

ROOTING GUATEMALAN AVOCADO CUTTINGS

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SUMMARY

A method is described which, although not considered commercially practical, proved to be very successful in rooting cuttings of Guatemalan avocado varieties. Essentially it consists of obtaining cuttings from stems, the bases of which have at no time been exposed to light or low humidity.

In certain experimental work with the avocado, own rooted trees, that is trees propagated by cuttings, would be desirable. It has been known for some time that cuttings from very young avocado seedlings root well (1) and that cuttings from some mature Mexican and Fuerte trees have been rooted (1,2). There are, however, no reports of success with rooting cuttings of mature varieties of the Guatemalan race. Recent attempts to obtain rooted plants from mature Guatemalan trees by means of cuttings with or without hormone treatments and by means of air layering also failed.

A method used for rooting difficult deciduous rootstocks (3) was tried with Guatemalan avocado varieties and proved to be successful. It requires a preconditioning of the basal part of the stem, that is the basal portion must be allowed to develop in darkness and under high humidity while the apical portion is allowed to develop leaves under normal conditions. Two procedures were used to accomplish this. One is to cut back a limb or shoot to good buds and place a layer of either vermiculite or a mixture of sand and peat over the cut surface and let the new shoots grow up through this medium. The other procedure is to cut the plants back and cover with an inverted tin can until the shoots reach a length of two to four inches. At this time the can is removed and a moist medium is mounded around the shoots up to the tips, which are then allowed to grow normal leaves. When three to five leaves have developed, the shoots can be detached at the junction with the original stem and placed in a propagating case or they can be girdled and rooted while still attached to the plant. It is essential that at least two good leaves be present before detaching or girdling; less leaf area than this resulted in weak or no root production. Roots may appear in from four to eight weeks after detaching or girdling.

In the experiment the air layering was done with tip-grafted seedlings, the buds of the graft producing the shoots which were to be rooted.

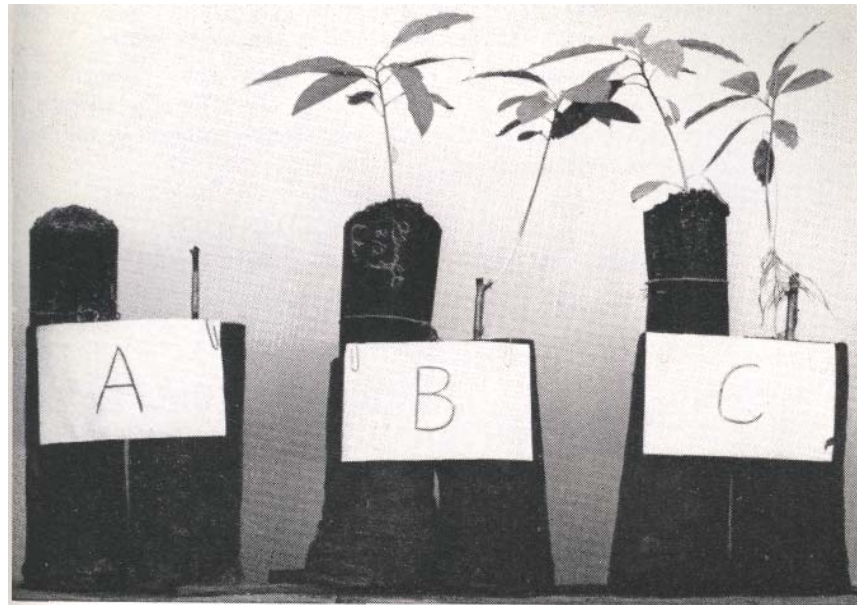


Fig. 1. *Air layered scion.*
A right, seedling grafted; left, mounded with sand and peat.
B right, shoot girdled near base.
C right, rooted scion.
Grafted 8/29/51. Girdled 11/1/51. Photographed 12/21/51.
Photograph by C. P. North.



Fig. 2. *Rooted detached stem cuttings of Hass on left, Anaheim on right.*
Placed in propagating case 3/19/51. Photographed 6/3/51.
Photograph by C. P. North.

Three varieties of avocados were used in this work: Hass, Anaheim, and MacArthur. Further trials are being made with the different varieties to determine the relative importance of the two factors, darkness and high humidity, in the preconditioning period.

LITERATURE CITED

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3. *Knight, R. C., and Witt, A. W. The propagation of fruit tree stocks by stem cuttings. J. Pomol. 6:47-60. 1927.*