

# Revisiting Randomville With Brush and Bag

by J.C. McDaniel

*Magnolia sieboldii*, the most northern species of Section Oyama, is a parent of two intersectional hybrids, *M. × wieseneri* (syn. *M. × watsonii*), the result of a natural cross between *sieboldii* (as pistillate) × *hypoleuca*, and *M. × 'Charles Coates'*, which arose at Kew Gardens in England, where *sieboldii* was spontaneously pollinated by *M. tripetala*. A third cultivar may be introduced from a population of hybrids thought to be *sieboldii* × *grandiflora* in a Japanese nursery.

I have just collected seeds from repeats of these three crosses in 1979 at Urbana, Illinois. The seed parent was a *sieboldii* clone from the Royal Botanical Gardens in Hamilton, Ontario, that apparently is more heat tolerant than most *sieboldii* plants. Since being budded in 1974 on a *M. virginiana* stock at Urbana, the Hamilton clone has grown well and shows none of the heat-associated leaf necrosis that appears here on nearby 'Charles Coates' grafts (which nevertheless have grown and flowered prolifically). The Hamilton clone also is growing and flowering on *acuminata* understock.

The pollen parent used in the *M. × wieseneri* repeat is a clone of *hypoleuca* originally from a seedling planted by Sam Baldanza at Benton Harbor, Michigan, and grafted by chip budding on *tripetala* stocks at Urbana. The grafts started to flower in 1978 and showed a very good flower. Flowering was more abundant in 1979.

For *M. tripetala* pollen, I used the named cultivar 'Bloomfield,' the best clone of this species I know. It was selected at Bloomfield Hills, Michigan, by Philip J. Savage, Jr. who had it originally as a seedling from a Pennsylvania nursery. At Urbana, 'Bloomfield' spring growth starts later than other *tripetalas* cultivated locally, and shows to advantage with heavier, greener foliage throughout the growing season.

We had no *grandiflora* flowering outdoors in 1979 at Urbana, but I was able to collect pollen from a *M. grandiflora* 'Madison' flower in the greenhouse during the *sieboldii* flowering season. 'Madison' is a vigorously growing clone I selected at

Madison, Alabama. It has an extended flowering season, often blooming into October or November in its home state. At Tom Dodd Nurseries, Semmes, Alabama, seedlings of 'Madison' were reported taller at the end of one growing season than any of the other *grandiflora* seedlings observed there. It is suspected of having some *M. virginiana australis* ancestry, but is fully fertile, unlike the 'Freeman' and other known  $F_1$  *virginiana* × *grandiflora* hybrids.

For the *sieboldii* × *grandiflora* cross, the flower was bagged to exclude insects during anthesis and for several days following cross-pollination. Only one flower was used, with pollen applied on two successive days. The yield of seed from this single fruit was gratifyingly high, indicating that this cross, at least with these two parent clones, is comparatively easy.

As for the other two crosses, more seed was produced because more flowers were pollinated. Since apomixis is a possibility, it remains to be seen whether intersectional hybridization actually took place in these pollinations.

Other crosses tried with *M. sieboldii* this year were with *M. macrophylla* pollen, both the cultivar 'Whopper' and a  $F_1$  intervarietal hybrid (var. *ashei* × var. *macrophylla*). Neither resulted in a fruit that stayed on until seed matured. Other fruits that did mature on the tree from open

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