

# Filbertworm Injury to Walnuts

effective spray program not yet devised for commercial control of filbertworm infestations in northern California

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**Prompt harvest** of walnut crops provides—so far—the most effective control of the filbertworm—*Melissopus latiferreanus* Wlsm.—which at times causes serious damage to walnuts in northern California, particularly in portions of the Sacramento Valley.

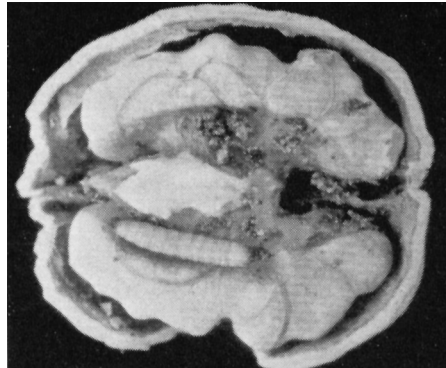
Infestations of filbertworms in walnut orchards arise from moths that have developed in other hosts and then migrated into the orchards. Hosts of the filbertworm include the fruit of Catalina cherry, filberts, and acorns, but the principal host is believed to be the green apples or galls of the California gallfly—*Andricus californicus* Bassett—which are abundant on oak trees.

## Not Husk-feeders

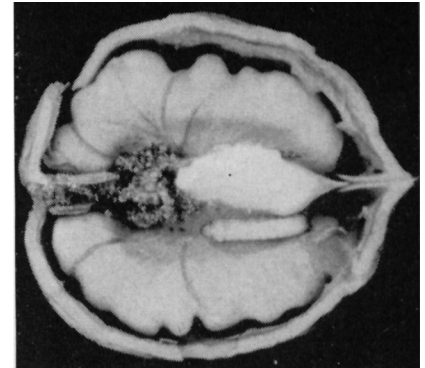
Adult moths are present in walnut orchards during most of the growing season. However, the caterpillars hatching from the eggs are unable to penetrate the unbroken husks of the developing walnuts, which are therefore free from infestation until the husks begin to crack at maturity. The larvae crawl through the cracks and enter the nuts at the stem end—usually without leaving any visible external evidence. Also, they do not feed upon the husk, so there is no staining of the shell. As a result, in most cases it is necessary to crack a nut in order to determine whether or not it is infested. The nature of the infestation makes it almost impossible, therefore, to detect and remove most of the infested nuts from the unshelled walnut crop.

Delaying harvest for as little as a week or two can result in a marked increase in the degree of infestation. The walnut crop should be picked just as soon as it is ready to be knocked. Rapid drying of the harvest nuts is also recommended because investigations have shown that the filbertworm cannot develop on cured nut meats and very small caterpillars are killed before they have an opportunity to do sufficient feeding to be noticed when the nuts are cracked.

The codling moth is often a problem in orchards where filbertworms are troublesome. Filbertworm larvae can be distinguished from codling moth larvae, particularly with mature caterpillars. Larvae of the codling moth are pinkish



Mature walnut, infested with the pinkish larva of the codling moth, showing feeding and excrement.



Mature nut showing feeding by the cream-colored, clear-amber-headed larva of the filbertworm.

and the head is amber with a mottled colored pattern. Larvae of the filbertworm are whitish and the head is a clear uniform amber color.

Although the codling moth can be effectively controlled with timely and thoroughly applied sprays, no spray program  
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## Trapping records of filbertworm moths in a walnut orchard near Gridley.

