

NEW TREE SELECTIONS¹

by William H. Collins

Let me tell you of a personal experience that clearly illustrates that the interest in good looking trees is continually going on at grass roots level. For several years I had the occasion to drive past a particular home that had an unusually symmetrical tree growing on the lawn. One day I decided to stop and ask the owner some questions about the tree. I introduced myself as a nurseryman. With a mixture of pride and frustration she told me that each summer dozens and dozens of total strangers stopped and asked her where they could buy a tree exactly like "that one". I identified the tree for the owner as a white ash, but I told her that her particular tree was perhaps one in 100,000 and that no where could she or anyone else buy a white ash as beautifully formed as the one on her lawn.

Interest in tree selection continues now as it has for hundreds of years. Perhaps part of the emphasis has shifted from food and timber needs to those serving functional, aesthetic, and environmental purposes. It is primarily for these latter uses that ISTC members have a consuming interest. An increasing number of both amateur and professional people are looking for superior kinds of trees. The enthusiastic amateur has only himself to please, but the professional has to be guided mostly by the requirements of other people, the user or the buyer, collectively called the market.

Modern plant selection involves a look at the whole plant, the total plant, i.e., its physical characteristics and its growing habits. Of ever increasing importance is the selection of those types that we lump under the heading of "low maintenance", trees which require minimum care in the production phase, but much more importantly minimum care after being planted in the landscape. We expand this to mean as many as possible of the following qualities: 1) adequate resistance to insect and disease; 2)

as structurally well formed as possible with good resistance to wind and ice damage; 3) above average ability to survive transplanting and requiring minimal recovery time following transplanting; 4) maximum freedom in established plantings from such problems as excessively large fruits, drooping limbs, reoccurring thorniness, basal suckering, trunk bark susceptibility to winter injury, ability as needed to regenerate a new leader, and the like; and 5) of increasing importance is what we broadly label "environmental tolerances", especially in municipalities and along the highways.

Modern plant selection has been and is a critical and time-consuming process. First it involves an evaluation of a limited number of progeny propagated from the parent plant. Then we must increase the progeny to a count large enough to compare it with similar clones in at least minimal commercial quantities. And third, a performance testing "in the field", preferably on sites similar to those for which this particular cultivar was developed and introduced.

New tree selections originate everywhere. Improved selections from tree breeding projects are largely the results of specialists located at government and university facilities. Nurserymen have largely sought the superior tree from two sources. One is the nursery itself where there are quantities of seedlings (sometimes hundreds of thousands) of many different genera and species, of various ages, all available year after year on a continuing basis. The other source is the rural and urban areas where individual trees can be observed as uncrowded specimens. Their natural form and shape can easily be determined. Many fine street cultivars were first discovered and evaluated on their planting site, between the curb and the sidewalk.

No one person or firm can have more than a

¹Presented at the 50th International Shade Tree Conference in Atlanta, Georgia in August, 1974.

smattering of knowledge of the potentially superior trees existing in his area. All of us in the nursery business are indebted to the keen eyes and good judgement of many individuals who discover a promising seedling tree and call it to our attention.

In this paper I have used two principles to categorize a tree as new. The tree is new if it is a recent discovery or creation. The tree is new, regardless of date of origin, if it has only recently been made available in commercial quantities. Some species or varieties may have been growing in an arboretum or botanical garden, but never previously offered to the trade.

Turkish filbert *Corylus colurna*

This species nearly always seems to develop a pleasing form. Broadly pyramidal, the tree has excellent foliage and is structurally strong. It is drought tolerant and not fussy as to soil type. In late winter and early spring the hanging catkins provide seasonal interest. Presently it is rated as a low maintenance type and considered worthy of trial as a street tree where space permits. Open grown specimens on favorable sites may reach 45 feet near maturity.

Hardy rubber tree *Eucommia ulmoides*

This species is unattractive to insects and diseases. I have observed a substantial number of mature trees as far north and west as northern Indiana. Form is generally round-headed with ascending branches. Its outstanding feature is the handsome, large, glossy, dark-green foliage. Leaves on vigorously growing shoots are shiny. Some near mature specimens are doing well in inner-city locations suggesting tolerance to city conditions.

Hesse European ash *Fraxinus excelsior hessei*

The glossy dark green leaves of this single leaf cultivar of the European ash are so distinctive that persons unacquainted with it will not realize it is an ash. Better yet the foliage remains in remarkably good condition to the end of the growing season. Only the various Callery pear selections equal it in this characteristic. Hesse produces a straight, sturdy trunk and the top fills out well. Trees of intermediate age are almost flat-topped, a desirable trait when planted under utility lines. It is surprising that so fine a tree remained untested for so long.

