

Selection vs. Hybridization

by J. C. McDaniel

Geoffrey Gorer, who for the past two years has supplied the Seed Counter with seeds that produce vigorous plants of *Magnolia sieboldii* var. *sinensis* and who has joined AMS after seeing a sample Newsletter, is a distinguished anthropologist and a resident of Haywards Heath, Sussex. "What I found interesting," he writes, "in contrast to the British rhododendron journals, was the great emphasis on hybrids as opposed to outstanding forms of species and new species. I suppose this has something to do with national character—American emphasis on invention in contrast to British emphasis on discovery. I think with magnolias, as with rhododendrons, much more useful work could be done in searching out outstanding forms of species and giving them clonal names. Of course rhododendron hybridization and (with a few exceptions) propagation is much easier than with magnolias; but with the enormous variation in magnolias grown from wild-collected seed, I think there is room for much more clonal naming."

Whether or not we categorize Americans as inventors, they have done some of the discovery and introduction of new magnolia species. The British have a long record as hybridizers. In the garden of Archibald Thompson near London about 1808 was produced what eventually has been recognized as the first interspecific magnolia hybrid, *M. × thompsoniana*, even

though this crossing of two American species, *M. virginiana* var. *virginiana* × *M. tripetala*, was a random one, not identified as a hybrid until long afterward. An Englishman, Peter Veitch, first crossed *M. heptapeta* × *M. campbellii* to produce *M. × veitchii*. British breeders, by the record, were the first to make certain other primary interspecific crosses, *M. sargentiana* var. *robusta* × *M. sprengeri* 'Diva' produced *M. × 'Caerhays Belle'*, and 'Caerhays Surprise' came from mating *M. quinquepeta* 'Nigra' × *M. campbellii mollicomata*. Americans, of course, have to be credited with such interspecific crossing as *M. acuminata* × *M. quinquepeta* (Evamaria Sparber at the Brooklyn Botanic Garden), *M. quinquepeta* × *M. kobus stellata* (breeders at the U. S. National Arboretum and elsewhere), *M. acuminata* × *M. heptapeta* (Doris Stone at Brooklyn Botanic Garden), *M. hypoleuca* × *M. virginiana* and *M. quinquepeta* × *M. sprengeri* 'Diva' (both by William F. Kosar at U. S. National Arboretum), and Oliver M. Freeman while at the National Arboretum made the first controlled crosses of *M. virginiana* × *M. grandiflora*. (*M. virginiana australis* and *M. grandiflora* had probably already crossed often in the wild.)

It's true, if we narrow the view to magnolias native to the U. S., that few nurseries in or near the native ranges of the three most often cultivated species, *M. grandiflora*, *M. virginiana*, and *M. acuminata*, offer anything but seedling stock of them. As for *M. grandiflora*, of which more cultivars are shown in the *Check List of the Cultivated Magnolias* than any other species, a great majority of the older cultivars were selected in Europe, including England.

The British and other Europeans north of sunny Spain or other Mediterranean countries resorted early to clonal propagation of *M. grandiflora* because it did not mature viable seed in their climate. Selection was practiced because some clones performed better than others or were outstanding for beauty of flower, foliage, or form. *M. virginiana* and *M. acuminata* also mature few seed under most English and

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French conditions, so clonal propagation, usually by layering, was practiced.

Meanwhile, Americans collected their magnolia stock from the native woods or as seed of cultivated trees. The tradition dies hard in the native area of *M. grandiflora*, where so much seed is readily available. There were exceptions as long ago as 1860, when the Berkman Nursery in Augusta, Georgia, listed the cultivar *M. grandiflora* 'Gloriosa', first offered by LeRoy of Angers, France, in 1856. Selections in America have increased since the 1920's.

The best English catalogues offer clonal varieties in magnolia species and hybrids that only a few in America have begun to match (see our advertisers). England leads as the point of selection for cultivars in *M. campbellii*, *M. dawsoniana*, *M. sargentiana robusta*, and *M. springeri*. These species have been established longer in Cornwall and other southern English counties than anywhere in America, so the British have had more variety from which to choose up to now.

Certainly for the magnolia fancier in any climate where a species grows well there is variation enough within any species grown from seed to justify selection of outstanding clonal forms. Particularly beautiful flowers are one criterion. Adaptation to a particular climate is another and this applies especially in the many American zones, where temperature extremes make the growth or flowering of some species a rather chancy affair.

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Hybrids can be interesting simply as hybrids, to introduce more variety among those magnolias that can be grown. Hybridization can produce plants hardier than a pure species and can thus extend some of a tender species' beauty to more difficult areas or provide plants that flower younger. Some Asian species, even when wood-hardy in Zone 5 or 6, commonly flower so early in the spring that their buds are spoiled by freezes, even to Zone 8. Hybridization of Asian with American species, particularly the ruggedly hardy and late flowering *M. acuminata*, can produce offspring from which selections can be made to improve shortcomings of the exotic species. Much recent American hybridization has been aimed at combining the best qualities of some American and some Asian species.