

## PROPAGATION OF MM 106 BY CUTTINGS

LONNIE L. LANKFORD

Ozark Nurseries Company  
Tahlequah, Oklahoma 74464

Our softwood propagation of apple rootstock, MM 106, has been going for 4 years and has become an important segment of our schedule. The first attempt was less than a success with 66,000 cuttings stuck and only 12,500 rooted cuttings packed ready for transplanting in the field. But the lessons learned from this experience laid the foundation for our present propagation procedures.

In our first attempt the cuttings got too wet and also tended to form a large amount of callus. They did not make good roots and when the hardening process started they could not make it. This meant the MM 106 needed special treatment in regard to the amount of mist received and a better system of hardening off.

The MM 106 cuttings were moved to a timer section by themselves and not allowed to become too wet, partially by reducing the number from 12,000 to 10,000 per bed. Previously the hardening scheme had started when 1/2 to 2/3 of the cuttings had begun rooting. But since this never happened because of the excess callus, we started cutting holes in the plastic surrounding the cuttings when callus formation was found to be forming in a majority of the bed. The plastic was then removed in small strips at about 3 day intervals according to how the cuttings were progressing. Callus formation is expected to begin in 3 or 4 weeks.

The material taken was a 6 to 8 inch tip cutting. Different lengths didn't appear to affect the results. The cuttings were dipped in a solution of 1 tbsp Captan per gal of water and the bases were given a quick-dip of 5 sec in 0.25% (2500 ppm) IBA solu-

Of 66,000 cuttings stuck the next year, we packed 43,000 plants for transplanting in the field. The following year, we decided to use our whole MM 106 stock block for softwood cuttings. We were able to stick enough cuttings in early spring to insure a good size for the liners.

Last year 106,000 cuttings were stuck and 72,000 rooted cuttings were boxed for transplanting. Of these 56,000 were No. 1 plants. The cuttings were stuck 10,000 per 3.5' x 60' bed, which means 1½ inches between plants in a row, with rows 2 inches apart. The MM 106 have plenty of room to develop at this spacing and at a rooting percentage of 65% and better.

And then came this year. A set-back — but I feel that the situation is not an indication of improper procedure, but was due

largely to weather conditions. In Oklahoma this year, during and immediately following sticking, we had very cool and wet conditions. As a result the cuttings did not begin to callus for about 6 to 7 weeks as compared to 3 to 4 weeks normally expected. We stuck 110,000 cuttings and I expect to pack 40,000 liners for transplanting. This is a rooting percentage of 36% but we expect to do much better in the future and hope to maintain about a 65 to 70% average rooting.

CHARLIE HEUSER: Thank you, Lonnie. Our next speaker really needs no introduction; he's Dr. Booker Whatley, who is going to tell us about vegetative production of Muscadine grapes.