TOBACCO: *Nicotiana tabacum* L. 'TN 86'

Tobacco flea beetle; *Epitrix hirtipennis* (Melscheimer)

Green peach aphid; *Myzus persicae* (Sulzer)

Tobacco hornworm; *Manduca sexta* L.

FIELD AND CEREAL CROPS INSECTICIDE AND ACARICIDE TESTS

Insecticide treatments were evaluated at the Tobacco Experiment Station, Greeneville. Granular and liquid formulations were applied and incorporated prior to transplanting on 6 Jun. 'TN 86' burley tobacco was transplanted on Huntington soil with 2–5% slope of pH 6.6. Plots were 30 ft X 3 rows with 42 inch spacing between rows; plants were spaced 20 inches apart. Treatments were replicated 4 times in a randomized complete block design. Flea beetle damage was reported as average number of feeding holes/10 leaves; counts were made on the fifth leaf (of width greater than 2 inches) from the top of the plant. Aphid rating ranged from 0 (no evident infestation) to 5 (heavy infestation with necrosis of lower leaf bases). Hornworm counts were the number of hornworms/50 plants.

All treatments were significantly better than the check up to six weeks post-treatment for flea beetle damage control. Orthene (banded) still was better than the check after eight weeks. By the eighth week, only four treatments were effective for aphid control. Aphid ratings were high in all treatments by the 10th week post-treatment. Banded treatments of Orthene and Furadan had the lowest number of hornworms although six treatments were significantly better than the untreated check.

### INSECT CONTROL ON BURLEY TOBACCO WITH SOIL INSECTICIDES, 1986:

Eight soil-applied insecticide treatments were evaluated at the Tobacco Experiment Station, Greeneville. Granular and liquid formulations were applied and incorporated prior to transplanting on 6 Jun. 'TN 86' burley tobacco was transplanted on Huntington soil with 2–5% slope of pH 6.6. Plots were 30 ft X 3 rows with 42 inch spacing between rows; plants were spaced 20 inches apart. Treatments were replicated 4 times in a randomized complete block design. Flea beetle damage was reported as average number of feeding holes/10 leaves; counts were made on the fifth leaf (of width greater than 2 inches) from the top of the plant. Aphid rating ranged from 0 (no evident infestation) to 5 (heavy infestation with necrosis of lower leaf bases). Hornworm counts were the number of hornworms/50 plants.

### INSECT CONTROL ON BURLEY TOBACCO WITH FOLIAR INSECTICIDES, 1986:

Eight foliar-applied insecticide treatments were evaluated at the Tobacco Experiment Station, Greeneville. Burley tobacco was transplanted on Huntington soil with 2–5% slope of pH 6.6. Plots were 30 ft X 3 rows spaced 20 inches apart. Plants were spaced 18 inches apart. Four randomized complete blocks were separated by 5 ft alleys. Soil classification was Huntington soil with 2–5% slope, pH 6.6. Insecticide treatments were applied 3 times during the season (8 Jul, 24 Jul, 7 Aug). Sprays were applied with 2.5 gal compressed CO₂ sprayers at 30 gal/acre and tank pressure of 30 psi. Flea beetle damage was evaluated as number of feeding holes/10 leaves; counts were made on the fifth leaf (of width greater than 2 inches) from the top of the plant. Aphid rating ranged from 0 (no evident infestation) to 5 (heavy infestation with necrosis of lower leaf bases). Rainfall for the growing season was 9.93 inches with an additional 2 inches of irrigation on 18 Jun. Tobacco was harvested on 19 Sep.

All treatments were highly effective in reducing damage by the tobacco flea beetle during the entire season. By 14 Aug, Orthene was most effective in controlling the green peach aphid; both rates of Larvin and the low rate of Baythroid were not significantly better than the untreated check.