crown even as a young tree. It seems to become no more than forty to sixty feet tall in our area, though it grows much larger in other areas. Here it sometimes develops a die-back of the top limbs. Its small leaves have rounded lobes, and sometimes a bluish cast.

English oaks are relatively easy to transplant and may be found at some of the nurseries of this region. It is easily grown from the very large and sometimes prolifically produced acorns.

**Quercus rubra, Northern Red Oak**

Northern red oak is native to the eastern and central United States and is found in our local woodlands. It is an attractive tree with large, glossy leaves with sharp-tipped lobes. It grows moderately rapidly, developing a straight trunk with branches that usually extend somewhat upward. Like white oak, it suffers when forests are drastically modified with the construction of homes. Unlike white oak, it is more commonly seen as a planted shade tree.

Northern red oak can be transplanted rather easily and is generally available from nurseries. It is easily damaged by drought when it is young, and it does not compete with grass as well as do most shade trees. It requires ample space for the horizontal spreading of its root system and its crown, as it becomes quite large, sometimes as tall as seventy-five feet or more. It is easily grown from acorns that have been in sealed containers under refrigeration for planting in spring.

(1) Though an established practice for many years, arborists and horticulturists are shifting their practices to maintain as much of the crown as possible. When transplanted dormant, much of the tree’s carbohydrate sources are stored in the buds. By reducing the crown ratio and pruning limbs, the energy levels of the tree is greatly reduced; and hence, the survival through transplant shock is subsequently reduced.

**THE BIGGEST BUR OAK**

by Deborah Gangloff

from *American Forests*, January/February 1991

This bur oak has reigned as champ since 1980, when it was nominated by Owen H. Robinson, now a retired district forester for Kentucky’s Division of Forestry. It stands near a pond on the 1,140-acre Indian Creek Farm, a horse, hay, and tobacco operation near Paris, Kentucky.

According to Shackenford “Shack” Parrish, when members of the Parrish and Hancock families and their British partners first viewed the farm for possible purchase, the troupe tried to stretch their arms around the mighty oak. They couldn’t.

Although this stately tree has suffered the indignities of lightning strikes a few times in its long life, it has held its own among the bur oaks. The tree is a symbol of the farm and is shown on its stationery and work hats.

Twenty seedlings transplanted from the shade of the champ to one of several wild areas on the farm were killed by frost last year. The owners are determined to try again to preserve the progeny of this nationally renowned oak.

**Sawtooth Oak**

Sawtooth oak grows moderately rapidly at the Morton Arboretum, but in the Chicago region, it is little known and rarely seen as a planted tree. It is listed in a few nursery catalogs and seems to be a very promising tree for urban landscapes. The tree produces abundant acorns when only a few years old. These germinate readily, making this an easy tree to grow from seed.

**Quercus alba, White Oak**

A common tree of northern Illinois forests, the white oak may attain a height of sixty to one hundred feet and live more than two hundred years. A white oak with room to grow may attain a massive size with a very broad, rounded, symmetrical crown.

All of the large white oaks in northern Illinois are bequests from forests that have taken centuries to develop to their present state. When homes are built in a woods and selected specimens retained for shade and amenity, the abrupt transformation of surroundings is often devastating to white oak, as this tree has a special dependence upon the forest environment. The shelter created by a nearly continuous canopy for forest trees, which favorably modulated the temperature and moisture in the atmosphere and soil, is necessary for this oak. Removing the surrounding forest usually initiates decline or death for the trees that have been singled out to be saved! A large part of the problem seems to be the modification of soil environment brought about both by the opening up of the woods and the damage (compaction, scraping, filling, etc.) done by heavy construction machinery.

White oak is seldom seen as a planted tree, probably because it transplants with difficulty. It does not grow well in clay soils, especially those with spring wetness problems. It is probably best established by planting very small saplings in well-drained soil and providing a mulch for many years. White oaks are stocked by only a few nurseries in this area.

