

INSECTS ON TOBACCO

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SOIL INSECTS

WIREWORMS

Wireworms, the most damaging soil insect pests of tobacco, are present in the soil at transplanting. They damage tobacco by feeding and tunneling in the below ground portion of roots and stems. Their feeding and tunneling may kill or stunt young plants and open up plants to soil-borne diseases. Stunted plants result in irregular and uneven stands. An uneven stand makes it more difficult to manage tops, suckers and insects. Because wireworms overwinter in the soil, they are usually more abundant in fields that follow crops, such as corn, soybeans, small grains, peanuts, sweet potatoes, pasture, and tobacco. There is no easy way to sample fields for wireworms prior to transplanting. Rescue treatments are nonexistent. Preplant soil applied insecticides are highly recommended for control of these insects (Table 1). For best results the insecticides must be incorporated immediately after they are applied. Imidacloprid (Admire 2F) or thiamethoxam (Platinum 2SC) applied as a foliar drench in the greenhouse prior to transplanting or in the transplant water gives good control.

MOLE CRICKETS

Mole crickets, sometimes called "ground puppies" and "cricket moles", make small, raised, mole-like trails as they burrow just under the soil surface. They damage newly set transplants by feeding on the roots and stems, often cutting them off near the surface of the soil. This damage is often mistaken for cutworm damage. Mole crickets feed at night and are especially damaging after a rain. When a field has a history of mole crickets, it is recommended that a preplant soil applied insecticide be used. In the past transplant water treatments have not given satisfactory control of mole crickets. However, imidacloprid (Admire 2F) applied as a foliar drench in the greenhouse prior to transplanting or in the transplant water gives good control. During the first month after transplanting, fields should be checked twice each week and on the very next day after a rain for mole cricket damage. If a preplant soil applied insecticide was not used and mole crickets become a problem, a grower has only one option - plow the field several times. Insecticidal baits, such as Dylox or Proxol 80 SP mixed with cornmeal have performed well, however, these insecticides and many others are no longer labeled for use on tobacco.

CUTWORMS

Cutworms feed primarily at night or on cloudy days. They cut off small plants just above the soil surface and occasionally, cut off individual leaves. During the day, they hide beneath the soil surface at the base of damaged plants, or under soil clods and vegetative debris. On larger plants, cutworms may be found hiding on top of the soil under the bottom leaves. Cutworm problems are not easy to predict. However, the fields most likely to be infested are those that were weedy the previous fall and winter and were not plowed until just before bedding and transplanting. Low areas in a field with heavier soils are also places where cutworms may be a problem. Fields should be checked twice each week during the first month and treated with a recommended insecticide when five percent of the plants are damaged. Preplant soil applied insecticides, such as chlorpyrifos (Lorsban 4E) and ethoprop (Mocap 6EC), listed in Table 1, have not given good control of cutworms, based upon on-farm research conducted in the last eight years. See Table 2. For best results spray acephate (Orthene 75S or 97 PE) over the top of the plants, using one pound or 12 ounces respectively, per acre in 25 to 50 gallons of water. When acephate (Orthene 75S or 97 PE) is used in the transplant water, cutworms are usually not a problem. Although not labeled for cutworms, imidacloprid (Admire 2E) and thiamethoxam (Platinum 2 SC) have given adequate control of granulate cutworms.

Table 1. Control of Soil Insects in Tobacco Prior to Transplanting

INSECT	CHEMICAL AND FORMULATION¹	PRODUCT RATE/ACRE	LBS AI/A	REMARKS AND PRECAUTIONS
Mole Crickets	chlorpyrifos (Lorsban 4E, Pilot 4E, Chlorfos 4E)	2 - 3 qts	2 - 3	Apply broadcast to the soil surface one week before transplanting and mix into the top 3-6 inches of soil immediately.
	ethoprop (Mocap 6EC)	1 - 2 gals	6-12	
	(Mocap Gel)	1 - 2 gals		
Wireworms	carbofuran (Furadan 4F)	1.5 gals	6	Apply all insecticides to the soil surface 1-2 weeks before transplanting and mix into the top 3-6 inches of soil immediately.
	chlorpyrifos (Lorsban 15G, Pilot 15G, Chlorfos 15G)	13.5 - 20 lbs	2 - 3	
	(Lorsban 4E, Pilot 4E, Chlorfos 4E)	2 - 3 qts	2	Broadcast treatment for wireworm control only. Use 1-2 gallons of Mocap 6EC or Gel for both nematode and wireworm control.
	ethoprop (Mocap 6EC) (Mocap Gel)	1.33 qts 0.33 gal		

Table 2. Control of Soil Insects in Tobacco at Transplanting

INSECT	CHEMICAL AND FORMULATION¹	PRODUCT RATE/ACRE	LBS AI/A	REMARKS AND PRECAUTIONS
Wireworms or Mole Crickets (transplant water treatment)	imidacloprid (Admire 2F & other generic formulations) (Admire PRO 4.6 SC)	1.4 - 2.8 oz./ 1000 plants 0.6-1.2 oz./ 1000 plants	0.02 - 0.04 per 1000 plants	Apply in transplant water. Mix thoroughly.
Wireworms (transplant water treatment)	thiamethoxam (Platinum 2 SC) (T-Moxx 2SC)	1.3 oz. per 1000 plants	0.01 - 0.02 per 1000 plants	