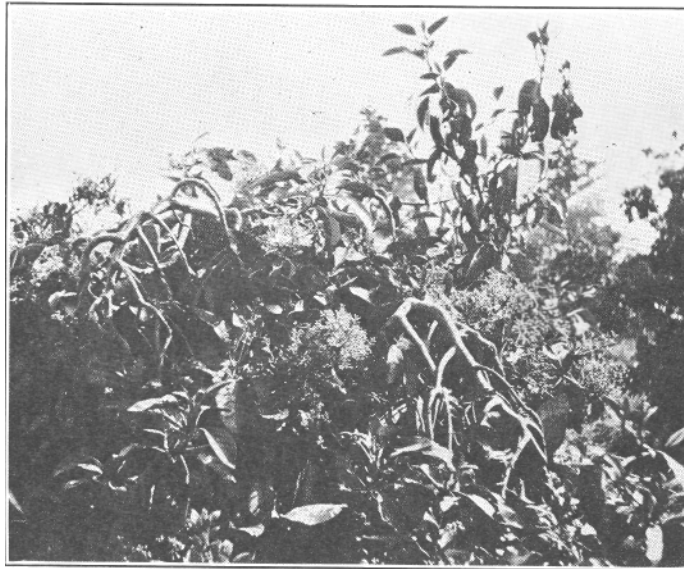


SUN-BLOTCH OF THE AVOCADO

J. ELIOT Coit

*A Serious Physiological Disease*

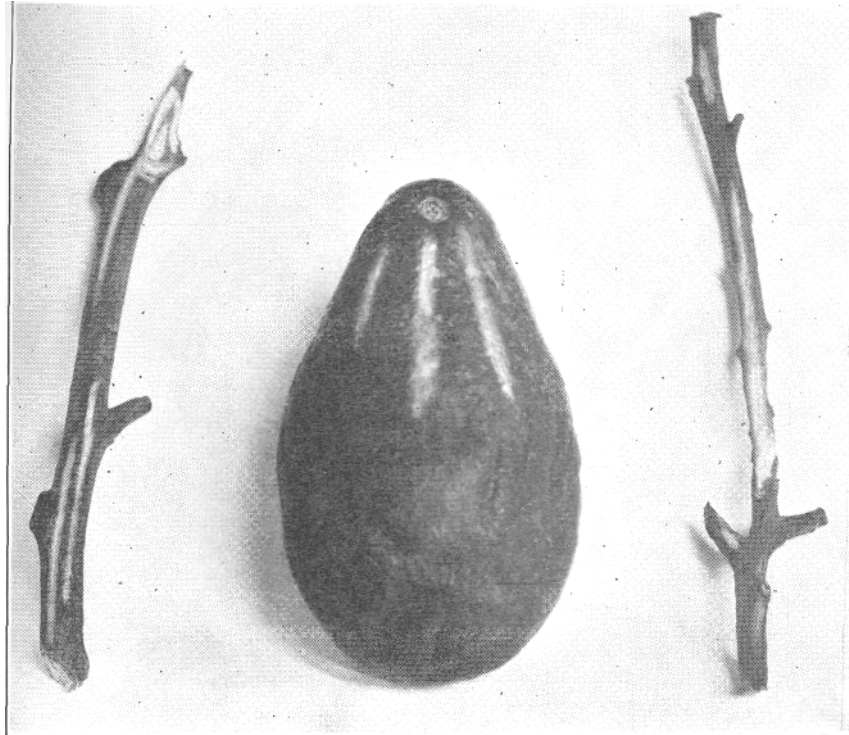


Drooping or Weeping trees affected by Sunblotch caused  
by Sunburn.

