



ANR-2635

Hemp Pest Management in Alabama



Hemp is a new crop for Alabama and for the United States. With the 2014 Farm Bill's Pilot Program, many states began producing hemp for fiber, grain, or flower. Additionally, the 2018 Farm Bill listed hemp as an agricultural commodity, leading to even more states, including Alabama, signing on to grow hemp in 2019. There has been little to no research done on hemp in the last several decades so the available information is limited. We are constantly learning about the insects, weeds, and diseases that infest hemp and how to control them.

This guide is the most up-to-date information available to Alabama Extension, but recommendations are changing as more is learned. Please contact a member of the **Alabama Cooperative Extension System Hemp Action Team** if you have questions concerning pest management, identification, or control recommendations.

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PEST MANAGEMENT

Hemp is attacked by a number of insect pests beginning from seedling through post-harvest. Alabama Extension is currently conducting research to determine which insects are incidental and economical. Not all insects found on hemp will cause economic yield or quality loss to the crop. Therefore, it is important that chemical control be used only as a last resort and as part of an integrated pest management strategy. Cultural control methods such as proper fertility, irrigation, and sanitation should all be prioritized over pesticides. Mechanical control such as hand removal and plasticulture are also effective methods of pest control.

Proper identification of insects, diseases, or weeds should occur before any pesticides are applied. Please contact a member of the Extension Hemp Action Team for help in identification before making applications.

NOTES REGARDING APPROVED PESTICIDE LIST

These products have been reviewed by the Alabama Department of Agriculture and Industries (ADAI) and Alabama Extension and appear to [meet all the criteria for legal use in Alabama](#).

ADAI and Alabama Extension make no recommendations for the use of pesticides on hemp. This list is not an endorsement of any kind for any of the products listed, nor does it ensure the safety or efficacy of these products when applied to hemp in Alabama.

In December 2019, ten pesticides were registered by the EPA with hemp specifically on the label. Not all of these products are registered in Alabama. [Please verify before use](#).

It is the sole responsibility of the grower to verify processor requirements for chemical application on hemp.

As with any pesticide, the grower is responsible for following all label directions as they pertain to personal protective equipment (PPE) and Worker Protection Standards (WPS).

Product Name	EPA Number	Active Ingredients	Percent	Pesticide Type	Comments
Agree	70051-47	Bacillus subtilis Strain IAB/BS03	50.00%	Insecticide	
Agree WG	70051-47	Bacillus thuringiensis Ssp. Aizawai	50.00%	Insecticide	
Axxe Herbicide	70299-23	Ammonium Nonanoate	40.00%	Herbicide	
AzaGuard	70299-17	Azadirachtin	03.00%	Insecticide	
Azatin O	70051-9-59807	Azadirachtin	04.50%	Insecticide	
Bayer Advanced Natria Disease Control Ready to Spray	264-1161-72155	Bacillus subtilis QST713 Strain	01.34%	Fungicide	
Bayer Advanced Natria Disease Control Ready to Use	264-1161-72155	Bacillus subtilis QST713 Strain	00.07%	Fungicide	
Beetlejus! For Ornamental and Vegetable Pests	88347-3-56872	Bacillus thuringiensis Ssp. Galleriae	76.50%	Insecticide	
Bi-Carb Old Fashioned Fungicide	54705-10	Potassium Bicarbonate	82.00%	Fungicide	
Bioceres	89600-2	Beauveria Bassiana strain ANT-03	20.00%	Insecticide	
Bonide Diatomaceous Earth	73729-1-4	Silicon Dioxide	85.00%	Insecticide	
BotaniGard Maxx	82074-5	Pyrethrins Beauveria bassiana strain GHA	00.75% 00.06%	Insecticide	
BotrySTop	75747-2-68539	Uloladium oidemansii (U3 Strain)	45.00%	Fungicide	
Brandt Ecotec Plus	25(b)	Rosemary oil Geranol Peppermint oil	10.00% 05.00% 02.00%	Insecticide Miticide	
Bt Bacillus Thuringiensis Ready-to-Use	70051-113-4	Bacillus thuringiensis Ssp. Kurstaki	09.83%	Insecticide	
Bug Buster-O	1021-1771-54705	Pyrethrins	01.40%	Insecticide	For outdoor use ONLY
Cease	264-1155-68539	Bacillus subtilis QST713 Strain	00.13%	Fungicide	
Celite 610	73729-1	DE	85.00%	Insecticide	
Crymax Bioinsecticide	70051-86	Bacillus Thuringiensis Ssp. Kurstaki	40.00%	Insecticide	
Deadzone	73729-1	DE	85.00%	Insecticide	

