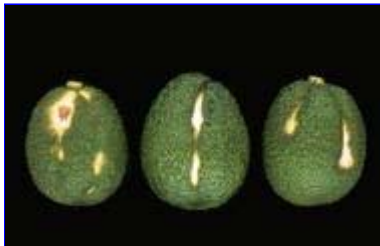


UC Pest Management Guidelines

AVOCADO SUNBLOTCH

Pathogen: Avocado Sunblotch
Viroid (ASBVD)
(Reviewed: 7/01, updated: 7/01)



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SYMPTOMS

Symptoms of sunblotch on twigs include narrow yellow, red, or necrotic streaks that often are associated with shallow lengthwise indentations along the twig. Fruit may show white or yellow blotches or streaks that may or may not be depressed. Fruit that remains green at maturity usually have white or yellowish areas, while fruit that turns black usually have whitish areas that turn red as the fruit mature. Leaves may have white or yellowish variegated areas, and they often are deformed. Leaf symptoms are uncommon in the field. A fourth symptom is rectangular cracking and checking of the bark on the trunk and larger branches ("alligator bark"). Trees affected by the disease are often stunted and have sprawling growth. Trees with visible sunblotch symptoms often have reduced yields.

COMMENTS ON THE DISEASE

Sunblotch was first described in California in 1928 as a physiological disorder. In the 1940s researchers demonstrated that the disease is graft-transmitted, and

for many years it was thought to be caused by a virus. In the 1970s, sunblotch was determined to be caused by a viroid. It is the only known viroid disease of avocado.

Sunblotch can occur anywhere avocados are grown. While there have been serious outbreaks of sunblotch in the past, it is currently considered to be a minor problem that can be avoided by not allowing it to be introduced into a grove. The viroid that causes sunblotch is carried within the host tissues. Visual symptoms on the host depend on the host variety, environmental conditions, and viroid strain. Trees that do not show symptoms even though the viroid might be present in high amounts are known as "symptomless carriers." Large reductions in yield of vigorous trees may indicate the presence of the viroid in "symptomless carriers." The viroid is transmitted through seed from infected trees. Although seedlings from such symptomless carriers do not show symptoms of sunblotch when they are used as rootstocks, the disease will often appear on scions grafted to them. Trees with symptoms transmit the viroid to seed at a low frequency, but the resultant infected seedlings normally show symptoms.

Transmission of the viroid most often occurs at grafting by using infected budwood or rootstock seedlings. Other less common methods of transmission are through wounds caused by contaminated cutting tools, root-to-root grafts, and by pollen from an infected tree to the flower ovule of a noninfected plant, resulting in infected seed. There is no evidence of insect transmission.

COMMENTS ON CONTROL

The primary control measure for this disease is the use of trees registered as disease-free, which involves careful selection of disease-free scions and seed sources. These sources can be confirmed to be disease-free by indexing.

Trees with symptoms should be removed from the orchard and remaining stumps should be killed. Indexing of suspect orchards can be done to identify positive

trees. Pruning tools and harvesting clippers should be sterilized between trees.

The danger of spreading the viroid has increased in established orchards with the practice of pruning mature trees to reduce tree size and restimulate or maintain fruit production. There are indications that severe pruning of symptomless trees that are infected with the viroid mobilizes the viroid into the new growth. The result is that the previously symptomless trees begin to exhibit symptoms. When pruning trees, it is important that pruning tools be disinfected before moving from one tree to another.

PUBLICATION



UC UC IPM Pest Management Guidelines:

Avocado

UC ANR Publication 3436

Diseases

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