

Compatibility of other pesticides with entomopathogenic nematodes

Arne Peters, e-nema GmbH, Klausdorfer Str. 28-36, D-24223 Schwentinental, Tel. 04307-82950

Legend

- 0: no effect on nematode survival or infectivity
- 1: weak impact on nematode infectivity and survival (25 to 50% death)
- 2: moderately toxic (50 to 75% death)
- 3: toxic (>75% death of nematodes)
- no entry: No investigations found

Remarks

If there is a negative impact, nematodes should be used 3 days before applying the other pesticide or 2 weeks later.

Hb = *Heterorhabditis bacteriophora*
Hd = *Heterorhabditis downesi*
Sf = *Steinernema feltiae*
Sc = *Steinernema carpocapsae*

Category	Active ingredient	Trade name	Impact on nematode species			
			Hb	Hd	Sf	Sc
fungicide	aldicarb	Temik	3		3	3
fungicide	aluminium tris	Aliette 80 WDG	3			3
fungicide	azoxystrobin	Abound 22.9%, Heritage 50%			0	
fungicide	azoxystrobin	Quadris	0	0	0	0
fungicide	benomyl	Fundazol	0		0	0
fungicide	boscalid	Bellis	0	0	1	2
fungicide	bitertanol		0		0	0
fungicide	bupirimate	Nimrod	0		0	0
fungicide	calcium hypochlorite	Chlorine			3	
fungicide	carbendazim	Bavistan	3		0	0
fungicide	carboxin	Blekritt	0		0	0
fungicide	chloridiazon	Pyramin				0
fungicide	chlortalonil	Notar	0		0	0
fungicide	cinamaldehyde	Cinamate 30%			3	

Category	Active ingredient	Trade name	Impact on nematode species			
			Hb	Hd	Sf	Sc
fungicide	copper oxychloride		0		0	0
fungicide	copper hydroxid & zinc	Cuprablau-Z	0	0	1	1
fungicide	copper sulfate		0		0	0
fungicide	cycloxydim	Focus				0
fungicide	cymoxanil	Folcarb combi	0		0	0
fungicide	cyproconazole		0		0	0
fungicide	diafenthiuron	Polo				0
fungicide	difenoconazole		0		0	0
fungicide	dinocap	Karathane PB	0		0	0
fungicide	dinocap	Sabithane	0	0	1	2
fungicide	dithianon	Delan	0		0	0
fungicide	dodine	Melprex 65W	3		0	0
fungicide	ethridiazole	Terrazole 35 WP			0	
fungicide	fenarimol	Rubigan 6 PB	0		0	0
fungicide	fenarimol	Transflo	2		2	2
fungicide	fenhexamid	Teldor	0	0	0	0
fungicide	fenpropimorph	Corbel	0		0	0
fungicide	fentin acetate	Brestan	3		3	3
fungicide	fluopyram	Luna	3		2	1
fungicide	fluquinconazole	Clarinet	0	0	0	0
fungicide	flutdioxonil	Medallion 50%			0	
fungicide	flutolanil	Moncut	0		0	
fungicide	flutolanil	Prostar 70 WP			0	
fungicide	folpet	Folcarb combi	0		0	0
fungicide	folpet	Folpan 80 WDG	0	0	1	1
fungicide	fosetyl-aluminium	Aliette flash	0		1	2
fungicide	formaldehyde	Formalin 37%			3	
fungicide	hexaconazole		0		0	0
fungicide	hydrogen peroxide	ZeroTol			3	
fungicide	hydrogen peroxyacetic acid mixture				3	
fungicide	iprodione		0		0	0
fungicide	mancozeb	Dithane M-45	2	2	3	3
fungicide	maneb (50%)	Acydon	1			
fungicide	mannose	Dithiane M45 80WP	0		0	0
fungicide	mefenoxan	Subdue 2X 45 WSP	0			0
fungicide	mefenoxan	Subdue Naxx 21.3 ME			0	
fungicide	mepronil		0			
fungicide	mercoprop-p	Duplosan				0

