

Successful grafting in poplar species (*Populus* spp.) breeding

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Poor rooting of *Populus deltoides* Bartr. ex Marsh hardwood cuttings often has contributed to delays in breeding progress as a result of failures of scion wood before and/or after pollination. Seventeen clones were used, and the study was conducted in the greenhouse to test an “intervenous feeding” (IV) method, along with three different grafting techniques. Our objectives were to: 1) identify an alternative, more successful method of propagating branch material, and 2) determine the most reliable and efficient type of grafting method to use in our breeding program. One hundred-forty-eight IV units, and 847 grafts, which included 261 shield bud grafts (SBG), 541 side grafts (STG), and 45 cleft grafts (CG), were tested during the 1999 to 2001 breeding seasons. The STG technique gave the greatest take rate, and was statistically superior over the IV method, the CG, and SBG techniques. The SBG technique gave the least take. Contrast analysis revealed that, as a group, grafting techniques did not differ statistically from the IV method.

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