

# The effects of auxin and substrate on rooting blueberry softwood cuttings<sup>©</sup>

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Commercial blueberry cultivars can be propagated by a range of methods including softwood and hardwood stem cuttings and micropropagation. Softwood cuttings are commonly used due to a high rooting percentage and rapid rooting period of 6-8 weeks. Rooting success varies among blueberry cultivars, but this may be due to a number of factors including timing, cultural practices, and inherent genetic rooting potential. The objective of this study was to determine the effects of rooting substrate and auxin on softwood cuttings of *Vaccinium* 'Jewel', *V.* 'Powderblue', *V.* 'Tifblue', and *V. corymbosum* 'Hodnett'.

Softwood cuttings (4.5 to 5 in.) were collected in late May or early June and randomly assigned an auxin treatment (with or without a basal dip of Dip'N Grow at 500 ppm indole-3-butyric acid and 250 ppm 1-naphthaleneacetic acid). Cuttings were inserted into individual cells (cut from 72-cell sheets) filled with substrate [pine bark, pine bark and peatmoss (3:1, v/v), or peatmoss and perlite (1:1, v/v)] and placed under intermittent mist in a greenhouse. In mid-October, roots were washed and data were collected (rooting percentage and root dry weight).

Substrate pH ranged from 5.0 [peatmoss and perlite (1:1, v/v)] to 5.7 (pine bark). Overall, rooting percentage varied among cultivars and ranged from 25% ('Jewel') to 100% ('Hodnett'). 'Tifblue', 'Jewel', and 'Hodnett' rooting percentage was greatest in pine bark and peatmoss (3:1, v/v), while root dry weight was greatest in peatmoss and perlite (1:1, v/v) for 'Tifblue', 'Jewel', and 'Powderblue'. 'Jewel' rooting percentage was 10% [peatmoss and perlite (1:1, v/v)] and 20% [pine bark and peatmoss (3:1, v/v)] greater for the auxin basal dip compared with no auxin, yet auxin did not significantly improve rooting percentage for the remaining cultivars. Blueberry softwood cuttings can be rooted in a pine-bark substrate, yet peat moss-based substrates should be considered for improved rooting. Additionally, an auxin-basal dip may improve rooting in difficult-to-root cultivars.

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