

EVALUATION OF INSECTICIDE TREATMENTS IN CABBAGE 2003

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Cabbage was transplanted into 2 rows per 6-ft beds on 31 March in blocks 1, 2, and 3 and 7 April in blocks 4 and 5 and maintained with standard cultural practices at the Lang Farm, Georgia Coastal Plain Experiment Station at Tifton. A total of 350 lbs of 8-8-13 was applied to Tift pebbly clay loam field plots prior to transplant and followed by two side dress applications of 150 lbs 8-8-13 during the season. Irrigation was done regularly with an overhead sprinkler system when water stress was indicated, but rainfall was also moderately high. Scouting was initiated on 11 April and continued weekly until harvest. Eight weekly applications of insecticide were made from 22 April to 11 June and 1 sample of 6 plants were scouted per plot approximately 48-72 h after weekly applications. Ten heads were harvested from approximately 10 ft of row on 19 June and heads were weighed and categorized as 0=not damaged, 1=slightly damage, 2=moderately damaged, 3=severely damaged. Damage ratings >1 were not marketable heads. Data was analyzed using GLM and LSD tests for separation of means (SAS Institute 1985).

There were two evaluations of Lepidoptera pests, during the season and at the harvest with a whole head inspection. The best treatments in terms of reduced overall Lepidoptera larval numbers during the season (Table 1) were the S1812 plus Orthene and the S1812 treatments, but all treatments provided control of Lepidoptera larvae compared to the untreated check. Asana was the weakest treatment for diamondback moth and imported cabbage worm over all dates and cabbage looper on certain dates (Table 1). The treatments with the lowest damage to wrapper leaves and the heads were the Avaunt, the S1812 combinations and the high rate of S1812 (Table 2). In terms of lowest number of total diamond back moth larvae and pupae on the harvested heads, the best treatments were again the Avaunt, the S1812 combinations and both rates of S1812 treatments. The recent resistance to Spintor documented in Georgia was somewhat evident in this test, with the presence of diamondback moth in the harvest. There have certainly been better levels of control with Spintor in previous trials at this same location. There was no significant difference in terms of total weight of heads harvested, but quite large differences in the amount of damage, where a rate response was detected for S1812 (Table 2).

Table 1. Cabbage scouting data averaged over all dates and all larval instars unless

otherwise indicated.

Treatment (lb ai/acre)	Diamond back moth 1-3 instars	Diamond back moth on 6/10	Imported cabbage worm	Cabbage looper	Cabbage looper on 4/28	Cab loop 6/10
Avaunt WDG (0.065)	0.09 c	0.2 cd	0.09 c	0.89 b	0.0 c	0.0
Spintor 2SC (0.067)	0.16 c	1.4 bcd	0.02 c	0.82 b	0.0 c	0.2
Asana XL (0.02)	0.56 b	3.0 ab	0.38 b	1.24 b	0.0 c	2.2
Asana XL (0.02) + S-1812 4EC (0.15)	0.11 c	0.6 cd	0.13 c	0.93 b	1.4 b	0.6
Orthene 97SP (0.63)	0.36 bc	1.8 abc	0.11 c	0.67 b	1.2 b	0.2
Orthene 97SP (0.63) + S-1812 4EC (0.15)	0.04 c	0.0 d	0.04 c	0.58 b	0.0 c	0.0
S-1812 4EC (0.15)	0.11 c	0.8 cd	0.02 c	0.71 b	0.0 c	0.0
S-1812 4EC (0.20)	0.16 c	0.6 cd	0.09 c	0.71 b	0.0 c	0.2
Untreated Check	0.98 a	3.4 a	0.96 a	2.24 a	5.2 a	1.8

¹ Means within columns followed by the same letter are not significantly different (LSD, P<0.05).

Table 2. Cabbage harvest data on a per head basis except % marketable and total marketable weight.

Treatment (lb ai/acre)	Cabbage looper	Diamond back moth	Total Lep. larvae	Slugs per head	Percent marketable heads	Head a wrappe leaf damage
Avaunt WDG (0.065)	0.00 c	0.03 e	0.06 e	0.00 d	90 ab	0.06 e
Spintor 2SC (0.067)	0.03 abc	0.63 c	1.13 c	0.03 cd	90 ab	0.73 c
Asana XL (0.02)	0.15 a	1.73 b	3.28 b	0.28 b	50 c	1.35 b
Asana XL (0.02) + S-1812 4EC (0.15)	0.10 abc	0.12 de	0.36 cde	0.02 cd	84 ab	0.12 e
Orthene 97SP (0.63)	0.03 abc	0.53 cd	1.00 cd	0.23 bc	80 b	0.80 c

Orthene 97SP (0.63) + S-1812 4EC (0.15)	0.00 c	0.03 e	0.05 e	0.03 cd	100 a	0.05 e
S-1812 4EC (0.15)	0.03 abc	0.13 de	0.30 cde	0.00 d	90 ab	0.47 d
S-1812 4EC (0.20)	0.08 abc	0.08 e	0.25 de	0.03 cd	100 a	0.13 e
Untreated Check	0.13 ab	2.63 a	5.67 a	0.87 a	10 d	2.61 a

¹ Means within columns followed by the same letter are not significantly different (LSD, P<0.05).

² Damage rating is 0=none, 1=slight (few holes, possible still marketable), 2=moderate (several holes, not marketable), 3=severe (multiple holes and severe feeding damage, not marketable).