



EASTERN REDBUD

(*Cercis canadensis* L.)

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One of the reasons why the Arboretum is an especially pleasing place to visit in spring is that the majority of our showy woody plants bloom then. In most years, the Arboretum is simply a delightful place to be during the spring blooming season. The peak of this display normally occurs during the first two weeks of May and eastern redbud, *Cercis canadensis*, is a significant contributor.

Redbud is one of the North America's widely distributed trees. It is found naturally throughout most of the eastern and central United States, as far west as southeastern Nebraska, western Oklahoma and Texas, and southward into east-central Mexico and west-central Florida. It reaches its northern limit in southern Pennsylvania, southern Michigan, northern Illinois and southern Iowa.

Redbuds from Texas are sometimes called *Cercis texensis* or *C. reniformis*, and those from Mexico are sometimes called *C. mexicana*. However, the consensus among most people who have worked closely with redbuds is that these populations from hotter, drier climates merely display the smaller, hairier and waxier leaves that often occur in plants of drier areas, and that they probably should not be considered distinctly different species from the eastern populations. However, the more western plants do have notched instead of pointed leaf tips. For the purposes of our discussion, it doesn't matter much how redbuds are treated taxonomically, since only plants from the eastern and northern populations are suitable for our region.

Redbuds are small to medium-sized, often multi-trunked trees in the bean family (*Leguminosae* or *Fabaceae*). They often reach maturity and begin blooming at a height of five to seven feet. Eventually, they reach an average height of about 15 feet, though provenance (origin) of the trees and site conditions can influence eventual height.

Leaves are alternate on the twigs, valentine-shaped, with smooth margins. They often are purplish when they first appear, but become green as

they expand; fall foliage color is yellow. (Technically, redbud leaves are actually leaflets, but that is beyond the scope of this discussion.) The bark is rather smooth and dark gray when young, somewhat similar to witch hazel. As trunks become older, the bark exfoliates attractively, revealing tan-orange layers of inner bark which sometimes show a touch of burgundy.

As the common name implies, redbud is best known for its flowering display. And, as its name further implies, it is showy even in bud. Redbud is a reliable, prolific producer of masses of pink flowers. Since the flowers arise from old wood before leaves expand, and since they develop directly from larger branches and trunks as well as from twigs (a condition called *cauliflory*, literally meaning "flowering stem") on mature trees, the display is often truly spectacular. The magenta flower buds often may be visible for several weeks before one or two warm days trigger trees into full bloom; the peak blooming season in our region is late April and early May.

Ecological Tolerances and Siting

Within their natural range, redbuds may occur on almost any site that is not excessively wet, excessively dry or has strongly acid soil. They are absent from higher elevations in the eastern mountains. In nature, they display a strong preference (indeed, redbud is an indicator species) for alkaline soil; if you happened to fly over eastern North America during redbud blooming season, you literally could map the upland areas of neutral or alkaline soil below you by noting the pink concentrations of flower-

The spectacular masses of redbud flowers arise from old wood in late April and early May before the leaves expand.



ing redbuds. They will tolerate acid soil well if planted in it, even though natural seedlings rarely succeed there. Redbuds exhibit excellent drought tolerance, when not sited in full sun.

In nature, plants of this species occur as understory trees in rather dense woods, as well as in areas that receive nearly full sun. Redbuds in open or semi-open situations flower more heavily.

Culture and Landscape Use

In the southern States, redbuds are used very commonly with dogwoods (*Cornus florida*) to create striking displays under the partial shade of larger trees. Redbud normally blooms earlier, but when cool weather is prolonged in spring, both species may bloom together, producing a true visual feast. In cultivated landscapes in the Chicago region, they sometimes bloom in unison with Allegheny serviceberry (*Amelanchier arborea* var. *laevis*) and make an attractive combination. Because of their relatively small size, redbuds are particularly suitable for homesites and other landscapes where space is at a premium.

Suitable Cultivars

Some have suggested that a more descriptive name for this species might be "pinkbud," because the buds typically are purplish red and the flowers are pink. Actually, redbud flower color ranges from light purple to occasional white forms (named f. *alba* or 'Alba,' the *white* redbud).