Product Name	EPA Number	Active Ingredients	Percent	Pesticide Type	Comments
Deliver Biological Insecticide	70051-69	Bacillus thuringiensis Ssp. Kurstaki	85.00%	Insecticide	
Des-X Insecticidal Soap Concentrate	67702-22- 70051	Potassium Salts of Fatty Acids	47.00%	Insecticide	
Dipel DF Biological Insecticide	73049-39	Bacillus thuringiensis Ssp. Kurstaki	54.00%	Insecticide	Label lists specific pests for which this product can be used.
Double Nickel 55 Biofungicide	70051-108	Bacillus amyloliquefaciens Strain D747	25.00%	Fungicide	
Double Nickel LC	70051-107	Bacillus amyloliquefaciens Strain D747	98.85%	Fungicide	
EcoSwing	10163-357	Extract of Swingleta Glutinosa	82.00%	Fungicide	
Extinguish Pro Fire Ant Bait	2724-475	s-methoprene	00.50%	Insecticide	
Ferti-Lome Horticultural Oil Spray	48813-1-7401	Mineral Oil	80.00%	Insecticide Miticide Fungicide	
Ferti-Lome Horticultural Oil Spray Ready to Spray	48813-1-7401	Mineral Oil	80.00%	Insecticide Miticide Fungicide	
Fertilome Triple Action	70051-111- 7401	Pyrethrins Clarified Hydrophobic Extract of Neem Oil	00.25% 70.00%	Insecticide Miticide Fungicide	
Fertilome Triple Action Plus	70051-74-7401	Pyrethrins Piperonyl Butoxide Clarified Hydrophobic Extract of Neem Oil	00.02% 00.20% 00.90%	Insecticide Miticide Fungicide	
Fireworxx Herbicide	67702-5459807	Ammonium Nonanoate	40.00%	Herbicide	Nonselective herbicide. Will damage plant tissue.
Fruit Tree Spray Plus	70051-111- 54705	Pyrethrins Clarified Hydrophobic Extract of Neem Oil	00.25% 70.00%	Insecticide Miticide Fungicide	
Fruit Tree Spray Plus	70051-111- 54705	Pyrethrins Clarified Hydrophobic Extract of Neem Oil	00.25% 70.00%	Insecticide Miticide Fungicide	

Product Name	EPA Number	Active Ingredients	Percent	Pesticide Type	Comments
Garden Sentinel Biofungicide	70051-107-56872	Bacillus amyloliquefaciens Strain D747	98.85%	Fungicide	
General Hydroponics Azamax	91865-4	Azadirachtin	01.20%	Insecticide Miticide Nematicide	
General Hydroponics Defguard	91865-3	Bacillus amyloliquefaciens Strain D747	98.85%	Fungicide	
General Hydroponics Prevasyn Insect Repellant	91865-1	Soybean oil Garlic oil Capsicum Oleoresin Extract	59.30% 23.40% 07.60%	Insect Repellant Insecticide	
GH DNMT	91865-3	Bacillus amyloliquefaciens Strain D747	98.85%	Fungicide	
GH MPMT	91865-2	Potassium Salts of Fatty Acids	49.00%	Insecticide Miticide Fungicide	
Gnatrol WDG Biological Larvicide	73049-56	Bacillus thuringiensis Ssp. Israelensis	37.40%	Insecticide	
Grandeveo	84059-27	Chromobacterium Subtsugae Strain PRAA4-1 and Spent Fermentation Media	30.00%	Insecticide	Apply only to nonblooming plants.
Homeplate	67702-54-70051	Caprylic Acid Capric Acid	44.00% 36.00%	Herbicide	Nonselective herbicide. Will damage plant tissue.
Javelin WG Biological Insecticide	70051-66	Bacillus thuringiensis Ssp. Kurstaki	85.00%	Insecticide	
Leprotec	89046-12-88847	Bacillus thuringiensis Ssp. Kurstaki	14.49%	Insecticide	
Lifegard WG	70051-119	Bacillus mycoides Isolate	40.00%	Biological Plant Activator	
Lynx EC 1.4	82074-6	Pyrethrins	01.40%	Insecticide	
Lynx EC 5.0	82074-7	Pyrethrins	05.00%	Insecticide	

