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Avocado Thrips

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There are many kinds of thrips, each with its favored host or hosts. The kind which attacks avocados is the well known green-house thrips, **Helio-thrips haemorrhoidalis.** Formerly this species preferred conditions found near the coast; but lately it has been spreading further inland, and seems to be adapting itself to climatic conditions in several of the larger avocado producing areas in the foothills. During 1943 there has been widespread complaint about losses in grade of fruit due to thrips injury.

With respect to the type of damage done, Professor Ralph H. Smith is quoted as follows: "Injury is caused to both fruit and leaves. Injury to the leaves consists in 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 over a part of the fruit. Later the area becomes russeted and often 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."

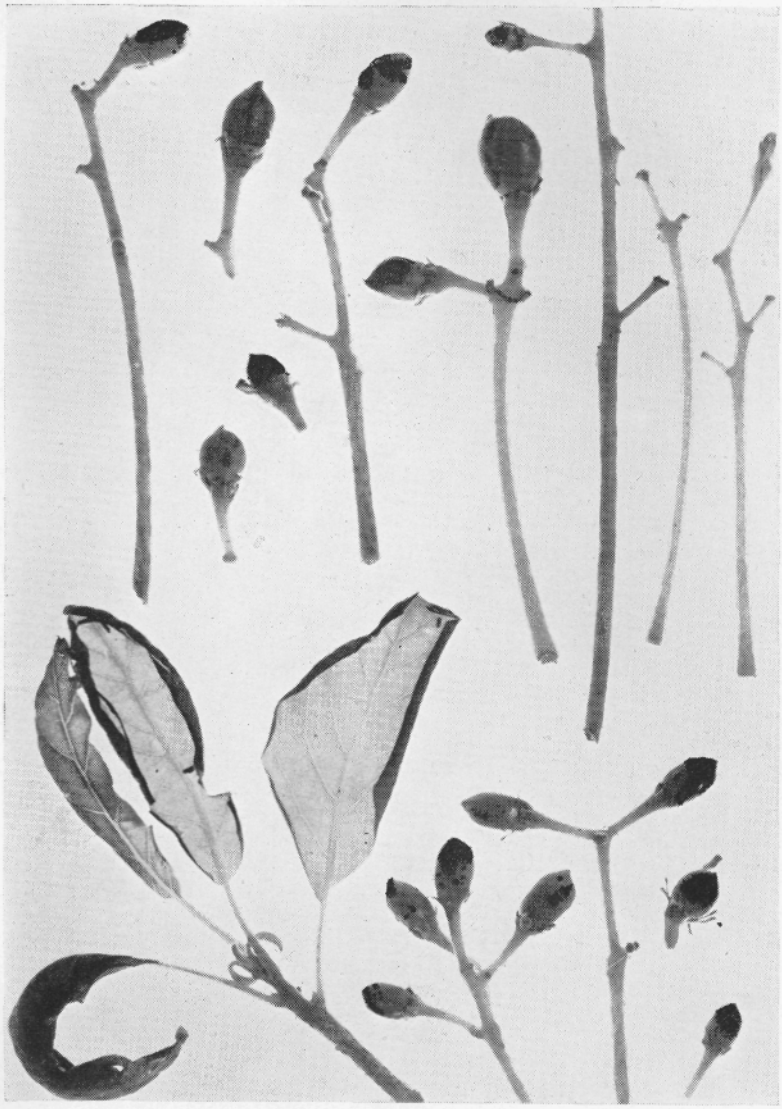
The life history of this insect is already well known. The eggs are laid inside the leaf tissues where they are not harmed by spray materials designed to kill adults and young thrips feeding on the surface. Thus it is necessary to spray twice at an interval of about three weeks in order to kill young thrips after they are hatched and thus get good control.

In the past, the most effective spray material has been pyrethrum extract which has been quite effective. On account of conditions due to the war, pyrethrum is not now obtainable. The next best material is black-leaf 40 or sulphate of nicotine. This is applied at a dosage of one pint to 100 gallons of water, with one pound of casenate or dried blood albumen spreader added. A power sprayer should always be used. Unfortunately some workmen get sick, nauseated, after a few hours spraying with nicotine, and this may temporarily disrupt the program of the spray crew.

Research men are now experimenting with various other chemicals in an effort to find a material which will effectively kill the thrips and not cause nausea to sprayers. One at least (Gesarol) has been found which has great promise, but it is not yet available on the market.

