



**SEVEN SPRINGS FARM**  
 Organic Farming & Gardening Supplies  
 426 Jerry Lane, Check, VA 24072  
 540-651-3228 or 800-540-9181  
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**HEMP PESTS**

<b>Spider Mites</b>	Key pest of indoor hemp. Frequent scouting at early growth-stages is important, look for discoloration in leaves. Spider mites prefer high temps and low humidity. Eggs are laid on underside of leaves. Numerous generations, quick life cycle (one to two weeks), populations build rapidly. Effective materials include sulfur, Grandevo, Venerate, PFR-97, Ecotec Plus, Pest Out, soaps and oils.
<b>Russet Mites</b>	See notes for Spider Mites. Russet mites are much smaller than spider mites.
<b>Borers &amp; Caterpillars</b>	This class includes European corn borer, corn earworm, tomato fruitworm, armyworms, cutworms, budworms, webworms and others. Varied in importance and impact, some can cause severe damage. Most feed on foliage before entering the plant. Most effective treatments include Spinosad (Entrust) and Bt-based materials, which must be consumed by the insect. Catching borers at early stages is important as once they enter the plant they become difficult to find or treat effectively. For this reason, frequent scouting is the best tool a grower has.
<b>Aphids</b>	Several species are known pests of hemp, including Green peach aphid, Cannabis aphid, Cotton/melon aphid, Bean aphid and Rice root aphid. Scout for aphids on stems and under leaves. Many natural enemies exist and can provide some degree of control. Aphids are vectors of several viruses that can infect hemp.
<b>Flea Beetles</b>	Mature flea beetles feed on foliage and larvae feed on roots. Damage can vary from minor to severe. Young transplants are the most susceptible to economic damage. Overwintered adults emerge in early spring and the second generation is active by late summer. Scout on sunny days and look for small black beetles and small "shot holes" in leaves.
<b>Thrips</b>	Thrips become active around 60°F and increase activity with temperature. Indoors, thrips can complete up to 8 generations a year and remain active through colder months. Initial signs can resemble mite damage; look for white specks or streaks with accompanying black spots (frass). Many materials kill thrips but control often requires multiple applications.
<b>Whiteflies</b>	A key pest of indoor hemp. Scout under leaves frequently. Whiteflies have a rapid life-cycle and cause similar damage to aphids (decreased vigor, chlorosis, wilting and introduction of viruses, fungal infections and bacteria). Oils and soaps are good contact controls. Short life-cycle means multiple applications may be necessary.
<b>Fungus Gnat</b>	Fungus gnats lay eggs in soil and are attracted to algae and fungi. Larvae feed on plant roots and mature gnats can spread disease and impact nutrient uptake and vigor. Monitor using sticky traps at soil level. For best control, target larval stage.

Material	Active Ingredient(s)	EPA Status	VDACS Approved	Spider Mites	Russet Mites	Borers & Caterpillars	Aphids	Flea Beetle	Thrips	Whiteflies	Fungus Gnats	Rates	Notes
Yellow Jacket	Sulfur	Registered	N	xx	x								
Pest out	Garlic, clove, cottonseed oils	25 (b)	Y	xx	x	x	x	xx	xx	x		1%	
Ecotec Plus	Rosemary & Peppermint oils	25 (b)	Y	xx	x	x	x	x	x	x		0.25-0.5%	
Trilogy	Neem Oil	Registered	Y	xx	x		xx		x	x		1-2%	Repellent of borers and caterpillars
Sil-Matrix	Potassium Silicate	Registered	Y	x	x		x			x		0.5-1%	
Des-X (Soap)	Potassium Salts of Fatty Acids	Registered	Y	xx	x		x			x		2%	
JMS Stylet	Paraffinic Oil	Registered	N	xx	x		x			x		1-2%	
Golden Pest	Soybean Oil	Registered	N	xx	x	x	x	x	x	x		1-3%	
Pyganic 5.0	Pyrethrins (5%)	Registered	Y	x	x	x	x	xx	xx	x	x	4.5-17oz/ac	Spray in low light. Tank mix with 1% oil
Azera	Azadirachtin/Pyrethrins	Registered	Y	x	x	x	xx	x	x	x	x	16-56oz/ac	Spray in low light. Tank mix with 1% oil
Azanguard	Azadirachtin (3%)	Registered	Y	x	x	x	xx	x	x	x	x	8-16oz/ac	Tank mix with 1% oil
Neemix 4.5	Azadirachtin (4.5%)	Registered	Y	x	x	x	xx	x	x	x	x	4-16oz/ac	Tank mix with 1% oil
Entrust	Spinosad	Registered	N	x	x	xx		x	x			4-10oz/ac	Tank mix with 1% oil for translaminar activity
Dipel	Bt kurstaki	Registered	Y			xx						0.5-2#/ac	
Javelin	Bt kurstaki	Registered	Y			xx						0.12-1.5#/ac	
Xentari	Bt aizawai	Registered	Y			xx						0.5-2#/ac	
Agree	Bt aizawai	Registered	Y			xx						0.5-2#/ac	
Deliver	Bt kurstaki	Registered	N			xx						0.5-2#/ac	
Grandevo	Chromobacterium subtsugae	Registered	Y	x	x	x	x		x	x		1-3#/ac	Use with Nu Film P for best results
Venerate	Burkholderia	Registered	Y	x	x	x	x		x	x		1-4qt/ac	
Bioceres	Beauveria Bassiana	Registered	N			x	x		x	x		1-3#/ac	
PFR-97	Isaria fumosorosea	Registered	Y	x	x	x	x		x	x		1-2#/ac	Do not apply fungicides within 4 days of application
Gemstar LC	HZNPV (virus)	Registered	Y			x						4-10oz/ac	Fruitworms, budworms and earworms



