

deciduous CONIFERS

Photo courtesy of J. Frank Schmidt & Son Co.



WHEN WE THINK OF CONIFERS IN THE LANDSCAPE, WE USUALLY THINK ABOUT PINES, SPRUCES AND OTHER EVERGREEN TREES. DECIDUOUS CONIFERS, HOWEVER, REPRESENT ONE OF THE MOST INTERESTING AND VERSATILE GROUPS OF LANDSCAPE CONIFERS. THERE ARE THREE PRINCIPLE GENERA OF DECIDUOUS CONIFERS THAT ARE COMMONLY USED IN MICHIGAN LANDSCAPES: LARCH (*LARIX*), BALDCYPRESS (*TAXODIUM*), AND DAWN REDWOOD (*METASEQUOIA*). THESE TREES ADD A UNIQUE APPEAL TO THE LANDSCAPE. IN THE SPRING, THEIR NEWLY EMERGING FOLIAGE IS OFTEN A STRIKING BRIGHT GREEN AND IN THE FALL THEY MAY TURN BRIGHT YELLOW OR RUSTY RED-BROWN.

The taxonomy of both *Taxodium* and *Metasequoia* has undergone revision recently as a result of modern genetic analysis. Formerly both were considered members of the family Taxodiaceae. Combined morphological and molecular analyses, however, indicate this group is more properly classified as a subfamily within the Cupressaceae. At first blush, this may seem odd given that most other genera in the Cupressaceae have scale-like leaves, while *Taxodium* and *Metasequoia* do not. Foliage characteristics, however, do not relate to phylogeny and evolutionary relationships as well as reproductive and genetic traits, hence the new classification.

Taxonomic arguments aside, deciduous conifers have an undeniable appeal that makes them great choices for Michigan landscapes. In addition to their spring and fall color, most deciduous conifers are well adapted to a wide range of site conditions. As a group, deciduous conifers grow well in low areas



Larix decidua 'Varied Directions'

Bert Cregg



Metasequoia glyptostroboides 'White Spot'

Photo courtesy of Bill Barger



Taxodium distichum 'Secret Broom'

Photo courtesy of Bill Barger

or sites with poor drainage— conditions most evergreen conifers don't tolerate well. While dwarf or weeping forms are available, most deciduous conifers are fast growers and will need some room to grow. Both dawn redwood and baldcypress have distinctive bark characteristics that add year-round interest to the landscape.

Larix

Worldwide, larches are an important group of trees both for forestry and ornamental purposes. Larch species make up a large component of boreal forests in North American and in Europe and Asia. Eastern larch or tamarack (*Larix laricina*) has a transcontinental distribution and occurs from the eastern U.S. and Canada to Alaska. Western larch (*Larix occidentalis*) is a large forest tree that is used for timber in the Northwest and produces lumber that closely resembles Douglas-fir. Given the habitats in which they occur, it is not surprising that larches are extremely cold hardy and tolerant of wet feet. Larches are not shade tolerant and need full sun. From a horticultural perspective, there are relatively few cultivars of North American larches (*T. occidentalis* and *T. laricina*) compared to their Asian and European cousins. Chub Harper notes that he has often seen delayed failures of *L. laricina* in the landscape; a phenomenon he refers to as "sudden larch syndrome". "You transplant the trees and they grow fine for several years then you look over and they're ready for a ride on the chipper truck," according

to Harper. Some growers report better outcomes when *L. laricina* is grafted onto Japanese larch (*L. kaempferi*) rather than its own rootstock.

Larix decidua (European larch)

'Varied Directions' The name says it all. This is a plant that doesn't seem to know which end is up. If you're into the unusual, bordering on bizarre, this may be a plant for you. Soft green foliage in the summer turning golden in the fall. A large tree – 15' at age 10.

'Girard's Dwarf' This is another irregular grower. A dwarf deciduous conifer that can fit in a smaller space.

Larix kaempferi (Japanese larch)

'Blue Rabbit' Chub notes: "Really a striking plant with glaucous blue foliage." A growing dwarf form, 3–6' at age 10.

'Pendula' A dramatic weeping form. Chub notes: "This is often listed *L. decidua*. Works well when grafted high on a standard. We have one at the arboretum that has formed a skirt about 15' wide." Foliage blue-green.

'Diana' Has a kinky or twisted branch growth habit that provides a unique silhouette.

