

## Why Some Native Plants Aren't Mainstream . . . Yet

**Richard E. Bir**

North Carolina State University, 2016 Fanning Bridge Road, Fletcher, North Carolina 28732

### INTRODUCTION

To generate abundant nursery sales a plant must fulfill certain requirements. Among these are that it should have market appeal from superior flowers, foliage, fruit and/or form. It has also been suggested that the plant should be attractive in spring when most plant sales occur. For retail sales, eye appeal seems more important than disease or insect resistance. In fact, if the plant can be marketed while in flower certain other characteristics, such as tolerating widely varying landscape conditions, may not be as rigorously questioned (Raulston, 1990).

For nurserymen, at least one other requirement must be met—it must be possible to produce the plant profitably. This usually means that propagation problems have been solved. In addition, growth must be rapid enough that the plant can be brought to the undervalued North American landscape plant market at a low enough price to attract sales as well as profit potential for both the wholesaler and retailer.

If a plant is thought to have commercial landscape production potential, it needs to be evaluated to determine whether it is suitable for landscapes over a broad range of cultural conditions. Arboreta, botanical gardens, and university trials provide valuable insight concerning landscape plant suitability. If a plant possesses superior landscape characteristics but remains unknown, it still will not make it into the horticultural mainstream. The plant must be marketable plus it needs an advocate, i.e., an individual or group that will promote the plant to the nursery and landscape trade as well as to consumers. In summary, for landscape trade success a suitable plant must be discovered, promoted, and profitable.

### MARKETING

North American natives, hybrids, and exotic plants must all meet these same criteria. If a native is not a good plant for the landscape, it should not be foisted on the public just because it is native. For example, black locust, *Robinia pseudoacacia*, has many desirable characteristics. Its beautiful and often abundant spring flowers provide pleasant fragrance as well as being the source of nectar for superb honey. Its wood is among the most durable and early growth is rapid. However, this tree also provides thorny root sprouts, has disease and insect problems, is a self pruner which drops branches throughout the year, and frequently defoliates by late summer. As a result, black locust presents more landscape problems than solutions and should not be considered a worthy tree for most landscapes.

Another North American native that has not been widely known by consumers is witch alder or bottlebrush shrub, *Fothergilla*. Plants people have long recognized this spring flowering shrub as having potential for abundant blooms which are often fragrant. *Fothergilla* displays spectacular late fall foliage color and is nearly pest free. Unfortunately, it once had the undeserved reputation for being difficult

to propagate. It also lacked a salable name and an advocate. However, the *F. gardenii* selection 'Blue Mist' was given the Styer Award by the Pennsylvania Horticultural Society and recognition increased. More recently, Dr. Michael Dirr introduced the selection 'Mount Airy' (Dirr, 1990). It appears to be a naturally occurring hybrid between *F. gardenii* and the larger growing *F. major*. It propagates easily from stem cuttings, responds to fertilizer in container culture, has flowers that are more abundant and 1.5 times as large as 'Blue Mist', plus can have more vivid fall foliage color than 'Blue Mist.' 'Mount Airy' has been selected as a gold medal winner by the Georgia Plant Selections Committee, Inc. As a result, it will be promoted by the Georgia landscape and nursery industry. However, 'Mount Airy' also has another factor in its favor—Dr. Dirr. He has mentioned this plant prominently in his many public lectures, in his *Nursery Manager* column and it was featured on the cover of *American Nurseryman*. This plant has not made it—yet. However, I expect it to be a mainstream plant shortly. It is both worthy and has an aggressive advocate.

For those involved with herbaceous plants, another Georgia native selection, *Verbena canadensis* 'Homestead Purple' followed a similar route to fame with the co-sponsorship of Drs. Armitage and Dirr. This verbena is a vigorous, disease- and insect-resistant herbaceous perennial (USDA Zone 7, Zone 6 if not pruned in fall) that is currently being sold in enormous numbers in the U. S. as well as having been introduced and accepted in Europe within a decade of its rediscovery. This occurred because advocates and a promotion program existed once garden suitability and ease of both propagation and production were established by university researchers.

## PRODUCTION PROBLEMS

If a plant is truly a superior landscape plant, but possesses some flaw within the production cycle, then research to unlock the secrets of propagation and production seem warranted. During my travels on the native plants and gardening lecture circuit this year, the herbaceous perennial (hardy to USDA Zone 5 or 8, depending upon the reference) that seems to be on everyone's wish list is indian pink or pink root, *Spigelia marilandica*. It is touted as producing abundant red and yellow flowers in partial shade and moist soils. However, inadequate numbers have been available for sale. Indian pink can be propagated by division and Royal Horticulture Society's *Dictionary of Gardening* (Huxley [ed.], 1992) suggests seeds but few if any seeds were germinating for those with whom I talked.

