

## ADDITIONAL NOTES ON MANGO BUDDING

S. JOHN LYNCH AND ROY NELSON

*University of Miami*  
Coral Gables

In a paper "Mango Budding" by these authors given at the meetings in Tampa last November there was discussed a method of chip budding which appeared to promise good results in more economical nursery tree production. A number of further questions were brought to mind by the results at that time. Some more work was done along these lines during the past year and the results are here offered as an addenda to last year's paper.

First it was thought interesting to show you (Fig. 1) average trees from last year's budding. A replicated planting of these trees with a comparison of trees of like age produced by side-veneer and tip grafting has been planted to de-

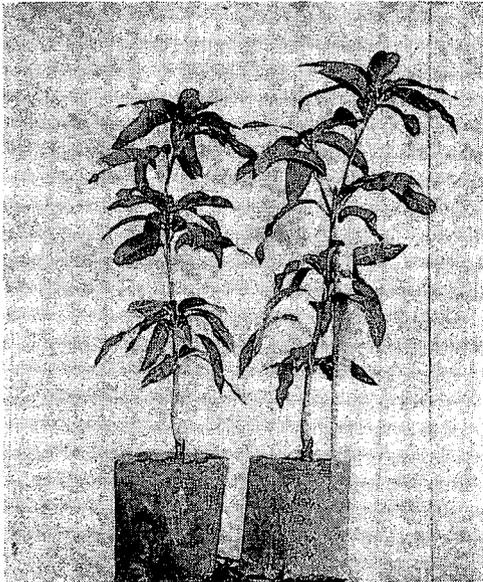


Fig. 1. Springfels mango trees 14 months from chip-budding, put in when stock was in red stage. Note smooth, firm union.

termine the effect of type of propagation on the speed of producing healthy bearing trees.

The principle questions for which an answer was sought in this year's work was (1) best method to spring the buds, (2) how essential is budwood preparation, and (3) was a protective film necessary for satisfactory take.

Four methods of springing the buds were practiced.

1. Cut off stock completely one week after budding.
2. Cut off stock completely in two weeks after budding.
3. One week after budding cut back stock to two leaves.
4. After two weeks start cutting stock back gradually with extra cutbacks of a few inches every two weeks.

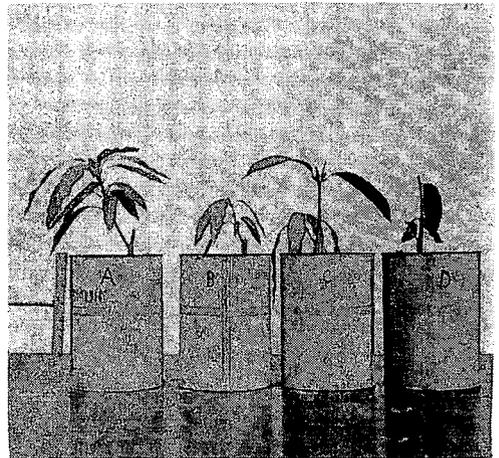


Fig. 2. Mango chip-budding put on in July 1950. All buds from same stick of wood, on rootstocks in red stage. A. Stock cut-off completely one week after budding. B. Stock cut-off completely two weeks after budding. C. Stock cut to two leaves one week after budding. D. Stock cut back gradually after two weeks.

It was found that cutting back the stock completely one week after budding gave the best bud growth (Fig. 2). However, in judging from several groups of grafting it was noticed that when the stock was cut off completely in two weeks after budding that the bud growth was almost as good as if cut off after one week. As can be seen in Fig. 3 there was considerable variation of response to treatment from buds from different bud sticks. The bud sticks were prepared and chosen to be identical as far as timing, age and appearance could be judged. There is more to the quality of a budstick than can be measured by eye judgment.

Budwood is prepared by cutting off 1 or 2 inches of the terminal stem and removing all the leaves except the terminal 2 or 3. This stem is left on the tree until the lateral buds swell

and become plump. Approximately two weeks are required to attain sufficient swelling of the lateral buds. This operation seems essential to give a more rapid springing of the buds after union has been made between stock and bud. If buds are scarce a couple of buds toward the end can be salvaged by just cutting out the terminal bud with the point of the knife. Girdling below the budstick apparently does not increase the quality of the buds and probably is not essential for this method of budding. It was found in many sets that where the budwood was most vigorous, the buds would spring satisfactorily even by using the poorest method of stock removal. This budwood was selected from strong growing limbs on healthy vigorous trees and all of the lateral eyes along the budwood stick gave equal springing.

A protective film such as 20 gauge Vinylite is necessary for satisfactory bud unions. Where only rubber bands were employed with no protective film

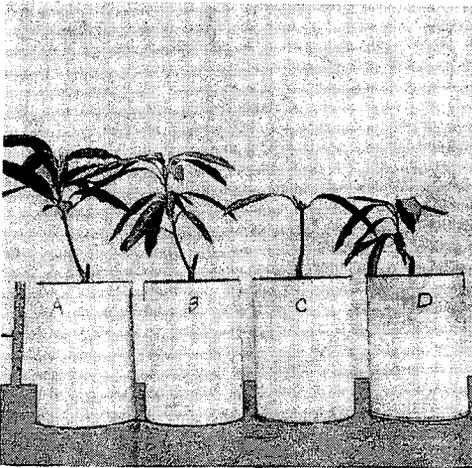


Fig. 3. Mango budding put on in July 1950. All stocks in red stage but each bud from different sticks of wood. A. Stock cut-off completely one week after budding. B. Stock cut-off completely two weeks after budding. C. Stock cut to two leaves one week after budding. D. Stock cut back gradually after two weeks.

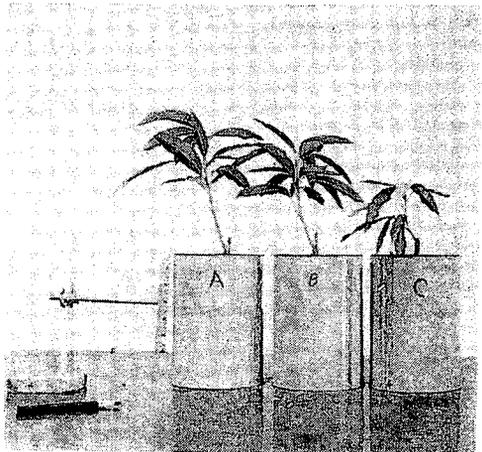


Fig. 4. Mango chip-budding put on in July 1950. All stocks in red stage and buds from same stick of budwood. A. and B. Stock cut off in one week. C. Stock cut off gradually.

to retain moisture most of the buds failed to make good unions or died outright.

#### **Summary**

The best method to spring chip buds when put on young 3 weeks old stocks is by cutting off stock completely in a week to ten days after budding.

Budwood preparation by removing terminal end or bud of the stick, leaving about 3 leaves on the stick to be used and selecting sticks from mature, vigorous trees, is essential to satisfactory bud springing.

A protective film is necessary for adequate and satisfactory chip budding.