

## Thrips Injury to Avocados

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Occasional instances of severe injury by thrips have been reported by avocado growers during the past few years. Limited observations have shown that the injury is nearly always confined to scattering trees or to a few trees in a certain part of a grove. Furthermore, the injury is commonly limited to one part or to a few parts of a tree instead of occurring over the entire tree.

The species of thrips responsible for the injury has not been determined for certainty. There is a possibility that two or more species may be involved. In a few instances the greenhouse thrips, *Heliethrips haemorrhoidalis* (Bouche) has been taken from infested trees and the injury attributed to this species.

Injury is caused to both the fruit and the leaves. Injury to the leaves consists of puncturing and rasping off innumerable minute areas of the surface, which results in grayish flecks. Large areas or the entire leaf may take on a grayish or silvered appearance in the case of severe infestations and subsequently the leaves may dry up to a greater or lesser extent and drop off. The injury to the fruit is caused by the insects rasping off the surface of the skin on a part of the fruit. Subsequently, the affected area becomes russeted and deep cracks develop as the fruit increases in size. The most serious injury results from the insects attacking the fruit when it is small because the greater the increase in growth after the surface has been damaged, the deeper the cracks become. It is important, therefore, that the injury be detected early if control measures are to be used.

### Control

Only a limited experience has been had with the control of avocado thrips in California. A treatment used for this pest on avocados elsewhere, and the one suggested for use in California, is that of spraying with lime-sulfur or 40 per cent nicotine sulfate just as soon as the first evidence of injury is noted. The lime-sulfur is used at 2 per cent strength and the nicotine sulfate at the rate of one pint to 100 gallons of water. Inasmuch as the effectiveness of lime-sulfur depends on fairly high temperature it may be advisable, in order to insure maximum results, to combine the nicotine sulfate with the lime-sulfur and apply together. It is recommended that one pound of casein-ate spreader be used with each 100 gallons of spray in order to obtain effective spreading and wetting of the spray.