

Colorado potato beetle

(Order: Coleoptera, Family: Chrysomelidae, *Leptinotarsa decemlineata* (Say))

Description:

Adult: The adult beetles are light tan to dark brown, stout, and oval in shape when viewed from above. The forewings have five longitudinal black lines on each side with light tan lines in between. The head is orange and brown with a triangular black spot.



Colorado potato beetle adult.

Immature stages: The eggs are orange, elongated, and occur in clusters of 20-60 eggs. The larvae are reddish and black and very plump. Two rows of black spots occur on each side of the abdomen. Both stages occur on the leaves of tomato or potato where they complete their development to the pupal stage. Larvae drop to the soil, burrow into the top of the soil, and pupate in a small cell.



Colorado potato beetle larva.

Biology:

Life cycle: There are four instars of larvae, and the development time is strongly affected by temperature, with the minimum temperature beginning at 8-12° C. Under very warm conditions the total development time can be as short as one month.

Seasonal distribution: The beetles overwinter in a diapausing adult stage, emerge in the spring, and can go through 1-3 generations per year.



Damage caused by Colorado potato beetle.

Damage to Crop: Colorado potato beetle is the major defoliator of potatoes where they occur. It has been observed feeding on eggplant and occasionally tomato in Georgia. In potatoes, most of the control programs protect the early to mid season growth of the plant, and, in general, defoliation should not exceed 25% during this period. Populations of 0.5 beetles per plant have been shown to reduce tomato yields where they occur.

Management: Since Colorado potato beetle in Georgia is a sporadic pest, it is critical to scout the crop to determine if the beetles are even present. In areas where greater than 0.5 beetles per plant or greater than 10% defoliation occurs, foliar applications of insecticides are typically used. Because these beetles do not disperse very well, the most valuable practice for cultural control of this beetle is crop rotation and separation of new fields from old infested crops by at least a half kilometer. Some stinkbug species are effective in destroying eggs and larvae of this pest. *Beauveria bassiana* has been used for microbial control as well as Entomopathogenic nematodes to kill larvae as they pupate.