

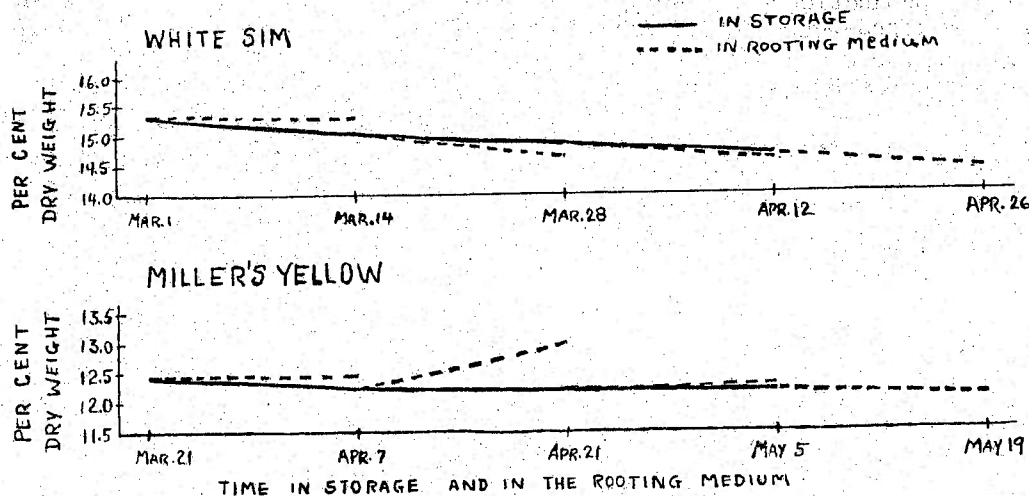
Food Supply of Cuttings While in Storage and During Rooting

Forty samples of 5 cuttings each of White Sim were taken from mother block plants on March 1. The average dry weight percentage of the fresh cuttings was determined from 5 of the samples and 5 others were placed in sand in a propagating bench. The remaining 30 samples were placed in cold storage at 34° to 36° F. Each 2 weeks thereafter, 10 samples were removed from storage for similar determinations. Cuttings were left in the propagating medium for only 2 weeks since sand particles are difficult to remove once roots have formed, hence affect the dry weight.

Forty samples of Miller's Yellow cuttings were taken March 21 for a duplicate experiment.

The changes in dry weight percentage for both varieties are shown in Fig. 3. The values used are averages for 5 determinations. Dry weight decreased gradually throughout the storage period, but increased or remained constant while cuttings were in the propagating bench.

Not shown is the sharp decrease in food supply as cuttings form roots. By testing the non-protein soluble solids in juice expressed from the cuttings, the food supply was found to be at an all time low just following rooting. This would indicate that a cutting is weakest at this stage. Another indication of exhausted food supply at this stage may be demonstrated by removing the roots from the cutting and sticking it back in the medium. A good percentage of cuttings so treated will not have sufficient food reserves to form another root system.



*Redraw
this
with
under
vertical
scale*

Fig. 3. The effects of cold storage and the rooting environment on the percentage of dry weight in carnation cuttings.

Summary

To get cuttings with maximum food stored in them, take them from mother stock 2-4 hours after the maximum light intensity for that day. They will also have more food reserves if taken during or immediately following several sunny days.

Food reserves are lost gradually in storage but tend to remain constant or increase when cuttings are placed in the propagating medium.

The greatest drain on food comes at the time when cuttings are forming roots.

Tugor, while not an object of this study, is of great importance also. Every effort should be made to have the cuttings full of water as well as food when they are taken from the mother stock.

* * * * *