



Cannabis Production (Indoors) in Canada: Disease, Insect & Nutrition Management

Disease Control				
Product and Target	Seeding/Rooting	Vegetative	Flowering	Pre-Harvest
RootShield® PLUS ⁺ WP (roots) Major damping off and root rot diseases	Drench seed/ rooting trays: <ul style="list-style-type: none"> 30-60 g/100 L 	Drench at stepping up: <ul style="list-style-type: none"> 30-60 g/100 L 	Drench/drip 8 weeks after last application if disease is expected: <ul style="list-style-type: none"> 30-60 g/100 L 	
		Hydroponics Systems: Drench/drip every 4 weeks		
RootShield® PLUS ⁺ Granules (roots) Major damping off and root rot diseases	Incorporate into growing media: <ul style="list-style-type: none"> 600-1200 g/m³ of soil/potting mix 	Reapply RootShield PLUS ⁺ WP 8 weeks after seeding or sticking cuttings.		
RootShield® HC (foliar) Botrytis		Foliar Spray every 7-14 days: <ul style="list-style-type: none"> 3.75-10 g/L 		Suspend ap- plications 3-4 weeks prior to harvest
<i>RootShield® HC may also be used for suppression of root rot and Botrytis on Field-Grown Cannabis and Field-Grown Hemp. See label for details: RootShield HC label - Canada.</i>				
MilStop® (foliar) Powdery mildew		Foliar Spray every 7-14 days : Ensure full plant coverage. Do not add surfactant. <ul style="list-style-type: none"> 0.28 kg/1000 m² (2.8 g/L) 		Suspend applications 3 weeks prior to harvest
<i>MilStop® may also be used for suppression of powdery mildew on Field-Grown Cannabis and Field-Grown Hemp. See label for details: MilStop label - Canada.</i>				

Table 1.

Powdery Mildew and Botrytis Protocol

Beginning early in vegetative growth (week 2-3), start preventative applications of MilStop for powdery mildew control. Week 1 into flowering, begin rotating Milstop and RootShield HC for prevention of *Botrytis*. Apply products with fine nozzle and high pressure to contact all surfaces of the plant. Spray to glisten, avoid runoff.

MilStop may be used in ultra-low volume application. For fogging rates, see [MilStop label](#).

Suspend applications 3-4 weeks prior to harvest and conduct weekly clean up sprays with a disinfectant type product such as hydrogen peroxide.

Insect Control				
Product and Target	Seeding/Rooting	Vegetative	Flowering	Pre-Harvest
BotaniGard® 22WP (foliar, roots) Aphids, whiteflies, thrips; rice root aphids	Apply as a pre-plant dip to cuttings. <ul style="list-style-type: none"> • 1.25-2.5 g /1 L Foliar spray to glisten every 2-10 days depending on insect population level. Repeat as long as pest pressure persists: <ul style="list-style-type: none"> • Whiteflies and aphids 250-500 g/400 L (0.625-1.25 g/L) • Thrips 0.5-1 kg/400 L (1.25-2.5 g/L) Apply as a drench every 3-10 days depending on insect population level. Repeat as long as pest pressure persists: <ul style="list-style-type: none"> • Rice root aphids 0.5-1 kg/400 L See Table 2 for root aphid protocol			Suspend foliar applications 3-4 weeks prior to harvest.
SuffOil-X® (foliar) Mites, aphids, thrips, whiteflies; suppression of powdery mildew	Foliar spray to glisten on a 14-day interval: <ul style="list-style-type: none"> • 10-20 L/1000 L or 1-2% by volume • Use caution during budding/flowering, do not exceed 1%. • Test spray on new varieties before applying to entire crop. • Maximum of 6 applications during lifespan of plant. Turn lights off during spray, have fans running for 1-2 hours dry time and avoid high humidity. Use fine droplet size and avoid runoff. 			Suspend applications 1 week prior to harvest.

*BioWorks recommends *BotaniGard 22WP* formulation for foliar and/or soil applications on Cannabis.

Table 2. Rice Root Aphid Protocol
<p>At first signs of rice root aphids, apply BotaniGard 22WP at 0.5-1 kg /400 L (1.25-2.5 g/L) 2-3 times, 3-5 days apart. Continue applications at 0.5 kg/400 L (1.25g/L) every 7-10 days once population level is under control. Apply to moist growing medium in sufficient volume to thoroughly wet the medium, but not to the point of leaching.</p> <p>Rice root aphids typically change their behavior 2-4 weeks into flower due to changes in day length and plant physiology. This behavior usually results in aphids crawling out of the container and/or production of alates (winged form). Practice good sanitation and conduct foliar applications to glisten with BotaniGard 22WP rotated with SuffOil-X (see rates and application intervals above).</p> <p>Suspend BotaniGard 22WP applications 3-4 weeks and SuffOil-X applications 1 week prior to harvest and conduct weekly foliar clean up sprays with a disinfectant type product such as hydrogen peroxide.</p>



Plant Nutrition				
Product	Seeding/Rooting	Vegetative	Flowering	Pre-Harvest
ON-Gard® 5-0-0	Apply to stock plants prior to taking cuttings. Foliar spray or drench on a 2-3-week interval: • 250 ml/100 L			Suspend applications at nutrient flushing.
ON-Gard® Calcium 1-0-0 +5% Ca		Foliar spray weekly up to flowering: • 250-500 ml/400 L (0.625- 1.25 ml/L)		
Verdanta® K-Vita® 2-0-20		Soil Blend: • 4 kg/m ³	Top dress 4-6 weeks after transplant: • 2 g/L media	
Verdanta® PL-2 2-0-6		Through the drip line weekly (NOT for recirculating systems): • 700 ml/400 L (1.75 ml/L)	Through the drip line weekly (NOT for recirculating systems): • Transition to 1.4 L/400 L (3.5 ml/L)	Suspend applications at nutrient flushing.

Biofungicides approved for use in certified organic production	
RootShield® PLUS ⁺ WP	RootShield® PLUS ⁺ Granules
MilStop® - OMRI Listed	RootShield® HC
Bioinsecticides approved for use in certified organic production	
SuffOil-X®	
Plant Nutrition approved for use in certified organic production	
ON-Gard® (5-0-0) – OMRI Listed	Verdanta® K-Vita® (2-0-20) – OMRI Listed
ON-Gard® Calcium (1-0-0 +5% Ca)	Verdanta® PL-2 (2-0-6) – OMRI Listed

Pest control products are to be used only in accordance with the directions on the label. It is an offence under the Pest Control Products Act to use a product in a way that is inconsistent with the directions on the label.

Refer to product labels for complete application details. Additional technical information is available on our website (bioworksinc.com) or contact expert@bioworksinc.com. Always read and follow label directions.