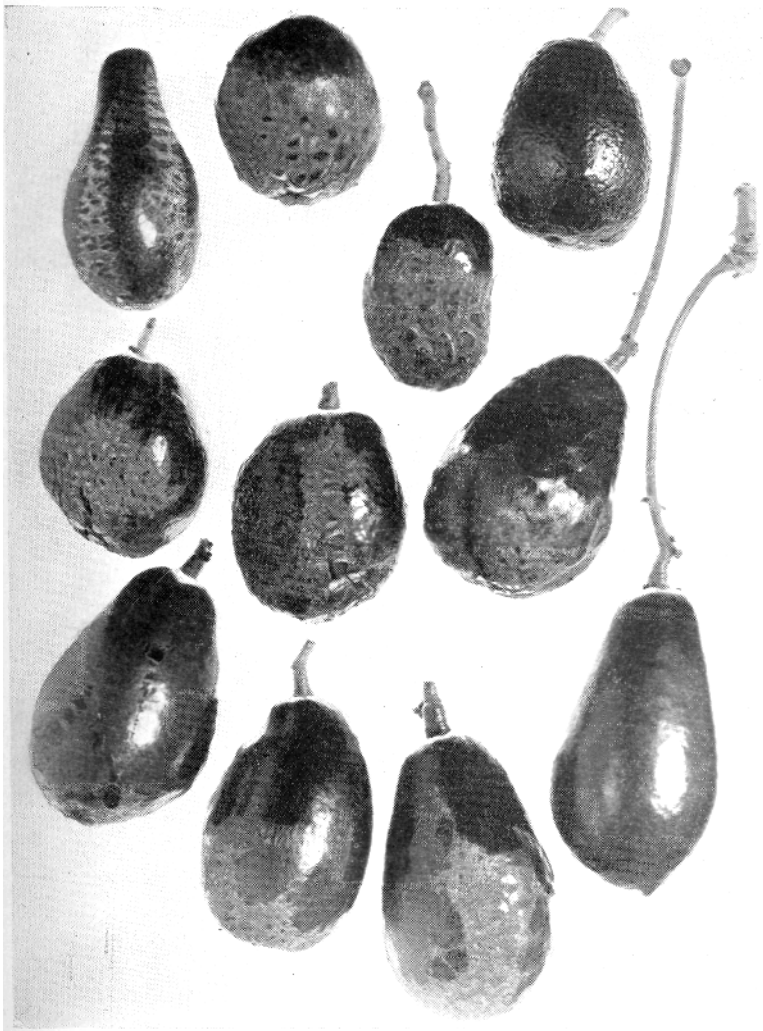
The thrips usually occur only on certain trees in an orchard, or even certain parts of trees. The spread through the grove is usually slow, as is the build-up, once the insect

has become established. Thus a thorough spraying, resulting in a good clean-up, usually means that the control work may not have to be repeated for several years. The length of time may depend on the proximity of other host plants. Often ornamental plants around a home may serve as a reservoir for reinfestation of avocado trees. Host plants most commonly to blame are: **Statice latifolia, Eugenias, Euonymus, Fuchsias, Guavas, Arbutus unedo, and Hypericums.** Occasionally some kinds of eucalyptus and cypress may be found infested, and a Mexican seeding avocado windbreak is a favorite breeding place. When spraying for thrips it is highly important to give due attention to all other host plants in the immediate vicinity. Howard Wilcomb, Deputy Agricultural Commissioner of Los Angeles County, states that other host plants to avocado thrips which often account for the build-up of this pest on avocado trees are: **Lauristinus, Mandevillea, strawberry guava, rose, and myrtle.** When spraying avocados for thrips, do not fail to also spray any and all of these host plants which may be growing in the immediate neighborhood.



CARAPACE OR WIND-SCAR

Due to chafing of very young fruits by wind. Early stage of Carapace taken following north wind of May 8, 1943. Specimens from C.E.S. row 21, tree 49. Two fruit stems at lower right are from Fuerte tree. Photo by Wm. T. Horne.



CARAPACE OR WIND-SCAR

Not to be confused with thrips injury, Carapace damage to very tender young fruits grows and spreads with the growth of the fruit. Upper row: Blake fruits showing carapace. Middle row: early maturing Mexican seedling with very thin tender skin. Although this tree was well sheltered from wind, all fruits on the tree were spoiled by carapace. Lower row: a green, thinskin seedling, productive and of good quality, but seriously subject to carapace. Normal fruit at lower right. In the case of Fuerte, particularly, many carapace injured fruits fall within a day or two, thus affecting the total yield. Photo by Wm. T. Horne.