uniform plant growth. At Gainesville, these seed treatments lead to almost a 2-fold increase over the control in the number of ears in the silking stage 60 days after planting (Table 3). Consequently, yields were earlier and more uniform. On the June 4 harvest yields were significantly increased over the control by the following treatments: Difolatan + Dexon, Terraclor + Dexon, Difolatan + Terraclor, Benlate + Dexon, Benlate + Difolatan, Dexon and Difolatan. There were no differences among treatments in late yield on the June 9 harvest date, nor were differences among treatments in ear weight, length and diameter found to be significant on either harvest. Half the yield was harvested from the control on June 4 and the other half 5 days later. This meant that the stand was not uniform. In contrast up to 70% of the yield was harvested on June 4 in some of the better seed treatments.

On the muck soil at Belle Glade, Dexon and Difolatan alone and all of the treatment combinations increased total yield over the control (Table 4). However, marketable yields were increased only by some of the seed treatments, namely: Difolatan + Dexon, Benlate + Dexon, Benlate + Difolatan, Terraclor + Dexon, and Difolatan alone. There was a trend for more Fancy corn to be produced in plots of the better seed treatments. Ear weight was not influenced by seed treatment.

It is apparent that with proper chemical seed treatment both seed and soil-borne pathogens can be controlled to produce uniform stands and satisfactory yields of 'Florida Sweet' corn without overseeding and thinning. At present, none of the effective seed treatments are registered for use on sweet corn. From the results of our work and others (1) several of the better fungicide combinations should be registered for use as a seed treatment on 'Florida Sweet.'

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SOIL APPLICATIONS OF INSECTICIDES FOR CONTROL OF POTATO INFESTING WIREWORMS

R. M. BARANOWSKI AND VAN H. WADDILL

IFAS Agricultural Research and Education Center
Homestead

Abstract. **Experiments using soil applications of insecticides at planting or prior to planting, have been conducted on marl soils for the past 4 seasons. Wireworm populations varied from 1.1 to 5.5 larvae per ½ ft³ (0.014 m³) of soil. The composition of the wireworm populations also varied from approximately 25%** Melanotus communis **(Gyll.) and 75%** Conoderus **spp. to 85%** M. communis **and 15%** Conoderus **spp. Tuber injury in the non-treated plots ranged between 30 and 48%. Injury in the most effective treatments was as low as 4%.**

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The wireworm complex of *Melanotus communis* (Gyll.) and *Conoderus* spp. has been a threat to the potato industry in Dade County for many years. However, effective insecticides have been reported (1, 2, 3) and used by growers to keep damage to a low level.

Resistance of wireworms to insecticides is well documented (1, 4) and there is reason to believe the compounds currently being used will become ineffective. Thus, we have continued to screen new materials and compare them with Phorate for the last 4 years.

Methods and Materials

Prior to selecting an insecticide test site soil samples were taken to determine the density of wireworms. The samples consisted of ½ ft³ (0.014 m³) cores to a depth of 6 inches (15.2 cm).

The samples were sifted and the number of *Melanotus communis* and *Conoderus* spp. recorded.

Granular broadcast treatments were applied using Gandy applicators. These materials were then incorporated with a rotovator to a depth of 5-6 inches (12.7-15.2 cm). Seedpiece furrow treatments were applied at planting with a Noble applicator adjusted to meter the granules into the fertilizer bands.

1971-72. Soil samples were collected and analyzed for wireworm damage on October 12. The Sodium Azide was applied December 10. Seed pieces were planted on December 16 in plots that consisted of four rows 36 ft (11 m) long, spaced 38 in (0.96 m) apart. The potatoes were dug and inspected April 6.

1972-73. Soil samples were taken and checked for wireworms on October 3. Preplant treatments were applied December 7 and seed pieces planted December 20. The plots consisted of four rows 40 ft (12.2 m) long planted on 3 ft (0.91 m) centers. The potatoes were dug and inspected April 18.

1973-74. Soil samples were taken and analyzed for wireworms in early October. Preplant treatments were made December 12 and seed pieces planted on December 19. Plots consisted of four rows 40 ft (12.2 m) long planted on 3 ft (0.91 m) centers.

1974-75. Soil samples were taken and wireworm counts made on September 15. BAY 92114 was applied with a sprinkler can using 1 gallon of water per plot on November 7. It was incorporated by rototilling following application.

Table 1. Average number of wireworms per ½ ft^3 of soil prior to planting.

Season	Date sampled	N	Melanotus communis	Conoderus spp.	Total no. wireworms
1971-72	Oct. 12	14	0.8	2.2	3.0
1972-73	Oct. 2	20	4.7	0.8	5.5
1973-74	Oct.	20	--[z]	--	4.0
1974-75	Sept. 15	10	0.9	0.2	1.1

[z]Species were not differentiated.

Table 2. Wireworm control resulting from insecticide applications.

