

Insecticide Guidelines For Saskatoon Orchards

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Overview Of Insecticides Registered For Use In Saskatoon Orchards		
Insecticide	Registered Use	Timing
Admire 240 Flowable	Woolly elm aphid	Apply when aphid migration from elm to Saskatoon is 75-100% complete (early to mid-July)
Bartlett Superior '70' Oil	Saskatoon bud moth, fruit tree leafrollers	Apply once per season in the spring at bud break
Orthene	Woolly elm aphid in newly-established, non-bearing saskatoon orchards, less than 4 years of age	Apply once per year in mid-July or early-August
Decis 5.0EC	Apple curculio, hawthorn weevil, lygus bug, saskatoon bud moth, saskatoon sawfly, tarnished plant bug	Apply 3 times per season: once at green tip, once at early flowering, once after petal drop but not within 21 days of harvest

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 Admire 240 Flowable Systemic Insecticide

1.1. Manufacturer – Bayer CropScience Inc.

1.2. Trade Names – Admire 240 Flowable Systemic Insecticide

1.3. Formulation – Imidacloprid 240 g/L

1.4. Registered Use – Suppression of woolly elm aphid on saskatoon

1.5. Timing Of Application - Apply once per season when aphid migration from elm to Saskatoon is 75-100% complete (early to mid-July).

1.6. Application Rate & Guidelines – Apply at a rate of 0.125 mL per plant as a soil surface

spray in a band covering the width of the root crown in 200L of water per hectare. The application of Admire 240 should be followed by 5-10mm of irrigation within 24 hours to move the active ingredient to the root zone.

1.7. Restrictions – Applications should not be made within 14 days of harvest. Only one application per year is approved. Admire 240 should not be applied pre-bloom or during bloom, or when bees are actively foraging.

1.8. Points To Note – The use of Admire 240 should be based on monitoring of the orchard for adult root aphids and previous history of the orchard. Admire 240 should not be applied to waterlogged or saturated soils because the active ingredient will not penetrate to the root zone.

2. Guidelines To The Use Of Bartlett Superior ‘70’ Oil

2.1. Manufacturer - N.M. Bartlett Inc., 4509 Bartlett Rd., Beamsville, ON, L0R 1B1; 1 800 263 1287; www.bartlett.ca.

2.2. Trade Names - Bartlett Superior ‘70’ Oil.

2.3. Formulation - 98.5% Superior ‘70’ Oil.

2.4. Registered Use - Control of saskatoon bud moth and fruit tree leafrollers.

2.5. Timing Of Application - Apply once per season in the spring at bud break; Refer to Plate 1 and the Stages of Flower Bud Development color graphic in Section III: Botany of this manual for further information on timing.

2.6. Application Rate & Guidelines - Apply at the rate of 20 L product in 1000 L water per hectare. All plant surfaces are to be thoroughly coated. Applicators should wear a long-sleeved shirt, long pants, chemical-resistant gloves, eye protection, and a mask fitted to exclude spray mist. Superior ‘70’ Oil is an Eye Irritant.

2.7. Restrictions - Applications should not be made during freezing weather, or if frost is expected before the plants dry. Only one application per year is approved.

2.8. Points To Note - Horticultural spray oils such Bartlett’s Superior 70 Oil are highly-refined petroleum oils. If applied when plant buds are dormant, or shortly thereafter, such oils are effective against exposed eggs and soft-bodied immature and adult pests (including most species of mites and some species of young caterpillars and various sucking insects; they are also effective on eggs of mites, aphids, and some moths). Their mode of action is not clear but may include smothering of insect or eggs; they may also disrupt cell membranes. Modern horticultural oils are easy to use in the field, and are inexpensive and safe to handle. If properly

used, they have low toxicity to most plants. They are relatively harmless to humans, other mammals and birds. Additionally, they dissipate quickly after spraying, leaving little or no residue on crops. Because of this reduced residual activity, they usually are less harmful to beneficial insects and predatory mites. Target pests develop little or no resistance to oils. The use of Bartlett's Superior 70 Oil as a replacement for at least the first application of Decis will help reduce the probability of insect pests developing resistance to Decis. Bartlett's Superior '70' Oil is well suited for use in Integrated Pest Management (IPM) programs, and can be used by organic growers.

3. Guidelines To The Use Of Orthene

3.1. Manufacturer - United Agri Products.

3.2. Trade Names - Orthene.

3.3. Formulation - Soluble powder; 75% acephate.

3.4. Registered Use - Control of woolly elm aphid in newly-established, non-bearing saskatoons, less than 4 years of age.

3.5. Timing Of Application - Apply once per year in mid-July or early-August.

3.6. Application Rate & Guidelines - Mix 1.7 gm / 2 L water (3.4 kg/ha with a planting density of 2,000 plants/ha). Apply 2 L per plant. Inject with a probe 15 cm from the stem of the plant to a depth of 12 cm at 3 to 5 locations around the plant. Inject into moist soil, otherwise a 2 L volume of insecticide may be insufficient to wet the volume of soil required for aphid control.

3.7. Restrictions - Use only on non-bearing saskatoons less than 4 years of age.

3.8. Points To Note - The efficacy of orthene tends to be greater if the application is made in early to mid-July. However, orthene is not registered for application at this time of the season. Orthene is available in 1.5 kg bags; this is sufficient for approximately 880 plants at a cost of \$0.10 per plant. Plans for a do-it-yourself single-point soil injector can be obtained from the PFRA Shelterbelt Center, Indian Head, SK.

4. Guidelines To The Use Of Decis 5.0 EC

4.1. Manufacturer - AgrEvo Canada Inc.

4.2. Trade Names - Decis 5.0 EC.

4.3. Formulation - 50 gm/L deltamethrin (synthetic pyrethroid); emulsifiable concentrate.

4.4. Registered Use - Control of apple curculio, hawthorn weevil, lygus bug, saskatoon bud moth, saskatoon sawfly, tarnished plant bug.

4.5. Timing Of Application - Apply 3 times per season; once at the green tip stage of flower bud development, once during early flowering (25 - 50% bloom), and once after petal drop, remembering to observe the preharvest interval of 21 days. Refer to Plate 1 and the Stages of Flower Bud Development color graphic in Section III: Botany of this manual for further information on timing.

4.6. Application Rate & Guidelines - Use 2 ml/4.5 L water for every 100 sq m of orchard row face (including both sides of the row alley, or both sides of a single row of plants; to calculate the total amount of Decis required, refer to section 4.9 of this factsheet). Ensure that the foliage is thoroughly sprayed, including the undersides of the leaves.

4.7. Restrictions - Do not apply within 21 days of harvest. Do not apply when temperature is greater than 25°C; application in early-morning or early-evening is best.

4.8. Points To Note - Extensive use of Decis may contribute to increasing problems with the McDaniel spider mite. Decis controls insects through contact and/or ingestion. Decis works best under cool conditions. The first application will control the saskatoon bud moth, lygus and tarnished plant bug. The second application will control the saskatoon sawfly. The third application will ensure control of the saskatoon sawfly, hawthorn weevil and apple curculio.

4.9. Calculating Amount Of Pesticide Required - 1) Multiply row length in m by row height in m
2) Multiply this figure by 2, then divide this last figure by 100
3) The result is the number of 100 square meter sections that must be sprayed
4) Multiply this figure by 2 ml to obtain the total amount of Decis required, and by 4.5 L to obtain the total amount of water required.
5) Calibrate sprayer and tractor speed to uniformly deposit spray volume over entire orchard area.

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