

Flea beetles (Order: Coleoptera, Family: Chrysomelidae/Alticinae)

Tobacco (*Epitrix hirtipennis* (Melsheimer))

Southern tobacco (*Epitrix fasciata* (Blatchley))

Pale striped (*Systema blanda* (Melsheimer))

Description:

Adult: The tobacco and southern tobacco flea beetle adults are small (1.4-2.2 mm in length) and reddish, yellow brown, with a brown patch across the width of the elytra. The southern tobacco adult is slightly smaller and wider than the tobacco flea beetle. The pale striped flea beetle adult is larger (3.0-4.3 mm long) and has a pair of pale yellow stripes lengthwise down the back, one stripe on each elytron.

Immature stages: All of the above species have three larval instars that are whitish with darker heads, and all feed on fine roots near the soil surface or occasionally tunnel into larger roots. The tobacco flea beetle larvae range from 1 mm after hatching to 4.2 mm at maturity, while the pale stripe larvae range from 1 to 11 mm.



Tobacco flea beetle adult.

Biology:

Life cycle: Tobacco flea beetle females can lay up to 200 eggs which hatch in 6-8 days. The larval development typically lasts from 16-20 days under warm conditions. The last instar larva forms a small cell in the soil where it pupates, and the adult emerges 4-5 days later for a total of 26-33 days. The pale striped flea beetle requires a longer time to develop from egg to adult, 28-54 days total.

Seasonal distribution: There are 3-4 generations of the tobacco flea beetles per year. High numbers have been observed in south Georgia in late June in Solanaceous crop transplants, and we think that this is likely a second generation. Only up to two generations of pale striped flea beetle have been reported per year.

Damage to Crop: Typical flea beetle damage occurs in the foliage of young crop plants, and damage usually manifests itself as numerous small shot holes through the leaves. This occurs early in the growing season and can show up soon after transplanting depending on the date.



Flea beetle damage to tomato.

Management: Significant yield loss has been reported for levels of flea beetles at five adults per plant very early in the growing season. We suspect that 5-10% defoliation is sufficient reason for controlling this foliar feeder early in the growing season. Middle to late season control is seldom if ever warranted. Natural enemies of the tobacco flea beetle adults include the bigeyed bug, *Geocoris punctipes*.



Flea beetle damage approaching 5% defoliation.