Treatment, formulation & application method[z]	Lbs. ai/A	% wireworm injury
1971-72		
Counter, 10G, SF	3.0	4a[x]
Counter, 10G, SF	1.5	8a
Furadan, 10G, SF	3.0	8a
Dyfonate, 10G, SF	4.0	8a
Phorate, 10G, SF	3.0	9a
BAY 92114, 5G, SF	1.0	11a
Check	--	30 b
Sodium Azide, 8G, PB	16.0	33 b
1972-73		
Counter, 15G, SF	3.0	7a
Phorate, 10G, SF	3.0	9a
BAY 92114, 10G, SF	3.0	10a
Counter, 15G, SF	1.5	12a
Dyfonate, 10G, SF	4.0	15ab
Dyfonate, 10G, PB	4.0	15ab
BAY 92114, 10G, SF	1.0	23 bc
Furadan, 10G, SF	3.0	28 cd
Orthene, 75S, ST	1.2	31 cde
Mocap, 10G, PB	8.0	34 def
Mocap, 10G (slow release) PB	8.0	39 efg
Nexion, 5G, PB	5.0	40 efg
Nexagon, 5G, PB	5.0	43 fg
Check	--	48 g
1973-74		
BAY 92114, 10G, PB	3.0	5a
Phorate, 10G, SF	3.0	10ab
SD 8832, 10G, SF	3.0	11ab
Counter, 15G, SF	6.0	13ab
Counter, 15G, SF	2.0	13ab
Counter, 15G, SF	3.0	17abc
Furadan, 10G, SF	3.0	18abc
CGA 12223, 5G, SF	4.0	21 bc
BAY 92114, 10G, SF	3.0	24 bcd
TH 6041, (0.83 lb/gal), PB	1.0	24 bcd
CGA 12223, 5G, SF	2.0	31 cde
Volaton, 10G, PB	3.0	37 de
R-H 418, 10G, PB	3.0	41 e
Check	--	45 e
1974-75		
BAY 92114, 10G, PB	3.0	6a
Counter, 15G, SF	3.0	7a
SD 8832, 10G, SF	3.0	8a
Phorate, 10G, SF	3.0	10a
Furadan, 10G, SF	3.0	10a
BAY NTN 8629, 5G	5.0	10a
CGA 12223, 10G, PB	4.0	14a
BAY 92114, 4E, PB	3.0	15ab
CGA 12223, 10G, PB	6.0	25 c
Check	--	35 d

[z]PB = preplant broadcast; SF = seedpiece furrow; ST = seedpiece treatment

[x]Means followed by the same letter are not significantly different. Duncan's Multiple Range Test.

The remaining preplant materials were applied November 8. Seed pieces were planted on November 13. Plot size was the same as the previous year.

LaRouge seed pieces, planted 4 in (10.1 cm) apart, were used each year and planted in marl soil. Each treatment was randomized and replicated four times. One hundred potatoes were randomly selected from each plot and inspected for wireworm damage. Potatoes with one or more wireworm feeding sites were considered damaged. The data (percent damaged tubers) were analyzed using Duncan's Multiple Range statistic.

Results and Discussion

The average number of wireworms per ½ ft^3 (0.014 m^3) of soil varied considerably from year to year, as did the species composition (Table 1). The highest population (5.5 larvae/sample) was in 1972-73 while the lowest (1.1 larvae/sample) was in 1974-75. The species composition also varied. The percent *M. communis* was highest during the 1972-73 season (approximately 85%) while *Conoderus* spp. accounted for almost 75% of the wireworms found in 1971-72.

The percentage damaged tubers in the various treatments is given in Table 2. The experimental compounds Counter, BAY 92114, and SD 8832 appear to be the most promising new materials. It is especially interesting to note that Phorate, which has been used by local growers in combination with ethylene dibromide fumigation for several years, remained equally effective throughout the four seasons.

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A NEW NEMATODE CONTROL PROGRAM FOR POTATOES GROWN IN NORTHEAST FLORIDA[1]

D. P. WEINGARTNER AND J. R. SHUMAKER

IFAS, Agricultural Research Center
Hastings
and

G. C. SMART, JR. AND D. W. DICKSON

Department of Entomology and Nematology
IFAS, University of Florida
Gainesville

Abstract. **Since 1971 soil fumigation has become a standard practice for controlling plant parasitic nematodes on potatoes grown in northeastern Florida (NEF). As a result of research performed at Hastings during the past six seasons, and recent registration of the nonvolatile nematicides ethoprop (Florida label, only) and aldicarb (U. S. label), NEF potato growers will now have use of effective nematicides which can be applied in a single operation combined with planting. In addition, some nonvolatile nematicides such as aldicarb and carbofuran reduce incidence and severity of corky ringspot, a nematode transmitted virus disease, which soil fumigants do not control under NEF growing conditions. Also, additional tuber quality defects of an undetermined etiology are reduced following use of some nonvolatile nematicides. Potential use of nonvolatile nematicides in NEF is described.**

Nematodes in ten plant parasitic genera have been frequently found in northeast Florida potato (*Solanum tuberosum* L.) fields (1, 6, 17, 18). Several of these including *Meloidogyne incognita* (Kofoid and White) Chitwood, *Belonolaimus longicaudatus* Rau, and *Tylenchorhynchus claytoni* Steiner are known parasites of potato (3) and are probably the most important nematodes affecting potato yields in NEF. Following fumigation with chemicals such as DD, 1,3D or EDB, potato yields in some nematode control experiments, per-

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