of Application - Apply a maximum of 4 times per season; prior to disease development, and subsequently at 7 to 14 days later, using shorter intervals and/or higher rates if disease pressure is high. There is no pre-harvest interval. Avoid application if heavy rain is forecast.

1.6. Application Rate & Guidelines – 1.6 kg/ha; apply in sufficient water to ensure thorough coverage.

1.7. Restrictions – Pristine WG has no pre-harvest interval; no more than 4 applications should be made per year; if crop is hand-harvested, there is a 29 day restricted-entry interval between fungicide application and harvest. Pristine WG should not be used in areas treated with this product during the previous growing season.

1.8. Points To Note – Pristine WG is toxic to aquatic organisms, non-target terrestrial plants and small wild animals. Buffer zones are required between the crop and sensitive terrestrial and freshwater habitats. Runoff from treated areas to aquatic habitats must be avoided. Refer to the label.

2. Guidelines To The Use Of Switch 62.5 WG

2.1. Manufacturer - Syngenta Crop Protection Canada, Inc.

2.2. Trade Names - Switch 62.5 WG Fungicide.

2.3. Formulation - Broad spectrum fungicide; water dispersible granule; cyprodinil 37.5% (systemic action) and fludioxonil 25% (contact action).

2.4. Registered Use - Suppression of Entomosporium leaf and berry spot.

2.5. Timing Of Application - Apply 2 to 3 times per season; at early bloom, 7 to 10 days later, and a third if disease pressure warrants, but no later than 1 day before harvest.

2.6. Application Rate & Guidelines - 775 to 975 g in a minimum of 200 L of water/ha; apply in sufficient water to ensure thorough coverage.

2.7. Restrictions - Switch 62.5 WG cannot be applied within 1 day of harvest; no more than 3 applications should be made per year; hand-harvesting, pruning or thinning should not be done for

10 days following application.

2.8. Points To Note - Switch 62.5 WG is highly toxic to aquatic organisms. This fungicide should not be applied if heavy rains are imminent and should not be applied if spray will drift onto adjacent lakes, ponds, sloughs, rivers, creeks, marshes or wetlands. Appropriate buffer zones are required.

3. Guidelines To The Use Of Topas 250E

3.1. Manufacturer - Engage Marketing Ltd.

3.2. Trade Names - Topas 250E.

3.3. Formulation - Systemic fungicide; emulsifiable concentrate; 250 g/L propiconazole.

3.4. Registered Use - Control of Entomosporium leaf and berry spot, and saskatoon-juniper rust (*Gymnosporangium* species).

3.5. Timing Of Application - Apply at white tip, petal drop and green fruit stages; the last application must be made no later than 38 days before harvest.

3.6. Application Rate & Guidelines - 500ml/ha in a minimum of 200 litres of water, applying to runoff. If rainfall occurs within one hour of application, reapplication is necessary. High humidity and low temperatures (10 to 20^{o}C) allow for better deposition of spray droplets.

3.7. Restrictions - Topas 250 E cannot be applied within 38 days of harvest.

3.8. Points To Note - Topas 250E is also registered to control monolinia blight (mummyberry) in lowbush blueberries. It is a broad spectrum systemic fungicide that should be applied as a preventative control, although it has both preventative and curative activity. The length of control is from 3 to 4 weeks.

4. Guidelines To The Use Of Kumulus DF

4.1. Manufacturer - BASF Canada Inc.

4.2. Trade Names - Kumulus DF.

4.3. Formulation - Water-dispersible granular fungicide; 80% sulphur.

4.4. Registered Use - Control of Entomosporium leaf and berry spot.

4.5. Timing Of Application - Apply first at flower bud break and at 10 to 14 day intervals while risk of disease persists.

4.6. Application Rate & Guidelines - 6.5 kg/ha in 1000 L water/ha.

4.7. Restrictions - Kumulus DF should not be applied: a) later than 1 day before harvest; b) if temperature is greater than 27^{o}C and humidity is high; c) under intense sunshine; d) if rain or frost are expected; or e) during flowering.

4.8. Points To Note - Applications made after the onset of disease symptoms are less effective. Application rates and restrictions must be carefully followed otherwise symptoms of toxicity may appear. These include a bronze discoloration of the leaves and possible defoliation of the plant. Such toxic effects do not appear to have long-term effects on the plants. Kumulus DF is also an acaricide (miticide).

5. Guidelines To The Use Of Nova 40W

5.1. Manufacturer - Rohm and Haas Canada Inc.

5.2. Trade Names - Nova 40W.

5.3. Formulation - Water-soluble fungicide; 40% myclobutanil.

5.4. Registered Use - Control of powdery mildew.

5.5. Timing Of Application - Apply at flowering and subsequently twice at 2 week intervals.

5.6. Application Rate & Guidelines - 113 g per 100 L water per ha. Ensure thorough wetting of plants.

5.7. Restrictions - Nova 40W can be applied a maximum of 3 times during the growing season and cannot be applied within 14 days of harvest.

6. Guidelines To The Use Of Funginex 190EC

6.1. Manufacturer - Cyanamid.

6.2. Trade Names - Funginex 190 EC.

6.3. Formulation - Systemic fungicide; emulsifiable concentrate; 19% triforine.

6.4. Registered Use - Control of Entomosporium leaf and berry spot, saskatoon-juniper rust.

6.5. Timing Of Application - Only a single application can be made during the period of flower bud break to the white tip stage.

6.6. Application Rate & Guidelines - 3 L/ha where row spacing is twice the height of the plants; use 1000 L of water per ha (sufficient water to ensure thorough wetting of plants).

6.7. Restrictions - Funginex 190 EC cannot be applied within 60 days of harvest.

6.8. Points To Note - Saskatoon leaves are only partially expanded during the period when Funginex 190 EC can be applied. Consequently, uptake of this systemic fungicide may be limited. This is why efficacy may be poor when disease pressure is high. Funginex 190 EC is registered for control of mummyberry (brown fruit rot) in blueberry, cranberry, peach, cherry, plum and prune, for control of powdery mildew in roses, non-bearing apples, and other ornamentals, and for control of black spot in roses and other ornamentals.