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### HEMP DISEASES

Material	Active Ingredient(s)	EPA Status	VDACS Approved	Powdery Mildew	Downy Mildew	Leaf Spot Diseases*	Botrytis	Fusarium	Pythium	Rhizoctonia	Rates	Notes
Yellow Jacket	Sulfur	Registered	N	x		x					2-10#/ac	
Cueva	Copper Octanoate	Registered	N	x	x	x	x	x			0.5-2%	
Kocide 3000	Copper Hydroxide	Registered	N	x	x	x	x	x			0.75-1.75#/ac	
Nordox 75 WG	Cuprous Oxide	Registered	N	x	x	x	x				1.25#/ac	
Mildew Cure	Cottonseed, corn & garlic oils	25 (b)	Y	x							1%	
Trilogy	Neem Oil	Registered	Y	x	x	x	x				1-2%	Do not combine oil with sulfur or copper
Sil-Matrix	Potassium Silicate	Registered	Y	x		x	x				0.25-1%	
OxiDate 2.0	Hydrogen Dioxide & Peroxyacetic	Registered	Y	x	x	x	x	x	x	x	0.25-1%	Curative rate = 1%, Preventative rate = 0.25-0.5%
Milstop	Potassium Bicarbonate	Registered	N	x	x	x	x				2-5#/ac	
PerCarb	Sodium Percarbonate	Registered	N	x	x	x	x				1-4#/100gal	Rates above 3#/100gal for dormant applications only
JMS Stylet Oil	Mineral Oil	Registered	N	x		x	x				1-2%	Do not combine oil with sulfur or copper
Double Nickel	Bacillus amyloliquefaciens	Registered	Y	x	x	x	x	x	x	x	0.25-3#/acre foliar, 0.125-1#/acre soil	
Regalia	Reynoutria sachalinensis	Registered	Y	x	x	x	x	x	x	x	1-4qt./ac	Do not exceed 1% solution
Serenade	Bacillus subtilis	Registered	N	x	x	x	x	x	x	x	2-4qt/ac	
Actinovate	Streptomyces lydicus	Registered	N	x	x	x	x	x	x	x	3-12oz/ac	Use with an adjuvant
Howler	Pseudomonas chlororaphis	Registered	Y				x	x	x	x	5-15#/acre foliar	67-100oz/100gal in irrigation water for root pathogens
PVent	Gliocladium catenulatum	Registered	Y	x		x	x	x	x	x	See label	
SoilGard	Gliocladium virens	Registered	Y					x	x	x	See label	
Rootshield Plus	Trichoderma harzianum	Registered	Y					x	x	x	See label	
LifeGard WG	Bacillus mycoides	Registered	N	x	x	x	x				4.5 oz/100 gal	
Botector	Aureobasidium pullulans	Registered	N				x				10-15 oz/acre	

\*Leaf Spot diseases include Alternaria, Septoria, Cercosporia, Bacterial leaf spot, Hemp leaf spot

See product labels for REI, PHI, application rates and restrictions. Always read the label prior to applying any material.

See state DOA regulations for list of allowable materials

Seven Springs Farm is a full service provider offering Organic Fertilizers, Plant and Soil Life Enhancers, Animal Health Supplements, Micro-Nutrients, Growing Mixes, Organic Cover Crop Seed, Pest Management, Natural Herbicides, Row Covers, Bird Netting, Deer Fencing and Supplies.

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