UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service
Washington, D. C. 20250

NOTICE TO FRUIT GROWERS AND NURSERYMEN RELATIVE TO THE NAMING AND RELEASE OF THE SWINGLE CITRUS ROOTSTOCK

The Agricultural Research Service, U. S. Department of Agriculture hereby releases to nurserymen and growers the SWINGLE citrumelo citrus rootstock, formerly tested as Citrumelo CPB 4475. This rootstock selection was hybridized by Walter T. Swingle at Eustis, Florida in 1907, from Citrus paradisi Macf. 'Duncan' grapefruit X Poncirus trifoliata (l.) Raf. It since has been used experimentally in citrus-producing areas as a rootstock. Extensive field trial plantings were established by Dr. E. O. Olson between 1958 and 1964, at the U. S. Fruit, Vegetable, Soil and Water Research Laboratory, the Texas Agricultural Experiment Station, and Rio Farms, Inc., at Weslaco and Monte Alto, Texas. Dr. Heinz Wutscher has collected tree growth and yield data on these test plants since 1967, and this information is produced on the reverse of this notice. It also has been tested at the U. S. Horticultural Research Laboratory, Orlando, Florida, and the U. S. Date and Citrus Station, Indio, California.

Grapefruit trees budded to SWINGLE rootstock have been found to be tolerant of tristeza, exocortis, and xyloporosis viruses; citrus nematode; and footrot (Phytophthora parasitica). SWINGLE has also been found to be salt tolerant and resistant to cold. It has proved to be a very satisfactory rootstock for grapefruit, but there are only limited trials with oranges. When SWINGLE was budded to Redblush grapefruit in Texas, there was a slight overgrowth of the rootstock comparable to that of Troyer citrange. When SWINGLE was budded to Marr's Early orange in Texas, the overgrowth was more pronounced.

SWINGLE is asexually reproduced by seed which is 95% polyembryonic. Seedlings are vigorous and uniform in the nursery, but budded trees grow somewhat slower than trees on sour orange, especially during the winter months.

Limited amounts of propagating material can be obtained by writing to D. J. Hutchison, U. S. Horticultural Research Laboratory, 2120 Camden Road, Orlando, Florida 32803; Heinz Wutscher, U. S. Fruit, Vegetable, Soil and Water Research Laboratory, Box 267, Weslaco, Texas 78596; or J. B. Carpenter, U. S. Date and Citrus Station, 44-455 Clinton Street, Indio, California 92201.

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Administrator Date

Tree Growth and Yield Data

In a trial of 13 citrus cultivars as rootstocks for nucellar grapefruit, trees on SWINGLE (Citrumelo CPB 4475) were the most productive over a 7-year period when the trees were 6 to 13 years old. They yielded 60% more fruit than trees on sour orange. Fruit size was larger, acid content was the same, and Brix was 0.8% lower than on sour rootstock. (Wutscher, H. K. and A. V. Shull, 1972. Performance of 13 citrus cultivars as rootstocks for grapefruit. J. Amer. Soc. Hort. Sci. 97: 778-781).

In a grapefruit rootstock trial carried out simultaneously at two locations in South Texas, trees on SWINGLE produced the largest crops over 8 harvests, exceeding the yields on sour orange 62% in one location, 41% in the other. Fruit from trees on SWINGLE was larger, lower in acid, and contained 0.6% less total soluble solids. (Wutscher, H. K., N. P. Maxwell, and A. V. Shull. Performance of nucellar grapefruit on 13 rootstocks in South Texas. Submitted for publication in J. Amer. Soc. Hort. Sci.).

A comparison of the performance of grapefruit trees on 21 rootstocks planted in 1960 shows the highest yields with SWINGLE rootstock (125% more fruit than trees on sour orange). Fruit size with SWINGLE rootstock was slightly larger, acid content the same, and Brix 0.2% lower than with sour orange rootstock (manuscript in preparation). SWINGLE is also the rootstock of the highest yielding trees in 8-year-old incomplete trials in South Texas with Marr's Early orange and Orlando tangelo scions.

Other pertinent literature:

Cooper, W. C. and B. J. Lime. 1960. Quality of red grapefruit on old-line grapefruit varieties on xyloporosis and exocortis tolerant rootstocks. J. Rio Grande Valley Hort. Soc. 14: 66-76.

Olson, E. O., W. C. Cooper, N. Maxwell, and A. V. Shull. 1962. Survival, size and yield of xyloporosis and exocortis infected old-line red grapefruit trees on 100 rootstocks. J. Rio Grande Valley Hort. Soc. 16: 44-51.

Carpenter, J. B. and J. R. Furr. 1962. Evaluation of tolerance to root rot caused by Phytophthora parasitica in seedlings of citrus and related genera. Phytopathology 52: 1277-1285.

Hewitt, A. A., J. R. Furr, and J. B. Carpenter. 1964. Uptake and distribution of chlorides in citrus cuttings during a short term salt test. J. Amer. Soc. Hort. Sci. 84: 165-169.

Moreira, S., T. J. Grant, A. A. Salibe, and C. Roessing. 1965. Tristeza tolerant rootstocks--their behavior after 12 years in orchard. Proc. 3rd Virus Conf. of IOCV (W. C. Price, ed.), U. of Florida Press, pp. 18-24.

Gardner, F. E., D. J. Hutchison, G. E. Horanic, and P. C. Hutchins. 1967. Growth and productivity of virus infected Valencia orange trees on 25 rootstocks. Proc. Fla. State Hort. Soc. 80: 89-92.