

Turf Pests Part III

(Adapted from Shetlar OSU slide set by C. Sadof)

Chewing Pests of

Thatch

Sod Webworms

Cutworms

Armyworms

Skippers

Crane Flies

March Flies

Leaf and Stem Pests

Greenbug (aphids)

Clover Mite

Winter Grain Mite

Banks Grass Mite

Bermudagrass Mite

*Problem in Indiana

Sod Webworms

True Sod Webworms [Crambinae]

Bluegrass WW *P. teterrella*

Larger SWW *Pediasia trisecta*

Western SWW *Tehama bonifatella*

Striped SWW *Fissicrambus mutabilis*

Corn Root Webworm *Crambus caliginosellus*

Vagabond Crambus *Agriphila vulgivaella*

Tropical Sod Webworms [Pyralinae]

Tropical SWW *Herpetogramma phaeopteralis*

Sod Webworms



Spring damage



Adult bluegrass webworm



Larva and frass

Sod Webworm Distribution Maps

Bluegrass webworm



Larger sod webworm



Striped sod webworm



Cranberry girdler



Sod webworm damage to green often resembles disease or other maladies.

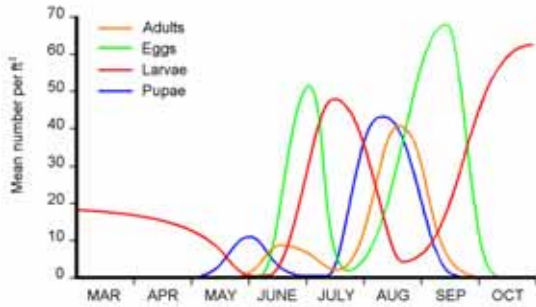


Sod webworm silk and topdressing cover over burrow, on golf green

Sod webworm larva in burrow on sand-based green.



Bluegrass Webworm in Ohio



Cutworms & Armyworms (Noctuidae)

Cutworms

- Black Cutworm *Agrotis ipsilon*
- Bronzed Cutworm *Nephelodes minians*
- Variegated Cutworm *Peridroma saucia*

Armyworms

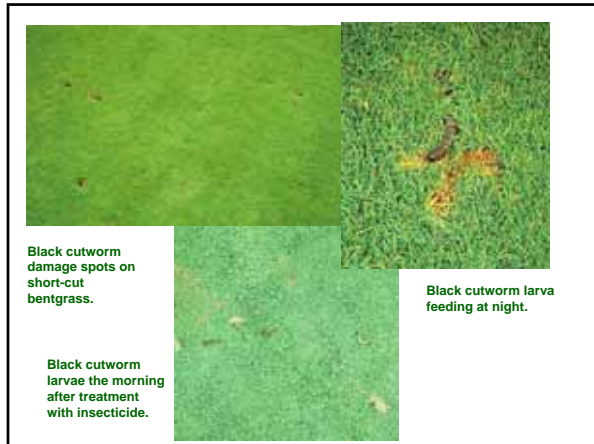
- Common Armyworm *Pseudaletia unipuncta*
- Fall Armyworm *Spodoptera frugiperda*
- Yellowstriped Armyworm *S. ornithogalli*

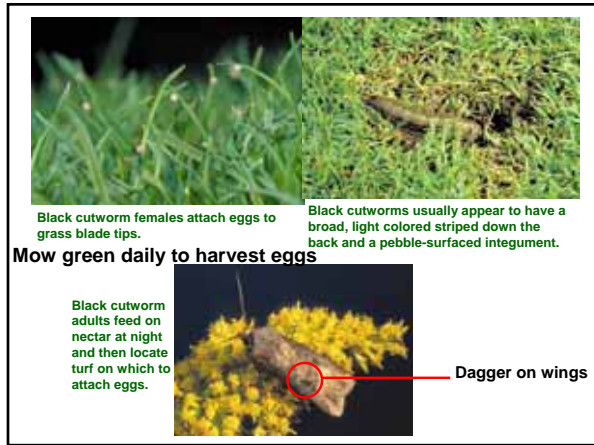
Adult of these Caterpillars fly north to Indiana in Spring – Caterpillars present June-Frost