Eight of the standard propagation reference texts on my shelf ignore this plant completely. Growers suggested that immature embryo is the primary germination problem. Others suggest that scarification and/or stratification are required. Some said they were not getting viable seeds and wondered about pollination problems. No one mentioned cuttings, which seemed an obvious answer to this person. At any rate, it seems like getting enough plants together for some research could produce positive results quickly. Once propagation problems are overcome, dealing with a plant that is "somewhat difficult in culture" (Everett, 1960) is the next step; then a good name, an advocate, and a marketing program seem appropriate.

Organized propagation research has been a signature of I.P.P.S. and is responsible for bringing many worthy plants to market, including North American natives. Bottlebrush buckeye, *Aesculus parviflora*, has enjoyed irregular popular-



ity but plants are frequently only available in small quantities. Part of the problem is misinformation concerning seed propagation. To obtain viable seeds cross pollination appears to be required and a growing season both long and warm enough must exist for seeds to ripen, particularly those of the late variety, *A. parviflora* f. *serotina*. Therefore, those collecting seeds from the northern U. S. and Canada may not have been obtaining viable seeds. In addition, at least one text states that epicotyl dormancy requires cold stratification to be overcome (Macdonald, 1986). This has not been our experience if seeds are harvested fresh and planted immediately. Handled this way, the radical emerges within a few days with the shoot emerging within a month.

However, seed propagation does not allow for the propagation of superior clones such as *A. parviflora* f. *serotina* 'Rogers'. While root cuttings are often cited as a preferred method for propagating bottlebrush buckeye, stem cuttings are used successfully by at least a couple of nurseries. Dirr and Burd (1977) published research on the propagation of bottlebrush buckeye but there were still only a few nurseries offering it by the early 1990s. In 1994, Bir et al. (1994) reported further research that demonstrated techniques for 90% or better rooting of bottlebrush buckeye stem cuttings so the stage appears to be set for selection of superior clones, their evaluation and promotion.

Similar problems exist with red buckeye, *Aesculus pavia*. This small tree can have brilliant scarlet, red-orange, or yellow flowers. It is also reported to be an excellent cut flower and attractive to hummingbirds. There are forms that sun scorch and some that do not, as well as a trailing to prostrate form. With all this variation on a small tree with neat habit and dark green leaves, the potential for selecting superior clones exists but asexual propagation problems also exist plus growth is very slow in young plants. While we have rooted some stem cuttings, success has not been consistent and research continues. When we have enough plants, research into cultural practices to speed up growth will be initiated. Only when production problems are solved will it be time for the promotion needed to get red buckeye to the marketplace.

Asexual propagation problems are frequently the limiting factor in selection of superior forms of native landscape plants. If a disease-resistant form of garden phlox, *Phlox paniculata*, such as the mildew-resistant forms 'David' and 'Speed Limit 45' introduced in recent years, are discovered standard propagation techniques frequently work and plants are available to the trade within a few years. In other herbaceous plants, such as the double-flowered trillium 'Whitemore', standard propagation techniques are agonizingly slow and impractical for the nursery trade. Tissue culture will probably be the answer here.

With woody plants both manipulation of currently available techniques and tissue culture may be the answer. Many of the superior forms of redbuds will soon be available from tissue culture so that those enticed to try these plants by Dr. Raulston will be able to have their own *Cercis reniformis* 'Texas White', *C. canadensis* 'Forest Pansy', or *C.* 'Appalachian Red'. For others, woody plants such as Grancy grey-beard or fringe tree, *Chionanthus virginicus*—which has beautiful panicles of flowers colored from ivory to bright white, some with striking floral displays on male trees and fragrance that is anywhere from non-existent to enchanting—great market potential for clones would seem to exist if we can propagate the superior selections. By manipulating juvenility, hormones, and

lights H. W. Barnes has been able to experimentally root fringe trees—I've seen the plants. However, he is still a few years away from the level of confidence required to provide clonal liners in great numbers. With persistence may come the level of success required by the nursery industry. Then we will have the pleasure of expanding the landscape palette even further while providing the essential evaluation and promotion of these worthy North American native plants.

#### LITERATURE CITED

- Bir, R. E., H. W. Barnes, J. L. Conner, and T. E. Bilderback.** 1994. Propagating bottlebrush buckeye from stem cuttings. Proc. SNA Res. Conf. 39: In press.
- Dirr, M. A. and S. M. Burd,** 1977. Bottlebrush buckeye: Ornamental characteristics and propagation. *Plant Propagator* 233(4):6-8.
- Dirr, M. A.** 1990. *Manual of woody landscape plants*. 4th. ed. Stipes Publishing Co. Champaign, Illinois
- Everett, T. H.** 1960. *New illustrated encyclopedia of gardening*. Greystone Press, New York.
- Huxley, A.** (ed.) 1992. *The new royal horticultural society dictionary of gardening*. 1992. Macmillan Press LTD, London.
- Macdonald, B.** 1986. *Practical woody plant propagation for nursery growers*, Vol. 1. Timber Press. Portland, Oregon.
- Raulston, J. C.** 1990. Plant merchandising. *American Nurseryman*. 172(9):52-67.