Korean callery pear *Pyrus calleryana fauriei*

With the qualities of the Bradford Callery pear now well known, it is easy to introduce and describe its smaller counterpart, the Korean callery pear. It has the same lustrous leaves, freedom of thorns, small-sized fruit, and good fall color and promises to extend the species' usefulness. It is lower growing but wider than Bradford, and should fit into most planting situations which will accommodate the larger flowering crabapples and hawthorns. Visitors to the nursery are intrigued with its sturdy form. The leaves are a shade darker green than Bradford. It is a splendid medium-sized

tree.

Thornless cockspur hawthorn *Crataegus crus-galli inermis*

We made an attempt about 11 years ago to propagate the thornless form of cockspur hawthorn but were not successful. Within the past 2 or 3 years it has been offered to the trade so someone has solved the problem. Years ago I saw the four or five trees in the Morton Arboretum as small, struggling, irregular plants, but a more recent visit indicated that the tops had developed into compact, uniform ovals 8 to 10 feet wide and 6 to 8 feet tall. The bright, dark green, glossy leaves are equal to the best of any of our native hawthorns. If this cultivar can be trained to a higher head, then its opportunity for new uses is perhaps the equal of the dotted hawthorn just described.

White cascade flowering crabapple *Malus White Cascade*

Any small flowering tree that has as many variable characteristics in flower, foliage, fruit, and form as the flowering crabapple, is bound to have new introductions offered to the trade from time to time. No longer can a grower hope to recoup his testing and promotional costs if the selection is just tops in one or two characteristics. It has to be a top four-season ornamental and it has to be as resistant as possible to the several leaf diseases that are disastrous to the susceptible kinds. To be offered next year is a white-flowered, yellow-fruited, weeping crabapple of refined and graceful beauty. Many of the weeping varieties available today are of rather stiff, irregular habit, requiring both age and weight to make them gracefully pendulous. The new White Cascade variety develops a pleasing, arching habit, which suggests a cascading waterfall. The leaves are relatively narrow, about the shape of the carmine crab, *Malus atrosanguinea*. It is disease resistant. The tiny crimson-red flower buds expand into white flowers when fully open. The tree blooms uniformly from top to bottom. Like the Red Jade variety, it can be trained into artistic forms and styles.

Aristocrat callery pear *Pyrus calleryana 'aristocrat'*

When Mr. William Straw of Kentucky brought branches of his new callery pear seedling into the office about four years ago, we were immediately aware of the distinctiveness of the foliage. Larger, longer, and with a pronounced wavy edge, the leaves of Aristocrat are in a class by themselves. It has all the desirable qualities of Bradford and Korean. The form is broader, less dense, and has upcurving branching. Mr. Straw has further observed that the long-petioled leaves have a shimmering movement like those of the quaking aspen.

Swamp white oak *Quercus bicolor*

Accumulating evidence over the years suggested that the swamp white oak should be brought into the trade, at least in modest quantities. Reported in its favor are a tolerance to wet soil situations, even situations with a hardpan and subject to spring flooding. It transplants more successfully than common white oak. It is rapid growing from seedlings to heights of 8 to 10 feet tall. Individual trees have pronounced pastel fall colors of light orange to light brown. It is very promising at this point in time.

English oak *Quercus robur*

Two factors have guided Cole into a modest propagation of

the English oak. There are several impressive street tree plantings in northern Ohio and a number of landscape architects have indicated that if the tree were available they would specify it for jobs they design. For a large tree it bears a remarkably small leaf of blue-green color. In some seasons the inner foliage has lightly mildewed, but with no apparent detriment to vigor or beauty. Our seedling trees are of northern U.S. origin, collected from well shaped parent trees. They are vigorous and rapid growing.

Improved dotted hawthorn *Crataegus punctata inermis*

This is one cultivar whose 1- and 2-year growth has exceeded our wildest expectations. The dotted hawthorn is one of the hardiest and most widely adapted of native hawthorns growing across the northeastern United States. The parent tree was discovered at the Sequest Arboretum in Wooster, Ohio. It is essentially thornless, unusual in hawthorns. Juvenile thorns have occasionally been noted near the base of 1-year whips, but few elsewhere. This cultivar, when trained as a single stem, can be placed with minimal objections into street tree plantings where its silvery bark, white flower clusters, attractive brick-red fruit, and interesting horizontal growth make it a 4-season beauty. It is reported as susceptible to cedar-apple rust in some parts of the country, but this does not seem to seriously interfere with its annual bloom or vigor.

