

## Selection of Deciduous Tree Magnolias

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### INTRODUCTION

Magnolias are often called aristocrats among landscape plants. This is because of their lovely, large flowers and glossy leaves. The number of available hybrids has exploded in recent years. My talk will focus on selection in two specific areas of deciduous magnolias, what I call the "tree magnolias" and the "yellow flowering" magnolias.

### BACKGROUND

I am a third generation nursery owner/operator. My grandfather came to Canada in 1924 with a young family and a dream to start a nursery someday. In 1937 he started what is now Reimer's Nurseries growing fruit trees and roses. My father has also been passionate about plants all of his life. As long as I can remember Dad has been discussing and bringing in all types of plants for evaluation and trial growing purposes and consequently he has had a terrific influence on my career. We are not plant breeders but as growers we select plants that perform in desirable ways.

Our selection process is really quite simple. We observe our plants for the purpose of marketing. I'm borrowing from J.C. Raulston and Kim Tripp's book *The Year in Trees* wherein four criteria are listed as factors in commercial success:

- Propagation efficiency — if it's not relatively easy to do forget it.
- Growing efficiency — if it produces heavy losses or culls easily or doesn't grow relatively fast — forget it.
- The plant must be a tough survivor, able to survive both busy retailers and unknowledgeable gardeners.
- The plant must be a new form of familiar plants or be colorfully showy enough to make the impulse sale during that hectic 5-week sales period when 70% of all plant sales occur.

Furthermore it helps the sales process enormously for the plant to have a marketable name. For instance compare the name *Magnolia ×wieseneri* 'Aashild Kalleberg' with *M.* 'Goldstar' or *M.* 'Yellow Bird'. In order for widespread commercial success, a plant must have a good balance of these production and utilization factors. My role in the selection process is to evaluate all of our magnolias in this way.

### PROPAGATION

We use *M. sieboldii*, *M. denudata*, *M. kobus*, or *M. stellata* as seedling understocks. These provide a fairly good root system for transplanting later on and reasonable hardiness. Using a modified chip bud we grow our magnolias in the open field in much the same manner as a fruit tree.

### REASONS FOR SELECTING

Over the last 10 to 15 years the arborists in our cities and those who have a concern about urban horticulture have voiced concerns about monoculture in our urban

plantings. The Dutch elm disease that wiped out the elms in many cities in North America is often cited as an example of what not to do. Presently, there are still legions of ash, maples of all kinds, flowering plums, pears, and cherries planted in our cities. Many of these taxa have served us well. But there is still a concern that perhaps a new disease or pest may someday denude significant portions of our urban forest. The city of Vancouver has drawn up limits of 20% of one genus and 10% of one species as target planting maximums in an effort to prevent a future decline in our urban forest.

This concern along with the desire to do something different served as a catalyst for us to look at magnolias as trees. We sold *M. kobus* to some of the local cities in the 1970s and 1980s. These seemed to stand up fairly well in the urban environment.

### THE IDEAL TREE

Perhaps the ideal street tree is one that grows extremely rapidly to about 20 ft, whereupon it will cease growing so as not to tangle with overhead wires or underground sewers. It will flower profusely over a long period of time yet not shed any flowers, or fruit, and will provide great shade during the hot months yet not drop any leaves for people to rake in fall. It will withstand all manner of human and environmental abuse in an urban setting such as pollution, pests, diseases, and teenagers. I jest to prove a point. There is no ideal street tree. Magnolias come fairly close in my opinion, especially cultivars such as 'Wada's Memory', 'Vulcan', 'Galaxy', 'Spectrum', and 'Caerhays Belle', and the species *M. kobus*. I'd like to look at each of these briefly.

### Tree Magnolia Selections.

***Magnolia* × *kewensis* 'Wada's Memory'**. This cultivar was received in a batch of *M. kobus* seedlings at the University of Washington Arboretum in Seattle. The flowers are white and drooping. I am not thrilled about the flower but I love the foliage and especially the form of the tree. J.C. Raulston recommended using 'Wada's' Memory for commercial plantings as a street tree.

***Magnolia* 'Galaxy' and 'Spectrum'**. I list these cultivars together because of similar parentage (*M. lilliflora* 'Nigra' × *M. sprengeri* 'Diva'). 'Galaxy' is a single-stemmed, upright tree with a pyramidal or columnar shape. It has purple-pink buds that fade somewhat after opening. 'Spectrum' is more broadly oval than 'Galaxy' producing larger darker yet sparser flowers than 'Galaxy'. 'Galaxy' is somewhat hardier than 'Spectrum'. It is listed as a Zone 5 to 8 plant. Generally, from what I understand the flowers escape the late spring frosts along the eastern seaboard.