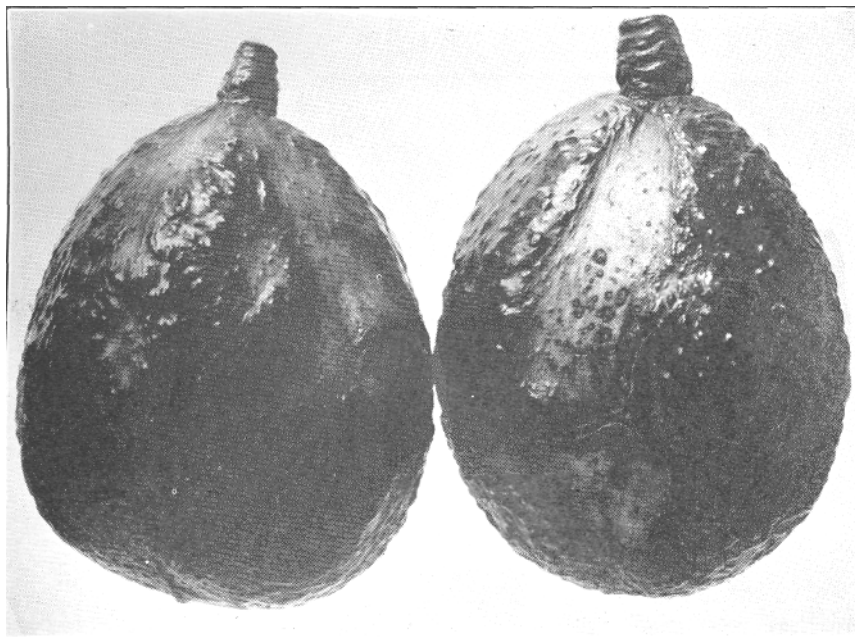


This disease may be recognized by any one of three characteristics: pendulous branches or a weeping form together with a rough and scaly condition of the bark; yellowish or light colored somewhat depressed streaks or stripes of the twigs and young branches; irregular, white, yellow, reddish yellow or red sunken areas on the fruit which is usually accompanied by dwarfing or marked distortion of shape. The tree is prevented from making satisfactory growth and affected fruit is practically worthless for marketing. Once a tree acquires this disease it seems to be hopeless for no way is known of bringing about a cure. I have attempted by good care and heavy pruning to force such trees into upright growth but without success. If the entire umbrella like top is cut off and the trunk whitewashed it is found that new shoots will seldom appear on the old scaly bark, and when they do they result in diseased growth. In my experience, the thing to do with a tree badly affected with sun-blotch is to dig it out and plant a new tree.

Sun-blotch is a direct result of sunburn as affecting spindling or weak trees, or trees which suffer seriously from neglect. The tree which is healthy to start with and makes a strong vigorous start seldom is affected with sun-blotch. Once a tree reaches an age of six or eight years in a healthy condition, it seldom contracts the disease afterward, or if it does it is limited to extremities of the branches with little serious effect on the tree as a whole.



Fuerte Avocado fruit and twigs affected with Sunblotch disease



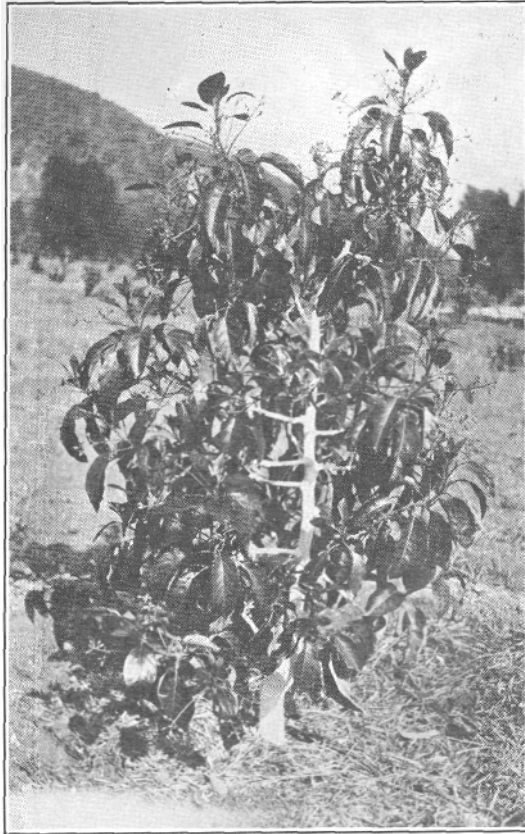
Mayapan fruits affected with Sunblotch showing cracking of skin while still immature.

Sun-blotch is not limited to any particular variety though it is more common on Guatemalan than Mexican varieties. I have seen cases on Fuerte, Puebla, Dickinson,

Linda, Dorothea, Taft, Mayapan, and Mattern.

Recently scientists have been able to bring about marked changes in the sex cells of plants by exposing them to X-rays. Profound hereditary changes have been brought about by the X-ray applied to seeds. It appears probable that in the case of sun-blotch of the avocado, the direct rays of the sun when applied to bark in which the sap is not moving rapidly may produce similar results. In my opinion, when this occurs, a chimera is usually formed which later shows itself in the striped appearance of shoots arising from sunburned limbs. Likewise the chimeric condition extends to the fruits.

If this is true, and it appears from my observations of many cases extending over a number of years that it is very plausible, then it follows that budwood cut from affected trees is likely to transmit the sun-blotch condition to the nursery trees grown from such affected bud-wood. I have observed cases where this has apparently taken place although I have not systematically tested the matter with adequate controls. Such a test should be performed at an experiment station where there is opportunity for accurate checks and controls on the results. Meanwhile I wish to sound a note of warning to nurserymen generally that in order to keep nursery stock free from chimeric Sun-blotch it is imperative that great care be used in selecting budwood, and no bud-wood should be cut from any part of any tree which shows on any branch the indications of sunblotch.



Healthy, Vigorous Fuerte tree protected from Sunblotch  
by branches near the ground and coat  
of whitewash