Forest pansy redbud *Cercis canadensis* 'Forest Pansy'

Purple foliated plants among the woody ornamentals most assuredly stir up interest and sustain it for years. For example, there are the purple-leaved types of Norway maple, flowering plum, European beech, hazelnut, birch, smoke bush, and flowering crabapples. The leaves on the tip growth of the Forest Pansy redbud are of such a rich, glossy, dark-purple color that one may assume that either there is difficulty in propagating it, or that inadequate funds were used to promote it when it was first introduced. It is as different for a redbud as Sunburst is for a honeylocust.

Bailey's dwarf amur maple *Acer ginnala* Bailey dwarf

The amur maple is one of the finest small, hardy maples. Most seedling trees are multi-branched at or near the ground level. It has been a challenge for nurserymen to find a form that can be trained single stem with a straight trunk. Bailey Nursery apparently accepted the species' inherent tendencies and selected a bush seedling of dense rounding form. The foliage is smaller and more refined than typical and perfectly in scale with its size. It is judged to be superior as a low to medium height hedge, either trimmed or untrimmed.

Shawnee Brave bald cypress *Taxodium distichum* 'Shawnee Brave'

Nurseryman Earl Cully of Illinois has sought out three distinctive forms of our native cypress. Two of them are bald cypress and one is the pond cypress. They are patented and in modest production. Shawnee Brave is one of the two slender forms and is judged to have good potential for the medium width street tree lawns, plus the many more landscape situations. Cypress are not limited to plantings in low or wet soil conditions, but seem equally at home on any of our typical upland sites.

Autumn Purple white ash *Fraxinus americana* 'Autumn Purple'

Of hardy northern origin, the parent tree of the Autumn Purple white ash was discovered in Madison, Wisconsin. I recall how excited the late Mr. D. B. Cole was, when he received the first leaves from McKay Nursery with their rich, dark purple, fall color. "This is what we have been looking for and for a long time," he said. Cole and McKay jointly introduced Autumn Purple. It has dark green summer foliage and a beautifully formed, symmetrical head. The one-year whips are usually 6 to 8 feet tall. A nice straight trunk is thus assured for street and landscape plantings where head clearance of 5 to 6 feet may be needed.

Rose Hill white ash *Fraxinus americana* 'Rose Hill'

Rose Hill white ash is the other of two cultivars introduced primarily for their outstanding purple fall color. Based on nursery-age trees, Rose Hill appears a little less symmetrical and more open than Autumn Purple. Intensity of the peak, dark plum-purple color also seems less intense. It is generally assumed that both cultivars could be interchanged in landscape use. Both are indicative that this fine native ash has been overlooked too long.

White Candle flowering crabapple *Malus* White Candle

Anyone evaluating crabapple introductions feels more confident if the remarks are limited to those with which he is personally familiar. I saw Bob Simpson's white flowering columnar variety White Candle at Vincennes, Indiana in 1966 and in 1968. Too few flowering crabapples remain upright enough and rigid enough to be used as a flowering screen. White Candle looks like it will do the job. It has 2-inch, semi-double white flowers, very dark green leaves, and medium red fruit. The width is estimated at 3 to 5 feet, height about 12 to 15 feet. It was introduced by Interstate Nurseries of Iowa in 1970.

Tina flowering crabapple *Malus* 'Tina'

The Sargent flowering crabapple has always ranked at or near the top in any list of varieties of small stature. This past summer I had the opportunity to see two sizes of container-grown Tina, a dwarf Sargent type. They were low and spreading in form, the larger ones about 3 to 3 1/2 feet in diameter and 12 to 18 inches high. Small dark green Sargent-like leaves were topped with the characteristic pink to red flower buds and clusters of small white flowers with yellow centers. This looks like an ideal candidate for the front of shrub borders and all types of small gardens. Indications are that it will develop into a mounded type of growth with the lower branches almost hugging the ground.

Gum Ball sweetgum *Liquidambar styraciflua* 'Gum Ball'

Items which are vastly different from the typical form of the species are frequently referred to as novelties. The very dwarf, very compact rounded form of the sweetgum named Gum Ball is certainly novel. The introducer, Forest Nursery Company of Tennessee, gives an estimated mature height of 8 to 10 feet. The single plant in our test garden, now in its third growing season, is a perfect 30-inch sphere. It has survived two winters without injury including one late spring frost. Fall color at Circleville has not been outstanding. No insects or disease pests were noted.