

NEW PISTACHIO WOODBORER

KERMANIA PISTACIELLA AMSEL

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LARVAL CHARACTERISTICS

The first instar larva is white and very small. Following instars are also white, but have brown mandibles and anals. In addition the last segment is narrow and tapers to the anal. The larva has no legs until the last instar, when the color changes to a dark grey and 3 thoracic legs and 5 abdominal legs appear. Abdominal legs occur on the 3rd, 4th, 5th, 6th, and 10th segments. The length of the larvae at the last instar is from 10½ mm to 13mm. Average length of the 10 specimens was 11½mm. The first thoracic segments is the whitest segment of body, and its length is 1.4mm. Two dark spots occur on both sides of the thoracic and are joined to each other by a narrow dark stripe.

PUPAL CHARACTERISTICS

Larvae will pupate in grey cocoon which is elongated and about 5.6 mm in length.

Highest part of the cocoon is 1.8 mm and the widest part of the cocoon is 2.7 mm, but the length tapers to 1. mm at the end of the cocoon and the width tapers to 1.9 mm. Pupal color is light brown in color and its average length is about 4 mm.

DISTRIBUTION

This pest has been found in Rafsanjan, Gazvin, Khorassan and Isfahan in Iran. Specimens has also been recieved from Turkey which indicates the presence of *K. pistaciella* in this country.

LIFE CYCLE

The mature larvae pass the winter inside of the pistachio branches. When the average daily temprature reaches 6°C. in mid-Feb. the larvae emerge from the branches and either pupates and forms a cocoon on the branches or under lumps of soil on the orchard floor. By mid-March all of the larvae have emerged from the pistachio branches and are in the pupal stage. Pupation period ranges from 28-30 days, and the first moths may be observed when the average daily temperature reaches 14.5°C. When the average daily temperature reaches 16°C. which is about mid-April, all the moth will have emerged from the pupae. The moths then fly and mate, and after mating each female lays from 49 to 54 eggs individually. Eggs are layed on the fruit clusters, on the

fruit pedicels or on the terminal twigs and branches. In each fruit cluster usually only one larva will enter, and only occasionally will two larvae be observed.

The first instar larvae will be observed about 12 days after egg laying. These young larvae will encircle the axis of the terminal twigs or fruit clusters causing the twig or fruit cluster to dry out.

Larvae will bore up to 195mm of canal from spring to mid-winter. During mid-winter the mature larvae will position themselves near the bark in preparation for emergence when the average daily temperature reaches 6°C.

TYPE OF DAMAGE AND ECONOMIC IMPORTANCE

This larvae caused the terminal branches, twigs, and fruit clusters to dry out. Additional damage is caused to future crops because it damages the fruit and branch buds.

Average damage due to this pest is from 5-8% of the annual pistachio production. Loss due to this pest is Rls 20,000,000 - 35,000,000 annually.