**Quercus bicolor, Swamp White Oak**

Swamp white oak is one of the most suitable of the native oaks for landscape use in the Midwest. It is at home in floodplains and swampy places and grows satisfactorily when planted in inhosiptable clay soils, a desirable attribute for success as an urban tree. In the natural landscape this oak sometimes attains massive size and great age, but as a planted tree usually reaches only sixty to seventy feet in height. It grows moderately rapidly. On young tree the central trunk may be evident well into the crown of the tree. Old trees may have a broad vase-like shape. The slightly lobed leaves are glossy green on the upper side and whitish on the lower.

Though swamp white oak is a desirable shade tree, it is available at very few nurseries in the Midwest area. It is quite easy to grow from acorns. Young saplings are not too difficult to transplant.

**Quercus imbricaria, Shingle Oak**

Shingle oak, a native to the eastern and central United States, is an attractive medium-sized tree with a dense, nearly symmetrical, conical to rounded crown. It attains a height of forty to fifty feet. On the natural landscape it is found in fencerows, old fields, disturbed woodlands, and on fringes of forest. It is unusual among oaks in that its leaves are neither lobed nor toothed but have an entire margin and somewhat resemble the leaves of a magnolia. The brown leaves do tend to persist in winter, a frequently occurring feature of oaks, and thus provide screening.
Insect galls (enlargements of leaf or stem tissue caused by the larva of tiny wasps, so small that they are rarely seen as adult flying insects) come in many shapes and sizes and are usually only slight disfigurements, rarely affecting tree health.

Building Near Oaks

A common problem in neighborhoods where homes have been built on wooded lots is a decline in vigor of oak trees. This has been termed "oak decline", and the most common evidence of it is the failure of the uppermost branches to leaf out in spring. Decline may result in gradual or sometimes fairly rapid death of the trees involved. Oak decline does not seem to involve any insect, fungus, bacterium or other causal organism, but seems to result from the abrupt changes in the oak tree's environment caused by construction and landscaping, especially the destruction of the soil/air interface to which the finely branched surface root system has become attuned over a period of many decades. The less the root system of oaks are disturbed during construction, the better the chances for tree survival.

Selecting and Obtaining Oaks

The oak species most commonly offered by nurseries is the pin oak, *Quercus palustris*, and virtually all of the planted oaks in urban landscapes in the Chicago region are this kind. However, there are other oak species that are worthy of consideration for home landscapes here, most of them native to North America. Some are evaluated below.

Because few kinds of oaks are commonly available from nurseries, growing trees from acorns is a possible means of establishing specimens of the species in this list. All of the oaks listed except shingle oak, pin oak and northern red oak produce acorns that germinate immediately if they are planted soon after the acorns are gathered in the fall. The best procedure is to plant acorns in a pot of commercial potting soil indoors in fall or winter. The young plants should appear in two to four weeks and may be treated as house plants for a while. After attaining a height of a few inches they may cease growth. Sometime the leaves wither and drop off; however, a few weeks later a new set of leaves appears and a few more inches of growth usually occurs. In May, the seedlings may be transplanted in separate pots or they may be planted outside. Shingle oak, pin oak, and northern red oak may be refrigerated in tightly sealed plastic bags or they may be planted in pots and kept in moist soil in an unheated space where freezing does not occur. Caution: acorns may lose viability in a few day at household temperature and humidity.

A Selection of Oaks

*Quercus acutissima*, Sawtooth Oak

Sawtooth oak is native to China, Korea and Japan. It has a straight central trunk and becomes broadly or sometimes narrowly conical in form as it matures. Branches often occur from the ground up. In silhouette the tree has an attractive symmetry and a pleasingly even outline. It may reach a height of forty to fifty feet. The lobeless, toothed leaves are lustrous and elongate, resembling those of a chestnut. The foliage, with its rich tawny fall color, is rather dense and persists through the winter. This characteristic makes the tree useful for windbreaks and for visual screening.