Taxodium

As with the family classification of the Taxodiaceae, there are also various interpretations of the taxonomy of *Taxodium*. Earlier references list two species of *Taxodium* in the United States: baldcypress (*T. distichum*) and pondcypress (*T. ascendens*). More recently, taxonomists list the two plants

as one species (*T. distichum*) with two varieties, var. *distichum* (Baldcypress) and var. *imbricarium*. Regardless of the changing taxonomy, baldcypress is a great tree that is incredibly adaptable. Baldcypress is essentially a southern species and the northern extent of its native range reaches only to the southern borders of Indiana and Illinois. Yet the species thrives in mid-Michigan, Lincoln, NE, Cornell, NY and other places hundreds of miles north of its native range. In its native habitat baldcypress grows in swamps and other wet areas and can withstand prolonged flooding. The species also grows in estuaries along the Gulf and Atlantic coasts and tolerates saltwater intrusions. When grown in wet conditions baldcypress develops the characteristic cypress "knees". Although 90 percent of the species range occurs on bottomlands below 100' in elevation, baldcypress grows remarkably well when planted on upland sites.

In landscape and nursery settings baldcypress is a fast growing tree. In our nursery trial at the MSU Southwest Michigan Research and Extension Center near Benton Harbor, baldcypress have averaged 3' per year of height growth. Because of its adaptability and tolerance of environmental stresses, baldcypress has become an increasingly popular landscape tree and is even finding use as a street tree in Michigan and elsewhere in the Midwest. Chub Harper notes that baldcypress is one of his all-time favorite conifers, "It's hard to imagine a tree that will tolerate a wider range of sites than baldcypress. It'll handle standing water, highway rights-of-way, parking lot

tree wells, you name it.” While most of the baldcypress in the trade are straight species there are increasing number of cultivars available to add even more interest to the landscape.

Taxodium distichum **(Baldcypress)**

‘Pendens’ This is a large tree with a somewhat pyramidal form and dropping branch tips. There is a striking specimen at Hidden Lake Gardens. Chub notes: “The fall color on ‘Pendens’ is out of this world.”

‘Mickelson Shawnee Brave™’

Another large cultivar of baldcypress. This cultivar is noteworthy for its upright form and narrow growth habit. In 2004 it was selected for Kentucky’s Theodore Klein Plant Award.

‘Secret’ is a dwarf, spreading form. This plant was discovered as a witches broom at the Secret Arboretum in Wooster, OH. The parent plant was lost in 2000; widely propagated in the trade. Makes a dramatic plant when grafted high on a standard.

Metasequoia

Like *Taxodium distichum*, dawn redwood (*Metasequoia glyptostroboides*) is a beautiful and fascinating tree.

Earlier in the 20th century *Metasequoia* was thought to be extinct and was only known to botanists from fossil records. In the 1940s the species was identified in China. Although the tree is widely cultivated in the U.S. and elsewhere in the world, trees in the wild are rare and the species is considered critically endangered in its native habitat. Dawn redwood and baldcypress often appear quite similar and initially may be confused but there are several key traits that are useful for identification. The leaf arrangement of dawn redwood is opposite whereas baldcypress leaves have a spiral or alternate arrangement.

Dawn redwood maintains a strongly pyramidal excurrent branch habit with fine branches. Bald cypress has a coarser branch structure and develops a broader crown outline with age. Other factors being equal, *Metasequoia*

***Taxodium distichum* ‘Pendens’ is a large, dramatic tree in the landscape.**



Bert Cregg

Justin “Chub” Harper is widely known as one of the leading experts on garden conifers in the United States. The Harper Collection of Dwarf and Rare Conifers at MSU’s Hidden Lake Gardens is nationally recognized. Each “Conifer Corner” includes Chub’s notes on his favorite (and not so favorite) conifers.

transplants more easily than *Taxodium*. Like baldcypress, dawn redwood is a fast grower (over 2' feet per year) and is a large tree that needs room to grow. The genus *Metasequoia* is monospecific. Several sources report that most of the *Metasequoia* in the nursery trade descended from three seed sources collected in China in the late 1940’s. Only a handful of cultivars are listed by the American Conifer Society

Metasequoia glyptostroboides

‘National’ is a selection from the National Arboretum. This is a fast grower with a narrower crown form than the straight species.

‘Sheridan Spire’ Another narrow form, noted for bright green summer foliage and outstanding fall color. 🌿