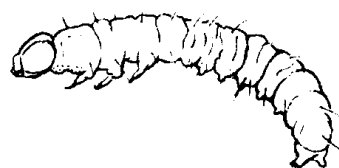
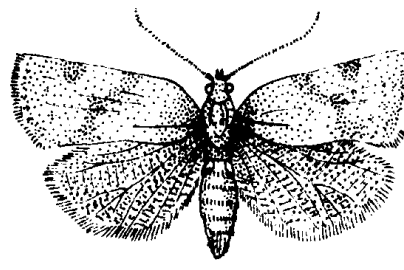


ORANGE TORTRIX *Lepidoptera: Tortricidae* *Argyrotaenia citrana*

DESCRIPTION

Adults are fawn or gray colored with darker mottling on the forewings. The wingspan ranges from 18 to 22 mm. **Larvae** are dirty white or yellow-green with a brown head and range in size from 20 to 25 mm long when mature. **Eggs** are cream colored, disc-shaped, and are laid overlapping in masses on the upper and lower surfaces of leaves.



(original, Mooney)

ECONOMIC IMPORTANCE

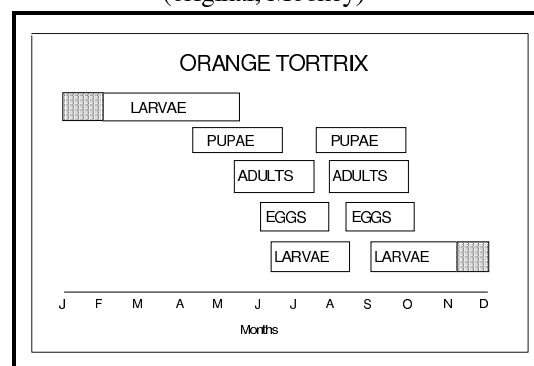
Larvae feed on developing buds and leaves of cane fruits, tree fruits, ornamental, and florist crops in the spring. Larvae web the leaves together and feed on the tender terminal growth. As the season progresses, larvae feed on the developing berries by boring into the base of the berries and feeding on the fruit tissues. Larvae in the berries at harvest make them unacceptable for fresh market and processing. In red raspberry, the larvae hang up in the "cup" of the berry during picking and are a contaminant in processed fruit.

DISTRIBUTION AND LIFE HISTORY

This pest is distributed from southern California northward into western Oregon, Washington, and British Columbia. In the northwest, larvae feed on raspberry, blackberry, boysenberry, loganberry, youngberry, blueberry, salmonberry, apple, peach, grape, holly, Oregon grape, and on weeds, such as pigweed and lambsquarter. Larvae overwinter beneath dead leaves on the canes or in other protected places. Larvae begin feeding on developing leaves and buds in late March and April and complete development in late May. Pupation occurs in webbed leaves on the host plant and in trash on the ground. Adults emerge in June and early July and lay eggs in flat masses on the smooth canes and on the lower surfaces of leaves. Because of the different aged larvae that overwinter, the generations overlap and eggs, larvae, pupae, and adults may be found at any time during the summer. There are three or four generations each year.

MANAGEMENT AND CONTROL

Larvae can be detected in the spring and summer in the bud tips or webbing the edges of the leaves. A beating sheet may be useful to sample for larvae.



Larvae may be more abundant in areas where growers have found numerous larvae and adults the preceding season. Removing dead leaves and trash following harvest will help reduce overwintering larvae and reduce the population the following spring. Keep adjoining land clean cultivated and remove weeds or brush along fencerows, ditch banks, and roadsides. Adult emergence can be monitored with pheromone traps to aid in timing applications of insecticides. Larvae usually appear in fields 10 to 14 days after the peak number of moths has been trapped. Pheromones also may be used to disrupt mating which has been shown to significantly reduce the larval population. For example, slow release products containing the orange tortrix sex pheromone are distributed in raspberries at a rate of 400 per acre. *Meteorus argyrotaeniae* is an effective parasite, but too often insecticides disrupt the population and it does not adequately suppress the orange tortrix population.