

# Micropropagation of a selected clone of *Amelanchier alnifolia*<sup>©</sup>

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## **Abstract**

Shoots of serviceberry, *Amelanchier alnifolia*, propagated in tissue culture often fail to form roots readily. In vitro cultured shoots from a selected dwarf plant were examined for their ability to form roots when the basal salt concentration was adjusted or different plant growth regulators were used in the medium. Different concentrations of Murashige and Skoog (MS) salts were used (full, 1/2, 1/4, and 1/8 strength). In addition, the plant growth regulators indole-3-butyric acid (IBA) or naphthaleneacetic acid (NAA) at concentrations of 0, 0.5, 1, 5, or 10 µM were tested for their ability to induce root formation. The effects of 2 µM benzyladenine (BA) on root formation were tested by combining BA with five NAA concentrations. The 1/8 strength MS treatment induced 38% of the shoots to form roots, whereas roots failed to form on shoots grown on full strength MS medium. The mean number of roots per responding shoot was 1.6. Indole-3-butyric acid and NAA concentrations induced root formation on full strength MS medium. The best rooting was achieved with 10 µM IBA or 10 µM NAA, and the percentage of shoots forming roots was 33% for IBA treated and 67% for NAA treated shoots. The mean number of roots per responding shoot were 6.1 and 2.5 for 10 µM IBA and 10 µM NAA treated shoots, respectively. Shoots treated with BA combined with NAA formed callus at their bases but failed to form roots. This study demonstrated that 1/8 basal salts or 10 µM IBA or NAA were effective for inducing root formation on serviceberry shoots produced in vitro.

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