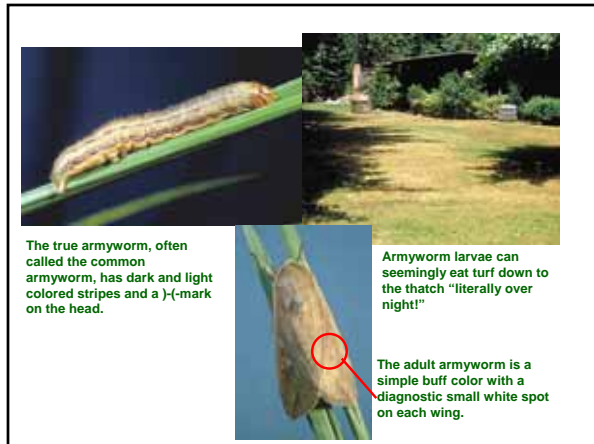
Black Cutworm Distribution Map



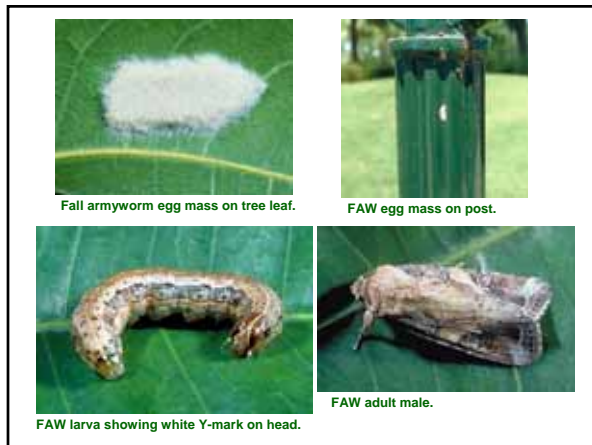
The black cutworm can only overwinter in southern states (dark shading), and it normally flies northward with spring storm fronts. It may have four to five generations in the transition zones (medium shading) and two to three generations in the cooler-transition zones and true cool-season zones (light shading).











Turf Caterpillar Controls

Insecticide	Rate	% Control	# Tests
Organophosphates			
Diazinon	5.5	94.0	4
Dursban	1.0	98.7	18
Dylox/Proxol	8.0	87.3	4
Orthene	5.0	92.3	4
Carbamates			
Sevin	4.0	96.8	5
Turcam	2.0	89.7	3

Turf Caterpillar Controls

Insecticide	Rate	% Control	# Tests
Pyrethroids			
Astro	0.04	100.0	2
DeltaGard	0.08	94.5	2
Scimitar	0.02	96.8	5
Tempo	0.10	97.6	21
Spinosyn			
Conserve	0.3	90.1	6

Turf Caterpillar Controls

Insecticide	Rate	% Control	# Tests
Chloronicotinoid			
Merit	0.3	48.5	7
Molt Accelerator (growth regulator)			
MACH2	1.0	86.5	7
Nematodes			
S. carpocapsae	1.0 bil	89.6	7
H. bact.	0.5 bil	67.0	4

1996 Ohio Cutworm/Sod Webworm Trial I

Treatment	Rate	% Control	
		CW	SWW
Talstar 0.66F	0.0125	100	87
Talstar 0.66F	0.025	89	93
Talstar 0.66F	0.05	100	100
Talstar 0.2G	0.1	100	90
Diazinon 25%RTS	4.0	100	100
Dursban 1.0G	1.0	100	100
Dursban 6.6%RTS	1.0	100	100
Dursban 2EC	1.0	100	100
Sevin 2.0G	8.0	100	97
Sevin 2SL	8.0	100	97
Tempo 20WP	0.1	100	100

appl. 8 Aug; Columbus, OH; 4DAT; 2.7 cw & 10.0 sww/sq.yd. checks

1997 Ohio Golf Course Cutworm Trial

Treatment	Rate	Irrig	% Control	
			BCW	SWW
Talstar 0.2G	0.025	Y	100	75
"	0.05	Y	100	93
"	0.1	Y	100	89
Orthene 75SP	4.0	N	100	100
Dursban 1G	1.0	Y	100	96
Dursban 2EC	1.0	N	100	100

appl. 30 July; Brookside CC, OH; 2DAT; 3.8 bcw & 14.3 sww/sq.yd. checks

1997 Ohio Large BCW Bioassay

Treatment	Rate	% Control
Conserve 1SC	0.05	16
"	0.1	36
"	0.2	47
"	0.4	55
"	0.8	68
Dursban 2EC	1.0	65
Talstar 10WP	0.1	100

