

FIG MOSAIC

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The fig, *Ficus carica* L., originated in Asia and has a fruit which has long been considered a delicacy. Presently its fruit is utilized in the fresh and processed state. It is currently grown throughout the world but with few centers of relatively large concentration. Fig diseases have been recorded as early as the time of Theophrastus in the 3rd Century B.C. (1). Of all the recorded diseases associated with the fig, fig mosaic is undoubtedly the most serious and seemingly given the least attention; however, only within the last 40 years or so, has it been recognized as a valid disease. The first known report of fig mosaic was made by Swingle in 1928 (5), though Condit (4) described a peculiar leaf spotting in the Samson variety of fig in 1922. Fig mosaic has a wide distribution and has been reported as occurring in the following countries: United States, Turkey, England, Algeria, Tunisia, Syria, Spain, Italy, Jordan, New Zealand, Puerto Rico, Greece, Israel, China, Australia (1). Further, it seems likely that fig mosaic is present in all countries where figs are grown. Condit and Home (5) made the first critical study of this disease in 1933.

Fig mosaic is caused by a virus which is referred to as fig mosaic virus, *Ficus Virus* and *Ficivar caricae* (1). The virus may be transmitted by vegetative propagation of infected cuttings from diseased trees and by budding or grafting of infected propagative buds or scions