Product Name	EPA Number	Active Ingredients	Percent	Pesticide Type	Comments
MBI-110 EP	84059-28	Bacillus amyloliquefciens Strain F727	96.40%	Fungicide	
Milstop Broad Spectrum Fungicide	70870-1-68539	Potassium Bicarbonate	85.00%	Fungicide	
Monterey B.T.	70051-106-54705	Bacillus thuringiensis Ssp. Kurstaki	98.35%	Insecticide	
Monterey B.T. RTU Ready-to-Use	70051-113-54705	Bacillus thuringiensis Ssp. Kurstaki	09.83%	Insecticide	
Mosquito Bits Quick Kill	6218-73	Bacillus thuringiensis Ssp. Israelensis	02.86%	Insecticide	
M-Pede	62719-515	Potassium Salts of Fatty Acids	49.00%	Insecticide Miticide Fungicide	
Neemix 4.5	70051-9	Azadirachtin	04.50%	Insecticide	
Orange Guard	61887-2	d-limonene	05.80%	Insecticide	
Ortho Tree and Shrub Fruit Tree Spray Concentrate	70051-75-239	Pyrethrins Clarified Hydrophobic Extract of Neem Oil Piperonyl Butoxide	0.25% 70.00% 02.50%	Insecticide Miticide Fungicide	
Plant Guardian Biofungicide Liquid Concentrate	264-1152-56872	Bacillus subtilus QST713 Strain	01.34%	Fungicide	
Plant Guardian Biofungicide Wettable Powder	264-1151-56872	Bacillus subtilus QST713 Strain	14.60%	Fungicide	
Pro-Mix Biofungicide + Mycorrhizae	74267-4	Bacillus pumilus Strain GHA 180	00.00%	Fungicide	For use in protected growing environments only (e.g., greenhouses).
Pro-Mix BRK Biofungicide + Mycorrhizae	74267-4	Bacillus pumilus Strain GHA 180	00.00%	Fungicide	For use in protected growing environments only (e.g., greenhouses).
Pro-Mix BRK20 Biofungicide + Mycorrhizae	74267-4	Bacillus pumilus strain GHA 180	00.00%	Fungicide	For use in protected growing environments only (e.g. greenhouses).

Product Name	EPA Number	Active Ingredients	Percent	Pesticide Type	Comments
Pro-Mix HPCC Biofungicide + Mycorrhizae	74267-4	Bacillus pumilus Strain GHA 180	00.00%	Fungicide	For use in protected growing environments only (e.g., greenhouses).
Pro-Mix MP Biofungicide + Mycorrhizae	74267-8	Bacillus pumilus Strain GHA 180	00.00%	Fungicide	Greenhouse use only.
Pro-Mix with Biofungicide	74267-1	Bacillus pumilus MBI 600	00.00%	Fungicide	
Pvent	64137-13-70299	Gliocladium Catenulatum Strain J1445	93.00%	Fungicide	
Pyganic Speciality	1021-1772	Pyrethrins	05.00%	Insecticide	
Pyrethrum TR Total Release Insecticide	499-479	Pyrethrins Piperonyl Butoxide	04.00% 16.00%	Insecticide	Greenhouse use only.
Pyronyl Crop Spray	89459-26	Pyrethrins Piperonyl Butoxide	00.60% 60.00%	Insecticide	
REGALIA Bioprotectant Concentrate	84059-3	Extract of <i>Reynoutria sachalinensis</i>	05.00%	Fungicide	
Safer Brand 3-In-1 RTU II	59913-12	Potassium Salts of Fatty Acids Sulfer	00.75% 00.40%	Insecticide	
Safer Brand Caterpillar Killer for Trees Shrubs and Vegetables Concentrate II	70051-106-42697	Bacillus thuringiensis Ssp. Kurstaki	98.35%	Insecticide	
Serenade ASO	264-1152	Bacillus subtilus QST713 Strain	01.34%	Fungicide	
Serenade Garden Disease Control Concentrate	264-1152	Bacillus subtilus QST713 Strain	01.34%	Fungicide	
Serenade Garden Disease Control Ready to Spray	264-1152	Bacillus subtilus QST713 Strain	01.34%	Fungicide	
Serenade Garden Disease Control Ready to Use	264-1154	Bacillus subtilus QST713 Strain	00.07%	Fungicide	

