

A B S T R A C T

Populations derived from the resistant cacao clones SCA 6 and SCA 12 were studied for their reaction to Witches' broom disease under conditions of artificial inoculations. Progenies from the same crosses tested in different experiments showed inconsistencies in reaction. In some tests degrees of resistance ranging from slight to complete were expressed, while in others the same genotypes showed no resistance.

Soil conditions were found to be responsible for these inconsistencies. Comparisons of the same crosses in balanced nutrient cultures gave comparable results to those obtained in good potting soil, and this method of culture is suggested as a suitable way of overcoming some of the environmental variables encountered in the greenhouse inoculation test.

It appears that the mechanism of resistance may be inherited in a complex manner. Resistance was manifested after penetration of the fungus into the host. A possible mechanical prevention of the fungus from spreading after entry and its subsequent separation and elimination from the host by cork cambial activities has been discussed.