Category	Active ingredient	Trade name	Impact on nematode species			
			Hb	Hd	Sf	Sc
fungicide	mercuriouse chloride 60% + mercuric chloride 30%	Calco Clor	3		3	3
fungicide	metalaxyl M	Ridomil Gold Plus	1	1	2	2
fungicide	metalaxyl (50%)	Acylon	1			
fungicide	metalaxyl + folpet	Eucritt F10 + 40 WP	3		0	0
fungicide	metazachlor	Butisan				0
fungicide	methoprene	Apex 5E 65.7%			0	
fungicide	metiram	Polyram DF	0	0		
fungicide	metrafenone	Vivando			0	
fungicide	myclobutanil		1		1	1
fungicide	orthoqid	Captan			0	
fungicide	penconazole		0		0	0
fungicide	pentachloronitrobenzene	Terraclor 75%	0		0	0
fungicide	plantarens (from borregaard, based on orange kernel oil) 3 ml /l		0		0	0
fungicide	prochloraz	Sportak 40 EC	0		0	0
fungicide	procymidone	Sialex	0		0	0
fungicide	propamocarb	Previcur 607 SL	0		0	0
fungicide	propiconazole	Tilt 10EC	0		0	0
fungicide	pyrazofos		0		0	0
fungicide	pyrazophos	Afugan 15EC	1		1	1
fungicide	pyraclostrobin	Bellis	0	0	1	2
fungicide	pyrimethanil	Clarinet	0	0	0	0
fungicide	Rapeseed oil	Telmion				0
fungicide	Streptomyces griseoviridis strain K61	Mycostop 30%			0	
fungicide	sulphur		3		3	3
fungicide	sulphur	Pepelin	0	0	0	0
fungicide	sulphur	Kumulus				0
fungicide	sulphur	Tiolvit 79.9 WP	0		0	0
fungicide	tebuconazole		0		0	0
fungicide	tebuconazole+ spiroxamine+triadimenol	Falcon EC- 460	3		3	3
fungicide	thiophanate-methyl		1		1	1
fungicide	thiophanate-methyl	Fungo Flo 4.5 F			0	
fungicide	thiophanate-methyl	Topsin M			0	
fungicide	thiram	TMTD	0		0	0
fungicide	thiram	Blekritt	0		0	0
fungicide	tolchlophosmethyl	Rizolex	0		0	0
fungicide	tolyfluanide	Euparen M				0
fungicide	Trichoderma harzianum	Rootshield 1.15%			0	

Category	Active ingredient	Trade name	Impact on nematode species			
			Hb	Hd	Sf	Sc
fungicide	triadimefon		0		0	0
fungicide	triadimenol		0		0	0
fungicide	tridemorph		2		2	2
fungicide	triflumizole		0		0	0
fungicide	triflumizole	Terraguard 50 W			0	
fungicide	triforine	Saprol	0		0	0
fungicide	triforine		1		1	1
fungicide	vinclozolin		0		0	0
fungicide (Champignon)	Wasserstoffperoxid					
herbicide						
herbicide	2-4 D sodium salt	Weedone LV 4	0		0	0
herbicide	2-4 D sodium salt					0
herbicide	alachlor	Lasso 42.1 EC	2		3	3
herbicide	atrazine	Gesaprim	0		0	0
herbicide	Clethodim	Envoy 12.6%			0	
herbicide	Clopyralid	Cirloxin 10 WSL	0		0	0
herbicide	chloridazon	Pyramin 39 Flo	3		0	0
herbicide	chloridazon	Cirtoxin	0		0	0
herbicide	chlorthal-dimethyl	Dacthal W 75	0		0	0
herbicide	chlortoluron	Dicuran L 45 Flo	0		0	0
herbicide	chlorsulfuron	Glean 75 Df	0		0	0
herbicide	dalapon	Dalascam 85 WP	0		0	0
herbicide	Dicamba	Banvel	0		0	0
herbicide	diphenamid	Enide 50 W	0		0	0
herbicide	fluazifop butyl	Fusilade	0		0	0
herbicide	fomesafen	Flex 29 WSL	0		0	0
herbicide	glyphosate	Roundup 34 WSL	0		0	0
herbicide	loxynil	Cipotril	0		0	0
herbicide	lenacil	Venzar 29 WSL	0		0	0
herbicide	L-flamprop-isolpropyl	Effix 20.9 EC	0		0	0
herbicide	linuron	Afalon DS	0		0	0
herbicide	linuron	Afalon DS	3			
herbicide	MCPA		0		2	2
herbicide	MCPP (Mecoprop)	U46 KV Fluid	0		0	0
herbicide	metribuzin	Sencor 35 WP	0		0	0
herbicide	Oxyfluorfen	Goal	0		0	0
herbicide	Oxyfluorfen	Goal	0		3	3
herbicide	paraquat	Gramoxone	2		1	1
herbicide	pendimethalin	Stomp 31.7 E	3		0	0
herbicide	phenmedipham	Betanal	0		0	0

