

## **Recovery of Avocado Trees from the January 1937 Freeze**

*As Reported October 22, 1937*

**F. F. HALMA**

*University of California at Los Angeles*

**A. COURTNEY**

*Calavo Growers of California*

Insufficient time has elapsed since the freeze, for the inclusion in this brief report, the full effects of the cold on fruit production. It is believed, however, that the observations made on tree recovery are of sufficient interest to growers to warrant a summary at this time.

Sixteen trees in various locations and representing different degrees of injury from cold were selected for periodic observations. The varieties included Fuerte, Puebla, Ryan, Benik, Anaheim, Nabal, Itzamna, Dickinson, and Challenge. These trees, as well as several newly top-worked, were photographed on April 16, May 25, and August 11, 1937. Notes were made to supplement the pictorial record.

The rapidity of the recovery of two varieties, namely, Fuerte and Anaheim, is shown in accompanying illustrations. These varieties represent the range of sensitivity to low temperature; that is, the Fuerte as the hardiest, the Anaheim as the most sensitive. The Puebla, which is not included, due to limited space, may be ranked with the Fuerte. The other Mexican varieties proved to be quite hardy, hence no attempt was made to include them in the observations.

### **NEW WOOD TISSUE APPEARS**

One interesting observation concerning the discoloration of the woody part of the stem should be mentioned. This discoloration could easily be seen as late as May 25 by removing a small piece of bark. At the next examination on August 11 the discolored parts were found to be covered by a new layer of tissue; its thickness varied from one-eighth of an inch to a very thin layer according to the location and condition of the branches. The original tissue, however, remained discolored.

Observation on top working, whitewashing and pruning of injured trees may be briefly mentioned. A good opportunity was afforded to observe a number of trees which were topworked on March 20, 1937. The trees, large Guatemalans, were severely injured by the freeze. In some cases the scions were inserted in the large crotch limbs; in some, half way up on the main trunk and in others in the trunk of the Mexican rootstock.

## **GRAFTING INJURED TREES**

It was noted that the best results were obtained by the last mentioned procedure. These observations do not support the idea that some time should elapse before frost damaged trees are topworked. The important point is to insert the scions below the discolored portion of the trunk. There is some evidence that scions selected from even slightly injured parent trees will make unsatisfactory growth. In any event, the safe procedure to follow is to take scions from trees which were not subjected to dangerously low temperatures.

As to whitewashing damaged trees, no difference could be seen in adjacent treated and untreated trees. Some growers are of the opinion that whitewashing actually retards the emergence of new shoots.

Pruning is another practice concerning which there is disagreement. Undoubtedly delaying pruning until the new growth is well established enables one to judge more accurately where to cut. However, the claim sometimes made to the effect that early pruning is harmful to the tree could not be substantiated by field observations.

(For photographs showing tree recovery, please see pages 96 and 97.)