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Prebudded Mexican Lime Cuttings for Rapid Indexing for Tristeza

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IN THE TRISTEZA suppression program in California (1), more than 50,000 citrus trees are indexed each year by budding on potted Mexican lime seedlings. Growing the seedlings to usable size requires about 9 months. Much hand labor is needed, and repeated roguing is necessary to eliminate atypical seedlings. Half the available greenhouse space is needed for growing test plants.

The use of cuttings rather than seedlings as index plants would eliminate the time, labor, and greenhouse space required to grow uniform test plants to budable size. Furthermore, the use of clonal materials from lime plants known to exhibit clear symptoms of tristeza would eliminate the problem of seedling variation, and reduce the need for duplicate tests.

In a preliminary trial, 40 6-in. long cuttings taken from potted Mexican lime seedlings were budded with tristeza-virus-infected buds. Four sources of tristeza virus were used. Two leaves were left near the top of each cutting and 2 infected buds were inserted below the leaves and wrapped with rubber tape, Para Film, or Sealtex latex tape. Bases of the cuttings were dipped in an indolebutyric acid rooting powder. Then they were potted in a soil mix of equal parts of redwood shavings,

peat moss, and fine sand. Each pot was covered with an aluminized plastic bag and placed on a heated (80°F) greenhouse bench for the first 20 days. Plastic bags were removed after 26 days.

Symptoms were read in the first flush of new leaves (Fig. 1). Of 29 cuttings that rooted and survived and had 1 or more surviving buds,

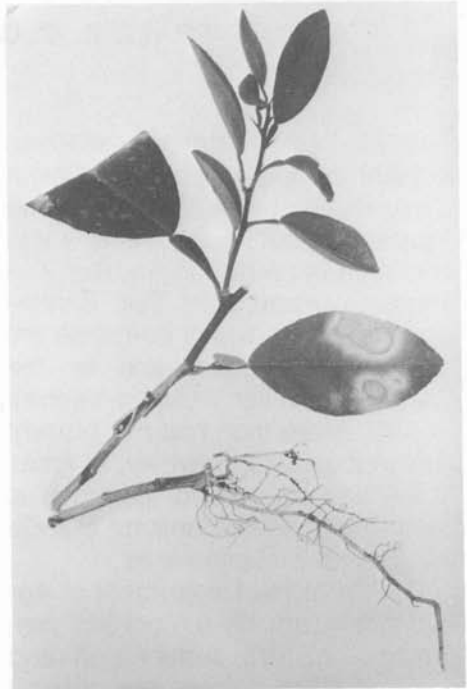


FIGURE 1. Rooted Mexican lime cutting, showing inoculum bud and tristeza symptoms in new leaves. (The stem was broken for convenience in photographing.)

28 showed symptoms of tristeza within 69 days. First symptoms appeared within 30 days.

Although further work is needed to perfect and standardize the tech-

nique, the results indicate that pre-budded, rooted Mexican lime cuttings can be substituted for lime seedlings as indicator plants for tristeza virus.

Literature Cited

1. PRATT, R. M., CALAVAN, E. C., and HILL, J. P. 1970. The tristeza suppression

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