Category	Active ingredient	Trade name	Impact on nematode species			
			Hb	Hd	Sf	Sc
herbicide	propryzamide	Kerb 50 WP	0		0	0
herbicide	propryzamide	Kerb 50 WP	3		3	0
herbicide		Verigard	0		0	0
herbicide		Primstar	0		0	0
herbicide	Tribenuron				1	
insecticide						
insecticide	abamectin		0		0	0
insecticide	abamectin	Vertimec				3
insecticide	acephate	Orthene	0		0	0
insecticide	acetamiprid	Careo	0		0	0
insecticide	adoxophyes orana Grnulose virus		0		0	0
insecticide	aldicarb	Temik	3		3	3
insecticide	amitraz	Edrizar	0		0	0
insecticide	azadirachtin		0		0	0
insecticide	B.thuringiensis kurstaki		0		0	0
insecticide	B.thuringiensis tenebrionis		0		0	0
insecticide	bendiocarb		3		3	3
insecticide	biphentrin		0		0	0
insecticide	bromophos		1		1	1
insecticide	buprofezin		0		0	0
insecticide	carbaryl		0		0	0
insecticide	carbofuran	Curaterr G	2		0	0
insecticide	carbosulfan	Marshal 5G	1		0	0
insecticide	chlorantraniliprole	Coragen	0		1	
insecticide	chlorpyrifos-ethyl	Terial 40 L	2		2	2
insecticide	Cydia pomonella granulose virus		0		0	0
insecticide	cyfluthrin		1		1	1
insecticide	cyhexatin	Plictran L	0		0	0
insecticide	cypermethrin		0		0	0
insecticide	cyromazine		0		0	0
insecticide	deltamethrin		0		0	0
insecticide	delthamethrin	Decis	0		0	0
insecticide	diazinon	Basudin 20	1		0	0
insecticide	dichlorvos		0		0	0
insecticide	dicofol	Keltane MF	0		0	0
insecticide	dienochlor		0		0	0
insecticide	diflubenzuron	Dimilin	1		0	0
insecticide	dimethoate		1		1	1
insecticide	DNOC	Selinon 50	0		0	0
insecticide	endosulfan	Thiodan	0		0	0
insecticide	esfenvalerate		0		0	0
insecticide	etrimfos		2		2	2
insecticide	exitiazox	Matacar	0		0	0
insecticide	fenamiphos	Nemacur	3		3	3
insecticide	fenitrothrin		0		0	0
insecticide	fenoxy carb		0		0	0
insecticide	fenpropathrin		2		2	2
insecticide	fenvalerate		0		0	0

Category	Active ingredient	Trade name	Impact on nematode species			
			Hb	Hd	Sf	Sc
insecticide	flubenzimine	Cropotex	3		3	3
insecticide	flubenzimine		3		3	3
insecticide	fluvalinate		0		0	0
insecticide	fonofos	Dyfonate 5 G	2		0	0
insecticide	fonofos	Dyfonate 5 G				0/ 3
insecticide	heptenofos		0		0	0
insecticide	hexythiazox		0		0	0
insecticide	imidacloprid		0		0	0
insecticide	indoxacarb				1	
insecticide	lambda-cyhalothrin		0		0	0
insecticide	Lindan	Lintox 3	0		0	0
insecticide	metaflumizone				1	
insecticide	methamidoophos		2		2	2
insecticide	methamsodium	Geort	3		2	2
insecticide	methamyl		3		3	3
insecticide	methidathion		0		0	0
insecticide	methiocarb	MesuroI	1		1	1
insecticide	methomyl	Lannate 25	3		3	3
insecticide	methoprene		0		0	0
insecticide	mineral oil		0		0	0
insecticide	nasalts fatty acids (soaps)		0		0	0
insecticide	Neemoil	Neem	1		0	0
insecticide	oxamyl	Vydate	1		0	0
insecticide	oxamyl		1		1	1
insecticide	oxamyl		3		3	3
insecticide	Paecilomyces fumosoroseus		0		0	0
insecticide	parathion	E 605 FT 20	3		2	2
insecticide	parathion-methyl		1		1	1
insecticide	permethrin		0		0	0
insecticide	phorate	Thimet 5G	3		0	1
insecticide	phosmet		0		0	0
insecticide	phosphamidon	Dimecron 20	0		0	0
insecticide	phosphamidon		1		1	1
insecticide	Pirimicarb	Pirimor			0	
insecticide	profenofos		1		1	1
insecticide	Propargite	Kelaran	1		1	1
insecticide	propoxur		2		2	2
insecticide	pyrethrine		0		0	0
insecticide	Spodoptera exigua N.P.V.		0		0	0
insecticide	tau-fluvalinaat		0		0	0
insecticide	teflubenzuron		0		0	0
insecticide	tefluthrin	techn. Grade	0			0
insecticide	terbufos	Cyanater 2 G	2		0	0
insecticide	terbufos	techn. grade				0
insecticide	thiacloprid		0		0	0
insecticide	thiamethoxam	Meridian 25 WG	0			
insecticide	trichlorfon		0		0	0

Category	Active ingredient	Trade name	Impact on nematode species			
			Hb	Hd	Sf	Sc
adjuvant						
adjuvant		Bond (Spieß Urania)	0		0	0
adjuvant		Adhäsit	1		1	0
adjuvant		Li-700				
adjuvant	non-ionic Tensid	Trifolio-S-forfe	0		0	
adjuvant		H2Pro maximise	0		0	0
fertilizer						
fertilizer	Aluminiumsulfate (17% Al)		0/0/4		-	-
fertilizer	Organic Marine Compost Graulat	Wöbking	0		0	0
nematocide						
nematocide	Fluazaindolizine	Salibro	0		0	0
nematocide	Fluopyram	Luna	3		2	1
nematocide	Oxamyl	Vydate	1		0	0
nematocide	Paecilomyces lilacinus	BioAct	0		0	0
surfactant						
surfactant	Nufilm				0	
desinfectant						
desinfectant (Champignon)	Na-Hypochlorit				0	
Desinfectant (Champignon)	Dimethylammonium-chlorid	Pro-san				
	Peressigsäure					