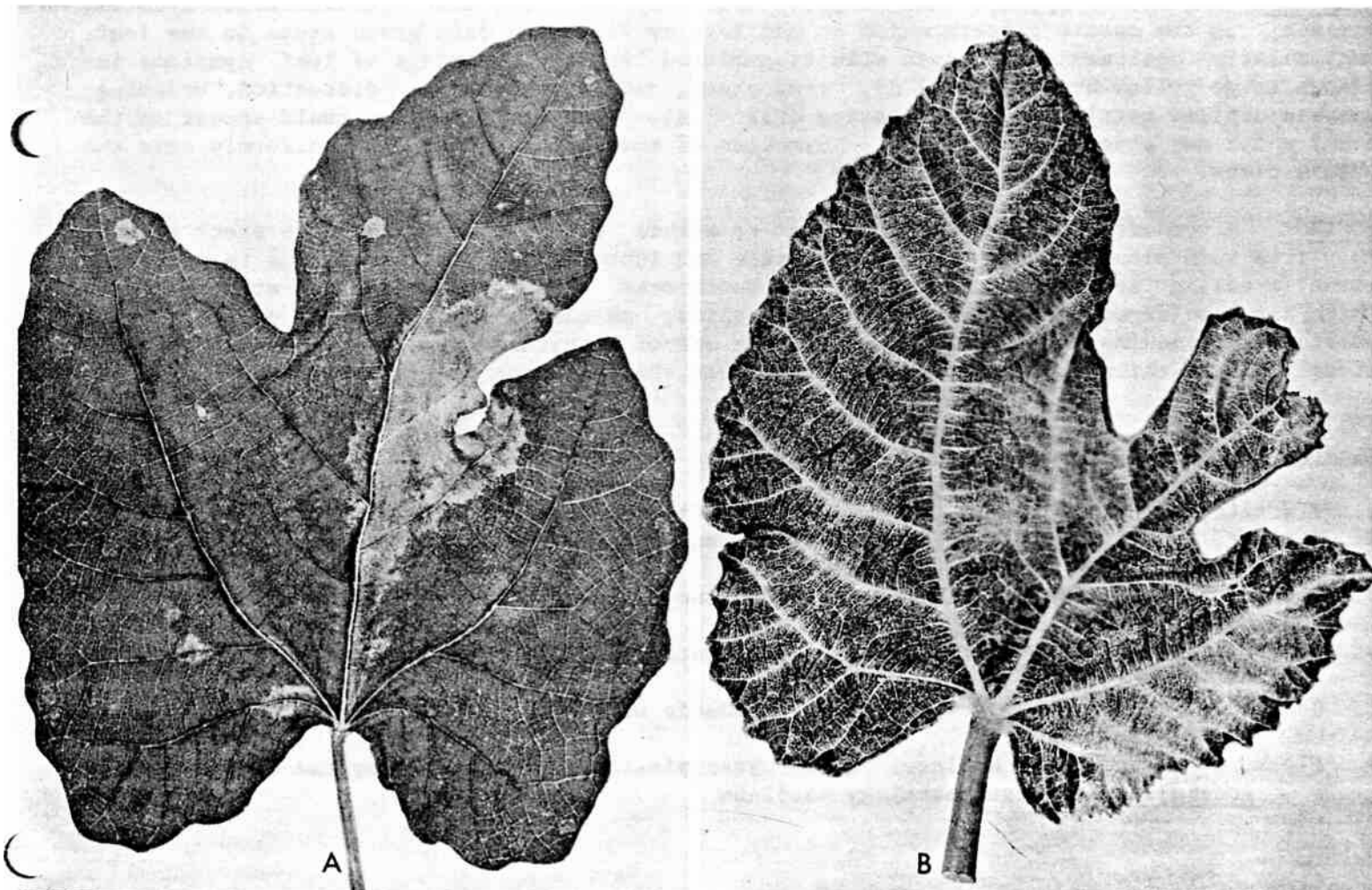


Fig. 1. Leaf symptoms of fig mosaic: A) large yellow area on leaf; B) mosaic pattern of leaf with vein clearing.

to healthy stocks. The successful transmission of the virus by an eriophyid mite, *Aceria ficus* Cotte, has also been reported by Flock and Wallace (6). The virus is not sap or seed transmissible. The host range of this virus includes other species of *Ficus* as reported by Condit and Home (5) and Burnett (2, 3), who has also shown *Ficus diversifolia* Blume (*Ficus lutescens* Desf.) to be a reliable indicator plant for the fig mosaic virus. Moreover, Burnett (2, 3) demonstrated in transmission tests by budding that certain species of *Ficus* were susceptible while others were resistant to the fig mosaic virus.

<u>Susceptible</u>	<u>Resistant</u>
<u><i>Ficus cocculifolia</i></u> Baker	<u><i>Ficus aurea</i></u> Nutt.
<u><i>F. diversifolia</i></u> Blume	<u><i>F. calophylloides</i></u> Elmer
<u><i>F. garciniaefolia</i></u> Miq.	<u><i>F. elastica</i></u> Roxb.
<u><i>F. glomerata</i></u> Roxb.	<u><i>F. lyrata</i></u> Warb.
<u><i>F. jacquinifolia</i></u> A. Rich.	<u><i>F. radulina</i></u> S. Wats
<u><i>F. kirstingii</i></u>	<u><i>F. religiosa</i></u> L.
<u><i>F. mallatocarpa</i></u> Warb.	<u><i>F. vogelii</i></u> Miq.
<u><i>F. quercifolia</i></u> Roxb.	
<u><i>F. retusa</i></u> L.	
<u><i>F. rubiginosa</i></u> Vent.	
<u><i>F. stricta</i></u> Miq.	

SYMPTOMS. Fig mosaic spans a wide range of leaf symptoms. The most characteristic symptom, however, is the mosaic pattern which is manifest by light and dark green areas in the leaf, particularly noticeable when seen with transmitted light. The range of leaf symptoms includes large yellow areas (Fig. 1 A), ring spots, oak leaf patterns, distortion, bronzing, subdued diffuse mottle and vein-clearing (Fig. 1 B). Uneven coloration could appear on the fruit which may abscise prematurely. Symptoms of mosaic may not appear uniformly over the entire plant.

CONTROL. A concerted effort should be made to secure and maintain virus-free stock plants. Only from such plants should cuttings be made and increased. Since the virus is not seed-borne, seedling selections can be used for rootstocks. Insects, such as the eriophyid mite which has been reported as a vector of the virus, should be controlled as effectively as possible. Indexing of stock plants with the use of a suitable indicator host is an additional measure which can be implemented to reduce the incidence of fig mosaic.

Literature Cited

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