Product Name	EPA Number	Active Ingredients	Percent	Pesticide Type	Comments
Serenade Max	264-1151	Bacillus subtilus QST713 Strain	14.60%	Fungicide	
Serenade Opti	264-1160	Bacillus subtilus QST713 Strain	26.20%	Fungicide	
Serenade Optimum	264-1160	Bacillus subtilus QST713 Strain	26.20%	Fungicide	
Serifel NG Biological Fungicide	71840-8	Bacillus subtilis MBI 600	11.00%	Fungicide	
Shield-All Plus	70051-111- 56872	Pyrethrins Clarified Hydrophobic Extract of Neem Oil	00.25% 70.00%	Insecticide Miticide Fungicide	
Stryker	53883-308	Pyrethrins Piperonyl Butoxide	06.00% 60.00%	Insecticide	
Subtalex NG Biological Fungicide	71840-8	Bacillus subtilis MBI 600	09.90%	Fungicide	
Summit B.T.I. Granules	6218-86	Bacillus thuringiensis Ssp. Israelensis	02.86%	Insecticide	
Summit Biological Caterpillar & Webworm Control	70051-106- 6218	Bacillus thuringiensis Ssp. Kurstaki	98.35%	Insecticide	
TerraClean 5.0	70299-13	Hydrogen Dioxide Peroxyacetic Acid	27.00% 05.00%	Fungicide	
Thuricide Bt Caterpillar Control	70051-106-829	Bacillus thuringiensis Ssp. Kurstaki	98.35%	Insecticide	
Thuricide N/G	70051-53- 59807	Bacillus thuringiensis Ssp. Kurstaki	70.00%	Insecticide	
Triathlon BA	70051-107- 59807	Bacillus amyloliquefaciens Strain D747	98.85%	Fungicide	
Trilogy	70051-2	Clarified Hydrophobic Extract of Neem Oil	70.00%	Fungicide Insecticide	

Product Name	EPA Number	Active Ingredients	Percent	Pesticide Type	Comments
Velifer	71840-22	Beauveria bassiana Strain PPRI 5339	08.00%	Insecticide Miticide	
Venerate	84059-14	Burkholderia Sp Strain A396	94.46%	Insecticide	
XenTari Biological Insecticide Dry Flowable	73049-40	Bacillus thuringiensis Ssp. Aizawai	54.00%	Insecticide	

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FOR MORE INFORMATION on pesticides, pesticide safety, or submitting samples for analysis, see the following publications in the IPM series:

IPM 1293, "Safety." Safety contact information; worker protection standards; the safe use, handling, and storage of pesticides

IPM 1294, "Submitting Samples." Procedures for submitting samples for diagnosis, analysis, and identification

IPM 1295, "General Pesticide Information." Federal and state restricted use pesticide lists; pesticides and water quality

IPM 1317, "Appendix." Pesticide guidelines for agronomic crops, including preharvest intervals; rain-free requirements; grazing restrictions; crop rotation guidelines; and the names, classifications, and toxicities of pesticides.

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For more information, contact your county Extension office. Visit www.aces.edu/directory.

Use pesticides **only** according to the directions on the label. Follow all directions, precautions, and restrictions that are listed. Do not use pesticides on plants that are not listed on the label

The pesticide rates in this publication are recommended **only** if they are registered with the Environmental Protection Agency or the Alabama Department of Agriculture and Industries. If a registration is changed or canceled, the rate listed here is no longer recommended. Before you apply **any** pesticide, check with your county Extension agent for the latest information.

Trade names are used **only** to give specific information. The Alabama Cooperative Extension System does not endorse or guarantee any product and does not recommend one product instead of another that might be similar.

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