Provenance, or geographic origin, is important for success with American redbuds, and few recognized cultivars are reliably hardy in our region. The best sources for redbuds in our vicinity are populations in southern Michigan or northern Illinois. The northeastern Illinois range of the species extends northward as far as southern Cook County. Columbus, Wisconsin, sometimes calls itself "The Redbud City," because of extensive plantings in that town. The original plants were brought to Columbus from northern Indiana. Since then, plants originating from Columbus have proven very suitable for planting in the upper Midwest.

Propagation

Redbuds are easily grown from seeds, which mature in early autumn. The easiest method to prepare them for germination is to permit seeds to stratify naturally through winter and gather them in spring, since fruits often remain on plants well into winter. Or, seeds may be removed from pods in fall and kept moist in a refrigerator for about three months. Regardless of which cold treatment is used, seeds also must be scarified to germinate properly. The easiest method of scarifying small lots of seed is to nick the

seed coats with a file before planting. After both cold treatment and scarification, germination is rapid. Seedlings can attain six to twelve inches of growth the first year, if they receive plenty of light and moisture along with some balanced fertilizer, and are transplanted into individual containers to avoid crowding.

With proper care, redbuds can reach blooming size within three or four years from seed. When planted in soil with adequate drainage and well supplied with moisture, young redbuds may grow several feet per year. Trunks of young trees should be protected from rabbit and rodent damage. Young redbuds are easy to transplant successfully, but older ones are more difficult. Asexual propagation of desirable selections is best accomplished by grafting or budding.

Potential Problems

Redbuds that have been selected from inappropriate geographic areas, or are under stress from poor soil, chronic drought, or stem injury caused by lawn equipment, are often subject to a fungal canker that can prematurely weaken and kill trunks. Canker is not considered to be a serious problem if these predisposing causes are avoided. Some leaves may suffer sunburn in full sun, when high temperature and low humidity are prolonged. The reason for this is that redbuds are best adapted to partial shade.

Some authorities have stated that *Cercis canadensis* plants in landscapes have an effective lifetime of only about 15 or 20 years. This is not the case; if the stress factors listed above are avoided and you allow the naturally renewing growth form of redbuds to work for you, these trees can remain attractive in the landscape for decades. How can you let the growth form work for you? Redbuds often send up vigorous sprouts from the base of the plant. If an older trunk begins to show decline, a few of these young sprouts should be left to grow for a few years. Then, when the main trunk is removed, its extensive root system will renew the mature form of the tree rather quickly. This resprouting characteristic makes redbuds useful in shrub borders and group plantings. Incidentally, the same strategy of letting an original tree renew itself naturally also works quite well for most basswoods or lindens. The method often can save you the considerable cost of replacing both of these types of trees.

The Arboretum's Redbuds

Mature redbuds are fairly common at the Arboretum. In addition to those that have been planted, offspring of older trees often appear spontaneously. Near Meadow Lake on the Illinois Trees Nature Trail, there are several trees between the restaurant and the lake; a nice group as you ap-

proach the larches on the east side of the lake; two nice ones directly across the lake from the main restaurant windows; and several more just north of the labelled sycamore. If you're driving through the Arboretum, you'll notice several redbuds as you top the hill at Thornhill, and another nice group on the south side of Lake Marmo. Apparently, Mr. Joy Morton liked redbuds, because he planted quite a few in some of his favorite places. Redbuds are a delight that we hope you will try in your own home landscape.

Suggestion for Further Reading

An article by Dr. J. C. Raulston in the March 1, 1990 issue of *American Nurseryman* contains additional detailed information on redbud culture and propagation. The North Carolina State University Arboretum, with which Dr. Raulston is associated, probably has the largest and most diverse collection of redbuds (both domestic and foreign) in the world. Dr. Raulston manages an active redbud selection and hybridization program there.



Redbuds are particularly suitable for homesites and other small-scale landscapes where space is limited.