

# Propagation of *Osmanthus armatus* From Hardwood Cuttings<sup>®</sup>

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## INTRODUCTION

*Osmanthus armatus* Diels is a large holly-like evergreen shrub from 2–4 m and approximately the same spread. The oblong ovate leaves (7–14 cm) are dark green and glossy and are heavily toothed. They are quite stiff and are generally inflexible. New growth has reddish tints. Like other members of the genus, the flowering of *O. armatus* is pronounced, with a strong fragrance. Griffiths (1994) lists the presence of purple fruit, but observation of isolated plants over a number of years has failed to find any fruit. It is possible that like some other members of the Oleacea the plant could be dioecious or self-sterile. Hardiness is listed as a Zone 7, but plants in Philadelphia, Pennsylvania, have stood the test of time and are fully a Zone 6. It is not encountered frequently in the landscape, and perhaps this is because it is essentially a very large evergreen bush, although on large estates or plantings it could have a significant presence. Ideally it should be placed so that the scent of the highly fragrant flowers can be appreciated.

## MATERIALS AND METHODS

Cuttings of *O. armatus* were obtained on a day when temperatures were above freezing during the month of January and held in a cooler at 4 °C until March. The cuttings were from 10–16 cm long with four to five leaves attached. Wood was selected for being stout and quite firm. Large stem diameter was preferred with 2-year wood being preferable. Cuttings were wounded and 5000 ppm IBA in propylene glycol (Barnes, 1989). They were stuck in a 1 sand :1 ground pine bark (v/v) mix in an open tray with bottom heat at 10 °C. Air temperatures were allowed to fluctuate depending on sunny conditions. Cuttings were syringed with water as needed generally from one to two times a day.

## RESULTS AND DISCUSSION

By mid May cuttings were removed and potted with a 60% take. Cuttings were removed from the trays, potted, and placed under mist for 5 days in July. They proceeded to initiate new growth almost immediately upon being removed from the mist with temperatures in and around 28–32 °C.

It seems likely that with an increase in bottom heat an even greater rooting percentage could have been obtained, but hormone levels and the type of cutting seemed to be in balance when compared to efforts with other *Osmanthus* species.

Barnes (1989) showed that a related species, *O. americanus*, rooted very well with IBA in propylene glycol under similar circumstances. Jacobs (1990) worked with *O. fragrans* in August and got good rooting with K-IBA on cuttings that were hardened spring growth. Stephens (2000) mentions that *O. fragrans* f. *aurantiacus* rooted slowly from cuttings taken in mid to late May in South Carolina with 8000 ppm KIBA. In all cases some common requirements should be met. The wood has to be well hardened. Hormone levels should be reasonably high, and high ambient

temperatures or bottom heat is helpful. Mist may or may not be a requirement depending upon the time of year. Cuttings of *O. armatus* did not have a lot of leaf drop during the winter months, although cuttings of *O. heterophyllus* has a significant leaf drop, often denuding the cutting completely and rendering it unsuitable from that point on under similar circumstances. *Osmanthus armatus* cuttings are not fussy once rooted and if transplanted early will resume growth before fall.

### SIGNIFICANCE TO THE NURSERY INDUSTRY

*Osmanthus armatus* is an attractive shrub and has good cold hardiness possibilities. Flowering, while insignificant, is quite fragrant, and the shrub does have merits for fragrance in the garden. In many instances it could be planted in the same situations as many hollies.

### LITERATURE CITED

- Barnes, H.W. 1989. Propylene glycol quick dips: Practical applications. Comb. Proc. Intl. Plant Prop. Soc. 39:427.
- Griffiths, M. 1994. Index of garden plants. Timber Press. Portland, OR.
- Jacobs, R.M. 1990. New propagation techniques. Comb. Proc. Intl. Plant Prop. Soc. 40:394.
- Stephens, T. 2000. Some exciting new woodies and perennials for zones 7, 8 and 9. Comb. Proc. Intl. Plant Prop. Soc. 50:496.

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## ***Mespilus canescens* a Newly Discovered Species: Propagation by Grafting onto *Crataegus*®**

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### INTRODUCTION

*Mespilus canescens* (Sterns medlar) was discovered in 1990 in the 22-acre Konecny Grove Natural Area in Arkansas (Center for Plant Conservation, 2005). Phipps (1991) documented *M. canescens* to be an additional new species to the heretofore-single genus and species, *M. germanica*, a European plant.

Further work by Phipps et al. (1991) demonstrated that isozyme analysis positively grouped the new plant as a *Mespilus* species. However, Dickinson et al. (2000) suggests that due to the close relationship of *M. canescens* to *Crataegus* there is some DNA evidence to suggest that it might be of hybrid origin. Further evidence of the kinship to *Crataegus* is given credence by noting that both *M. canescens* and a number of *Crataegus* have 20 stamens. Dickinson (2000) also mentions that *M. canescens* is almost indistinguishable from many *Crataegus* species, although it does lack thorns. Further evidence supporting the kinship of *Crataegus* to *Mespilus* is offered by Griffiths (1994) who lists  $\times$ *Crataemespilus gilliotii* and  $\times$ *Crataemespilus grandiflora*; two hybrids *Crataegus monogyna*  $\times$  *Mespilus germanica* and *Crataegus laevigata*  $\times$  *Mespilus germanica*, respectively. Since *M. canescens* does not seem to reproduce in the natural state researchers from the Missouri Botanic Gardens (Center for Plant Conservation, 2005) have tried and succeeded in rooting cuttings and attempted tissue culture as well. (Author's note: the fact that cuttings root