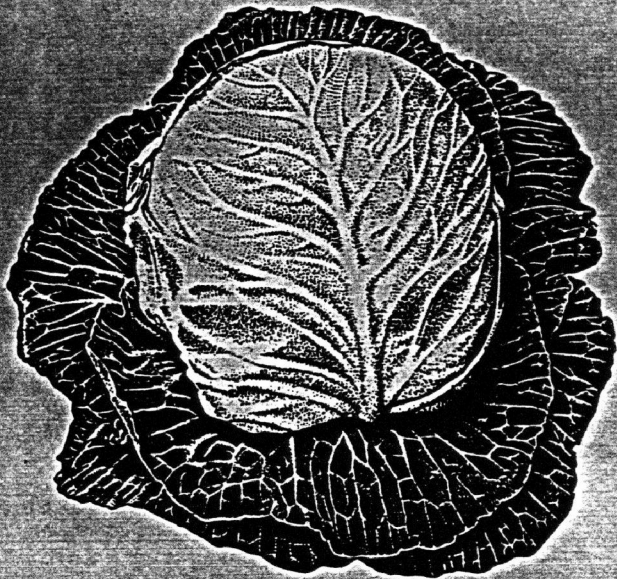


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of the



**Mid-Atlantic
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Workers'
Conference**

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**John M. Clayton Continuing Education Center
University of Delaware**

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SWEETPOTATO: Ipomoea batatas L. 'Beauregard'
Wireworms; Melanotus communis
(Gyllenhal)
Conoderus vespertinus (F.)
Southern corn rootworm; Diabrotica undecimpunctata
howardi Barber
Flea beetles; Systema sp.

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LAYBY APPLICATIONS AND FOLIAR SPRAYS IN COMBINATION WITH LORSBAN AT PLANTING TO CONTROL INSECTS IN SWEETPOTATOES, 1997: Sweetpotatoes were planted on 13 Jun at the Eastern Shore Agricultural Research and Extension Center, Painter, VA. Each plot consisted of 3 rows 20 ft long with 3 ft spacing between rows. Plots were separated from each other by an untreated guard row. Each treatment was replicated 6 times in a RCBD.

Sprays were applied with a backpack sprayer using 9 flat fan nozzles/3 rows and delivering 21 gal of spray/acre at 40 psi. Granular materials were broadcast over the appropriate rows using a hand held shaker. Lorsban 4EC was applied at planting to all plots, except for the untreated control. Layby treatments were applied on 28 Jul. The foliar sprays were applied on 16 and 28 Jul and 6 and 13 Aug and were timed to coincide with the click beetle flights, which were monitored using a black light trap.

On 29 Sep, the center row of each plot was mechanically harvested and 25 market sized roots were randomly selected, washed, and examined for insect damage. Because feeding damage by wireworms, Southern corn rootworms (Diabrotica), and Systema flea beetles is difficult to distinguish, the percentage of damaged roots and total number of feeding scars by all 3 species combined (WDS) in each plot was compared among treatments.

WDS pressure was moderate. The percentage of WDS damaged roots in the untreated control was significantly higher than the percentages of damaged roots in all treatments, except for Lorsban + Diazinon AG600 at 4.00 lb(AI)/acre. Similarly, there were significantly more feeding scars on roots in the untreated control than in all treatments, excluding Lorsban + Diazinon AG600 at 4.00 lb(AI)/acre and Lorsban alone. The 1997 growing season was very dry, which delayed the growth of the crop and the application of the layby treatments. Although layby treatments were applied, the insecticides were not soil incorporated because conditions were too dry. These factors may have reduced the efficacy of the layby treatments. Plots treated with either Sevin or Garlic Barrier foliar sprays had the least amount of WDS damage.

Treatment	Application method	Rate lb(AI)/acre	WDS damage/25 market size roots	
			% damaged roots	No. feeding scars
Lorsban 4EC	broadcast pre-planting	2.00		
+ Diazinon AG600	broadcast at layby	+ 3.00	12.67bc	11.33b
Lorsban 4EC	broadcast pre-planting	2.00		
+ Diazinon AG600	broadcast at layby	+ 4.00	21.33ab	19.67ab
Lorsban 4EC	broadcast pre-planting	2.00		
+ Diazinon 14G	broadcast at layby	+ 3.00	14.00bc	12.33b
Lorsban 4EC	broadcast pre-planting	2.00		
+ Force 3G	broadcast at layby	+ 0.135	12.67bc	8.50b
Lorsban 4EC	broadcast pre-planting	2.00		
+ Sevin XLR	foliar sprays	+ 1.00	10.67bc	8.17b
Lorsban 4EC	broadcast pre-planting	2.00		
+ Garlic Barrier	foliar sprays	+ 1:100 v/v	7.33c	8.00b
Lorsban 4EC	broadcast pre-planting	2.00	12.67bc	15.33ab
Untreated control			33.33a	29.00a
Pr > F			0.0117	0.0384
LSD			12.42	15.55

Means in a column with a letter in common are not significantly different (P > 0.05, LSD).