

## Finishing a Liner Faster Using Multiple Stem Cuttings®

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The production process for Spring Meadow Nursery begins with rooting stem cuttings. The propagation department has sought different methods to increase rooting success and reduce finish time. One method tried was sticking selected taxa of plants with unacceptably low rooting percentages into small-sleeved plugs (20–30 mm) containing a peat-based medium. While this method did increase rooting percentages for many finely rooted taxa, we discovered that, in many cases, roots were not growing out of the plug and into the predominately perlite-based medium following transplant. The root ball remained mostly confined to the plug itself, and few, if any, roots penetrated the walls of the plug sleeve to fill out the pot. As a result, even though rooting was increased, production of these taxa in the long run was slower and less efficient. It was apparent that we needed to find another way to finish our liners more quickly.

We decided to stick two stem cuttings per 2¼-inch pot of the following taxa: *Abelia* × *grandiflora* cultivars, *Genista Lydia*, *Helianthemum* cultivars, *Hypericum kalmianum* cultivars, *Indigofera pseudotinctoria* 'Rose Carpet', *Kerria japonica* 'Picta', *Rhus aromatica* 'Gro-Low', *Spiraea thunbergii* cultivars, and *Tamarix* cultivars.

The double-direct-stuck trial yielded a higher rooting percentage than single stem cuttings, especially for many of these thin-stemmed cuttings. Additionally, the liners finished and were ready to ship much faster than upgrading from the sleeved plugs. Direct sticking has the benefit of reducing handling since the plugs do not have to be picked up for shifting into the finished container. Spending less time under mist is also another benefit. The double direct stuck method enabled us to root a liner in 4–6 weeks and finish it in an additional 2–6 weeks, depending on the plant. *Abelia* × *grandiflora* and *G. lydia* cutting-to-finish time was reduced from 6–9 months to 10–16 weeks. The other taxa could be finished in approximately 80% of the time it took to finish a single cutting. The only drawback with multiple stems per pot is having sufficient plant material on hand to provide the cuttings.

This method can also be used for other pot sizes. We have reduced finished time and amount of handling required in 4-inch and quart-sized pots by sticking 2 or 3 stems per pot instead of transplanting 2¼ inch cells.

Examples of positive results using multiple stems in 4-inch and quart pots: *Caryopteris* × *clandonensis* 'Durio', Pink Chablis™ bluebeard; *Deutzia gracilis* 'Duncan', Chardonnay Pearls™ slender deutzia; *Itea virginica* 'Sprich', Little Henry® sweetspire; *Rosa* hybrids; and *Weigela florida* 'Elvera', Midnight Wine™ weigela.