appl. 22 Aug; Columbus, OH; 4DAT; 6 bcw (>1"long)/cylinder; 5.5 in checks

1997 Ohio Small BCW Bioassay

Treatment	Rate	% Control
Conserve 1SC	0.05	43
"	0.1	43
"	0.2	43
"	0.3	87
"	0.4	72
Dursban 2EC	1.0	100
Talstar 10WP	0.1	100

appl. 19 Aug; Columbus, OH; 4DAT; 8 bcw (<1"long)/cylinder; 7.5 in checks

1998 Ohio Sod Webworm Control

Treatment	Rate	% Control (7DAT)	
		SWW	BTA adults
Tempo 0.1G	0.2	100	94
Tempo 0.2G	0.2	100	94
Tempo 20WP	0.2	99	94
Tempo Ultra	0.072	100	94
Naturalis-T	0.5oz/M	46	29
Naturalis-T	1.0oz/M	69	71

Appl. 9 Oct; Columbus, OH; 27.8 SWW/sq.yd. & 4.25 BTA/sq.yd. in checks

1999 Ohio SWW Curative Trial

Treatment	Rate	% Control	
		SWW	BTA-adults
		6DAT	6DAT
Tempo Ultra 1.0SC	0.07	98	100
Tempo 20WP	0.1	71	97
Dylox 80SP	5.4	84	63
MACH2 2LTI	1.0	83	53
Scotts 3.2% diazinon on 28-4-6	4.0	100	100
VIGRO 3.34% diazinon on 28-4-6	4.36	99	100
0.2%G bifenthrin	0.1	95	97

appl - 9Sep; Columbus, OH; read - 15Sep; 45.25 SWW & 8.0 BTA/sq.yd. check

2000 Ohio Sod Webworm Curative Test

Treatment	Rate	% Control		
		3DAT	7DAT	12DAT
Meridian 25WG	0.088	74	34	72
"	0.2	58	37	77
"	0.26	58	0	83
GrubEx 1.5G	1.0	61	87	78
MACH2 LTI	1.5	71	82	92
Merit 75WP	0.3	44	50	89
Scimitar .88GC	0.06	76	84	79

appl. 22Sep; Columbus, OH; 9.5, 9.5, 11.75 ssw/sq.yd. checks @ 3, 7, & 12 DAT

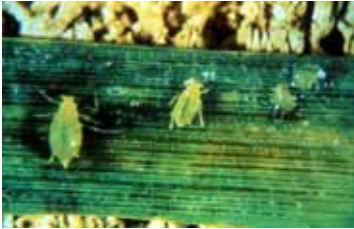
Leaf & Stem Pests

Sucking Pests

- Greenbug (aphids)
- Clover Mite
- Winter Grain Mite
- Banks Grass Mite
- Bermudagrass Mite

Greenbug

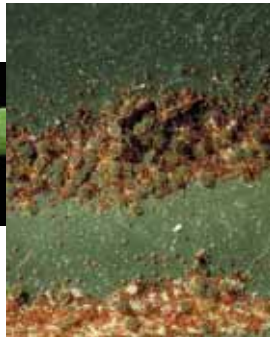
Schizaphis graminum (Rondani)



This aphid can attack Kentucky bluegrass. It is favored by heavy fertilization. Often starts under trees on turf with northern exposure. Injured turf appears as orange circle. Greenbugs are quite common in Indiana and arrive from southern states each spring. They damage turf by sucking plant juices.

Clover Mite

Bryobia praetiosa Koch



Clover mites are characterized by having elongate front legs which are orange-pink in color. The mites feed on turf leaves but cluster on structures to molt and lay eggs.

Winter Grain Mite

Penthaleus major (Duges)



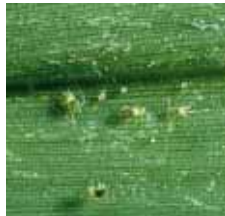
Winter grain mites have bright orange legs and dorsal anus openings.

Winter grain mite adults feed at night and are active from November into May, but may stop activity when daytime temperatures do not get above freezing.



Banks Grass Mite

Oligonychus pratensis (Banks)



Banks grass mites attack cool-season and warm-season turf. On St. Augustine-grass, they cause patches of yellow on the blades. On bluegrass and perennial rye, the mites cause blanching of the turf during the winter months.

Cicada killer wasp