Hydrangea macrophylla Propagation by Hardwood Cuttings©

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NATURE OF WORK

A study was conducted in the greenhouse at the University of Kentucky Horticulture Farm, Lexington, to determine how late into the season cuttings from *Hydrangea macrophylla* could be rooted in a successful manner. Stock plants were field grown under drip irrigation at the site on a Maury Silt Loam.

Cuttings 4 to 6 inches (10 to 15 cm) in length were collected and stuck on 20 Oct., 27 Nov., and 16 Dec. 2002. Cuttings taken in October were terminal cuttings while cuttings obtained in November and December were both terminal cuttings and stem tissue, which were immediately distil to the terminal cuttings (secondary). All cuttings were quick-dip treated with Wood's Rooting Compound diluted with distilled water (1 : 10, v/v).

Cuttings were stuck into Premium Pine Park Nursery medium from Barky Beaver, Inc., Tennessee. The medium was placed into Quick Pot QP 35 T trays with cell shape 1.968 × 1.968 × 4.527 inches (50 × 50 × 115 mm). Mist was applied for 5 sec every 6 min during daylight hours.

RESULTS AND DISCUSSION

The lowest temperature before the 20 Oct. collection date was 37 ºF and occurred on 14 Oct. The lowest temperature before the 27 Nov. collection was 26 ºF and occurred on 18 Nov. The lowest temperature before the 16 Dec. collection date was 15 ºF and occurred on 6 Dec. Foliage was green on cuttings on both the 20 Oct. and 27 Nov. collection dates. The stems had defoliated by the 16 Dec. collection date.

Cuttings were evaluated for a final time on 27 March 2003 (Table 1).

All cuttings from the 20 Oct. collection date rooted regardless of cultivar. The later into the season the cuttings were propagated, the lower the rooting response. Only 36% of the terminal cuttings stuck on 27 Nov. rooted and none of the nodal cutting (secondary) distil to the terminal cutting rooted. Three cultivars (Nikko Blue, Dooley, All Summer Beauty) cumulatively had 13% rooting for the 16 Dec. collection date. Three cultivars (Madame Emile Mouillère, Merritt's Supreme, and Madame Faustin Travouillon) propagated on 16 Dec. did not root at all from terminal cuttings. Only two secondary cuttings, out of 105, taken on 16 Dec. rooted.

The presumption is that freezing temperatures caused stem damage that prevented the cuttings from rooting during the November and December collection dates.

Hydrangea macrophylla can be propagated during the fall by hardwood cuttings. Yields of 100% should be obtained as long as the temperature has remained above freezing. Cultivar variability apparently exists with hardiness and thus the ability to have stem tissue capable of initiating new roots.

Table 1. Rooting response of *Hydrangea macrophylla* cultivars to timing and cutting location during Fall 2002 propagation.

Cultivar	October 20 Terminal	November 27 Terminal	November 27 Secondary	December 16 Terminal	December 16 Secondary
Glowing Embers	35 rooted/35	19 rooted/35	0 rooted/35		
Masja	25 rooted/25				
Dooley	35 rooted/35			2 rooted/35	
Nikko Blue		10 rooted/35		3 rooted/35	0 rooted/35
All Summer Beauty		12 rooted/35		9 rooted/35	1 rooted/35
Domotoi		10 rooted/35			
Madame Emile Mouillère				0 rooted/35	
Merritt's Supreme				0 rooted/35	1 rooted/35
Madame Faustin Travouillon				0 rooted/35	