***Magnolia* 'Vulcan'**. I have grown to love this cultivar even though I've been disappointed with the flowering characteristics. A few years ago all the magnolia lovers were talking about this new red flowering cultivar. In fact it even rated a picture and write-up in the American Nurseryman magazine 5 years ago. I have only seen pink/purple color in this cultivar, but after talking with Dorothy Callaway who wrote *The World of Magnolias*, I suspect that one has to be further south to get the true color. But what intrigues me is the upright columnar growth habit probably attaining a mature height of 20 to 25 ft and the lovely dark green foliage.

***Magnolia* 'Caerhays Belle'**. This relatively unknown cultivar is probably my favorite of the tree magnolias. It is stiff, upright, and branched with clear salmon-pink



9-in. blossoms, and thick textured foliage. It is already receiving some favorable reviews and I suspect many more.

### **Yellow Flowering Magnolias.**

Two of the biggest problems with magnolias are its lack of hardiness and early flowering. In attempting to solve these problems hybridizers have used two of the hardier species: *M. acuminata* and *M. liliiflora*. From these crosses have come the bulk of the yellow flowering magnolias.

At present we have over 20 cultivars of yellow magnolias. We bring in new cultivars every year. This year we brought in 'Koban Dori' from Switzerland and other cultivars from the U.S. What we are looking for is some character that will make the plant stand out from other cultivars. Next we will look at several cultivars that are worthwhile in my opinion and some that we are still looking at:

**'Golden Pond'**. This cultivar is not particularly dark yellow in flower, but it came with the boast of a Zone 3 hardiness rating. The best way to tell is to sell some of these plants into Zone 3 and wait for a hard winter.

**'Butterflies'**. We've had this cultivar for a few years and are still waiting for it to flower. I've seen the pictures and read the reports. It is to be a precocious dark yellow that should be hardy to Zone 4. It's hard for me to recommend it until I've seen it flower myself.

**'Goldstar'**. A cream-colored star magnolia with reddish leaves. It has attractive qualities, but I can't decide whether to grow it as a bush or a tree. It flowers about 4 weeks after *M. stellata* and thus should avoid the late spring frosts.

**'Hattie Carthan'**. A stocky plant producing yellow flowers with a touch of magenta at the base. It has good possibilities.

**'Large Yellow'**. Last year we watched with growing excitement as this cultivar produced 30-plus flower buds as a 2-year-old plant. It survived the winter frosts with ease. However as we watched the flowers open during an exceptionally wet year we were disappointed because the rain seemed to cause the flower petals to fall off before they were fully open.

**'Elizabeth'**. Evamaria Sperber of the Brooklyn Botanical Gardens crossed *M. acuminata* with *M. denudata* producing this exceptional precocious cultivar. This was one of the first yellow-flowering magnolias to become available and although it is only cream-colored yellow and despite all the new cultivars now available, this is still one of the finest. It flowers as a 2-year-old plant and has lovely large flowers and leaves. It has some of the *M. denudata* floppiness as a young plant but deserves a significant place in the yellow-magnolia field.

**'Yellow Bird'**. The offspring of *M. liliiflora* and *M. acuminata* are called *M. xbrooklynensis*. These plants are generally hardier than *M. liliiflora*. The flowers appear at the same time as the leaves and continue for about 2 to 3 weeks. The flowers are a good yellow with a bit of greenish tinge at the base and are held upright on the branches. Although some prefer to see the flowers without the leaves, 'Yellow Bird' is one that flowers heavily as a young plant at the right time of year. In my opinion, this is probably the best of the yellows.

**Future Selections.**

By way of comparison, the development of magnolias is likely where rhododendrons were 30 years ago. The focus is on developing cultivars that are hardier, withstand the early frosts, flower after the danger of frost has passed, or have a longer flowering period. We are just starting to get the 2nd and 3rd generation hybrids now.

For example, through a technique called “induced polyploidy” whereby the chromosomes are doubled, tripled, or quadrupled, the characteristics of a known plant are changed somewhat. The leaves and flower petals are thicker resulting in more frost resistance and later flowering than regular diploid forms of the same species or cultivar.

In order to select the better cultivars we need to continue to use the criteria described above.

**SUMMARY**

Magnolias have tremendous landscape potential. New colors with hardier, more dependable flowering cultivars will excite us for years to come. We can also look toward new uses for magnolias as street and boulevard trees. I look forward to evaluating and selecting the better cultivars as they come along. No doubt my “top ten” list will change.