

***Baptisia* 'Purple Smoke': Liners That Live and Flower[®]**

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NATURE OF WORK

Baptisia 'Purple Smoke' was discovered at the North Carolina Botanical Garden, Chapel Hill, North Carolina, by curator Rob Gardner. It is a putative hybrid of blue-flowering *B. australis* and white-flowering *B. alba*. 'Purple Smoke' flowers are smoky violet with the charcoal gray flower stems of *B. alba*. It was introduced by Niche Gardens and North Carolina Botanical Garden in 1996.

Propagation is accomplished via late softwood to semihardwood terminal stem cuttings. However, winter survival percentages were disappointing even when plants were placed in unheated white polyethylene-covered quonset structures for protection. Similar problems exist with other herbaceous perennials propagated by stem cuttings (Bir and Conner, 1998.).

Cuttings from container-grown stock plants were direct stuck and rooted under intermittent mist in Lerio 325 containers in a medium comprised of pine bark and sphagnum peat (3 : 1, v/v) in which 4.5 lb dolomitic limestone and 2.5 lb Esmigran had been thoroughly mixed per yard. Fresh cut stem ends were dipped into a solution of C-Mone K at 1250 ppm IBA to a depth of 0.5 inches for a duration of 1 sec prior to sticking. Half of the cuttings were stuck so that a bud was at least 0.25 inches beneath the propagating medium while half were stuck so that only internode, i.e., no bud was beneath the propagating medium surface. Cuttings were stuck on 8 May and 21 July 2000. Cuttings rooted in an average of 4 weeks. After rooting they were removed from mist, hardened off for a week, and then fertilized with 0.25 tsp Sta Green 12N-6P₂O₅-6K₂O. Rooted cuttings were grown in the same containers in which they were rooted under overhead irrigation for the remainder of the growing season. They were allowed to go dormant naturally through exposure to ambient temperatures then moved to a white-polyethylene-covered, winter-protection structure until mid January when they were moved to a heated greenhouse, watered, and encouraged to grow. One month after plants were moved into the greenhouse the percentage of plants showing new growth from each date and each treatment were recorded.

Table 1. Percent survival of *Baptisia* 'Purple Smoke' following winter as influenced by location of vegetative buds and date of sticking.

	Date stuck	
	8 May	21 July
Bud below media	94	90
No bud beneath medium	40	33

RESULTS AND DISCUSSION

Ninety percent or greater of plants survived winter from each sticking date if a vegetative bud existed beneath the propagating medium at the time cuttings were stuck (Table 1). Forty percent or less survived if no vegetative bud existed beneath the medium surface.

By April, many of these plants were flowering in the greenhouse. Time of sticking cuttings was critical to flowering. No flowers existed on plants from the July sticking date. Plants from the 8 May sticking date had 50% flowering if a node was beneath the propagating medium while only 10% of those stuck on the same date with no node beneath the propagating medium flowered.

Significance to Industry. To successfully propagate and keep cuttings of *B. 'Purple Smoke'* alive until the following spring, cuttings should be stuck so that a vegetative bud (node) is beneath the propagating medium surface. To have a significant number of liners flowering the spring following propagation, cuttings should be stuck in May rather than July.

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LITERATURE CITED

Bir, R.E. and J.L. Conner. 1998. How and when herbaceous cuttings are stuck affects winter survival. Proc. SNA Res. Conf. 43:312-314.