CROP PROTECTION NETWORK

CPN-7006 | Cotton Disease Management

Nematicide Efficacy for Control of Cotton Nematodes

The members of the Cotton Nematologists Working Group (CNWG) have developed the following ratings for the effectiveness of nematicides in controlling nematodes of cotton in the United States. Efficacy ratings for each nematicide listed were determined through field experiments conducted over multiple years and locations by members of the group. Ratings are based on control of nematode root galling, and/or reproduction, and do not necessarily reflect yield protection. Numerous factors influence nematicide performance in the field, such as soil moisture at and for several weeks after application, soil texture in both the upper 10 to 12 inches and deeper layers of the profile, and nematode population density. In general, nematicides applied in-furrow at-planting provide more consistent nematode control than seed treatments. Seed treatment nematicides are suggested in fields with low nematode densities, while in-furrow nematicides are suggested for fields with low to moderate nematode densities. Furthermore, host plant resistance is the preferred control measure to utilize when nematode densities are high; however, host plant resistance is currently only available for the southern root-knot nematode and the reniform nematode in cotton. Host plant resistance is usually more cost-effective than using a nematicide. All nematicides are limited in their ability to prevent yield losses when cotton nematode densities are high. Nematicides can be cost effective for controlling lance or sting nematodes on root-knot or reniform nematode resistant varieties.

Southern Root-Knot Nematode Galling

Find Out More

The Crop Protection Network (CPN) is a multi-state and international collaboration of university and provincial extension specialists, and public and private professionals who provide unbiased, research-based information to farmers and agricultural personnel. Our goal is to communicate relevant information that will help professionals identify and manage field crop diseases. Find more crop disease resources at CropProtectionNetwork.org.

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This publication was developed by members of Cotton Nematologists Working Group and compiled by Travis Faske, University of Arkansas.

Nematicide Efficacy for Control of Cotton Nematodes Table (*04/2026*)

The list includes the most common, commercially available products marketed as nematicides in cotton. Other nematicides may be commercially available, but there is not sufficient data to support a rating. Furthermore, all products are tested following the application methods listed on the most current US EPA label. Many of these products have restrictions outlined on the label, which are not listed here, so review the label before applying these products in cotton fields. Some products are sold as a premix with an insecticide or are also marketed as a fungicide; however, the ratings listed are an assessment of the product as a nematicide only.

Efficacy categories: P=Poor; F=Fair; G=Good; VG=Very Good; E=Excellent; NL = Not Labeled; NR=Not Recommended; U = Unknown efficacy or insufficient data to rank product

Active ingredient (%)	Formulation[1]	Trade name	Rates	Commonly tested rates	Southern root-knot nematode	Reniform nematode	Lance nematode[2]	Sting nematode
Abamectin 46.3%	Seed treatment	Avicta 500FS	0.15 mg ai/seed	N. A.	P-F	P-F	P	P
Thiodicarb 24% + imidacloprid 24%	Seed treatment	Aeris 5FS	0.75 mg ai/seed	N. A.	P	P	P	P
Clothianidin 40.3% + *Bacillus firmus* I-1582 8.1%	Seed treatment	Poncho/Votivo 5FS	0.424 mg ai/seed	N. A.	P	P	P	P
Burkholderia spp. A396	Seed treatment	BioST Nematicide 100	7.0 fl oz/cwt	N. A.	P-F	P-F	P-F	P-F
Bacillus amyloliquefaciens MBI 600 1% *cis-Jasmone 0.88%*	Seed treatment	Trunemco Cotton	0.004 – 0.21 mg ai/seed	0.21	P	P	P	P
Fluopyram 49.02%	Seed treatment	Copeo 600FS	0.2-0.3 mg ai/seed	0.2	F	F	F	P-F
Fluopyram 29.5% + *Bacillus firmus* I-1582 11.5%	Seed treatment	Acceleron N-314 4.17FS	0.24 – 0.49 mg ai/seed	0.3	U	U	U	U
Bacillus licheniformis FMCH001 + *Bacillus subtilis FMCH002*	Liquid – IF	Zironar	6.0-12.0 fl oz/ac	6.0	P	P	P	P
Fluopyram 41.5%	Liquid - IF	Velum 4.16SC	5.0-6.8 fl oz/A	6.0	G	F	F	F
Abamectin 8%	Liquid - IF	Averland 0.7FC	3.5 fl oz/A	3.0	F	F	P-F	P-F
Oxamyl 42%[3]	Liquid – Foliar	Vydate C-LV	8.5-17.0 fl oz/A	17.0	P	P	P	P
Aldicarb 15%	Granular-IF	AgLogic 15GG	3.5-7.0 lb/A	5.0	G-VG	G-VG	F-VG	F-G
1,3-dichloropropene 97.5%	Liquid - Fumigant	Telone II 9.85L	3.0-6.0 gal/A	3.0	VG	VG	VG	VG

[1] Formulations: Seed treatment = applied on seed coat; Liquid – IF – liquid product applied in-furrow with 5- 6 gal/ac water carrier; Liquid-Foliar = liquid product applied broadcast; Liquid-fumigant = soil applied nematicides that are injected into the soil preplant; Granular-IF are granular materials applied in-furrow.

[2] Includes both *Hoplolaimus columbus* and *H. galeatus*

[3] Vydate C-LV is applied with a granular- or liquid-IF nematicide or seed treatment. Foliar applications range from broadcast of 17 fl oz/ac at 1st to 7th true-leaf growth stage or banded application. See label for specific rates for these foliar applications and through drip irrigation. Rating based on foliar application only.