CABBAGE LOOPER

a principal pest of agricultural crops in California

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The Cabbage Looper, Trichoplusia ni, is the larva of a noctuid moth. The name is apt to be misleading, because the adults lay eggs and the caterpillars feed on the leaves of a great variety of plant species in addition to cabbage.

Although its economic importance varies in different areas, the cabbage looper is distributed throughout the continental United States. In southern California, it is regarded as one of the most important insects attacking agricultural crops. The cabbage looper has been long recognized as a serious pest of cole crops (cabbage, cauliflower, broccoli, brussels sprouts) and of leafy vegetables such as lettuce, celery, spinach, and beet greens. It causes damage to these crops mainly by feeding on leaves. This may lead to direct economic loss by weakening or causing the death of plants, or the market value of the crop may be reduced because of the unsightliness of feeding holes and ragged leaf edges. An associated marketing problem may result from excrement lodged among the leaves.

Losses increased

During recent years, losses caused by the cabbage looper to many other plant species appear to have increased or to have been more accurately observed and reported. These plants include potatoes, tomatoes, citrus, melons, cotton, and a variety of annual and perennial ornamentals. The large numbers of larvae found feeding on tomato foliage in San Diego County have sometimes made insecticide treatments necessary. Cabbage looper densities often increase to high levels during the summer on cotton and have been very difficult to control with conventional insecticides. However, large numbers of larvae, in conjunction with hot summer temperatures, favor the spread of a polyhedrosis virus disease. In late summer, looper populations on cotton are often decimated by this disease in a few days.

Melon problem

A serious problem has resulted in some areas from cabbage loopers feeding on the rind of melons. Typical injury on watermelons appears as a tan or white, roughly crescent-shaped or circular area from which the surface of the rind has been devoured. When this scar is circular, a smaller intact circular portion of rind often remains in its center. The typical shape of the scar is caused by the insect's feeding behavior. The caterpillar secures the posterior part of its body to the rind with its abdominal prolegs and feeds on all other portions of rind that it can reach from its location, while swinging the anterior part of its body in an arc. No known reduction in fruit quality is caused by this superficial feeding. However, because the appearance of the melon is affected, economic losses may occur. Following a heavy cabbage looper infestation, essentially all watermelons in a given field may have one or more feeding scars.

Many studies are being conducted on the cabbage looper by federal and state advisors, University of California. Marvin Davis, William Seyman and Wesley Humphrey also assisted with these tests.
The cabbage looper causes economic losses to growers of a large variety of vegetable and field crops in California. The damage results principally from the caterpillars feeding on foliage. Studies of the biology of the cabbage looper, which are summarized in this article, are one segment of an intensive program underway to understand this pest and to develop better control methods.

Nearly-mature cabbage looper seen above on cabbage leaf showing feeding damage.

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