

Trees for Golf Course Use

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"I think that I shall never see a poem
lovely as a tree": so starts Joyce
Kilmer's beautiful poem *Trees*. We
have long recognized the economic im-
portance and the beauty of trees, and
probably no other plant lends as much
individual character to the landscape.

There are 1,100 different species of
trees native to the United States and
many more imported species which
give an almost unlimited choice of
size, shape, and adaptability.

In considering trees for golf course
use, the following characteristics
should be considered:

CHOICE OF SPECIES:

1. Rooting Habit—Trees having
large masses of feeder roots, many of
which grow near the surface, are sel-
dom desirable for planting in the
proximity of greens and other areas
where root competition will noticeably
injure the grass. Surface roots may
also cause mowing problems or in
some instances will ruin asphalt or
concrete paths and roadways.

Water lines, sewer lines, and the lo-
cation of similar underground facil-
ities must also be taken into consid-
eration as roots sometimes render them
inoperative.

Some of the most notorious trees
for massive root systems are cotton-
wood, willows, maples, elms, poplars,
eucalyptus, and hackberry.

2. Foliage Type—Trees are class-
ified according to their foliage char-
acteristics as deciduous—those which
shed their leaves; and as evergreen—
those which retain their leaves the
year around. It is obvious that even
though the evergreens retain their
leaves, they are not desirable nor
adaptable in all situations.

With deciduous trees there is al-
ways a leaf problem in fall and win-
ter; however, the problem is much
worse with some trees, such as wil-
low, sweetgum, sycamore, Chinese tal-
low, ash, and elm. If such trees are
to be planted on the golf course, they
should be well away from areas where
fallen foliage will interfere with play
or become unsightly if not cleaned up
immediately.

3. Fruiting Habits—Fruit as well
as foliage from trees can be a detri-
ment to the golf course maintenance
operation. The fruit from sweetgum,
pecan, catalpa, chinaberry, and osage
orange are typical examples of un-
desirable fruiting qualities. Not only
does the fruit of some trees create a
litter problem if allowed to remain
on the ground but it also clogs or dulls
machinery.

**4. Susceptibility to Insects and
Disease**—No tree is completely im-
mune to the ravages of insects and
disease, but much can be gained to-
ward more economical and carefree
maintenance if adapted hardy trees
are selected for planting. Insects and
disease occur to some extent on all
trees, but the resulting damage is
greatly minimized if the tree is an
adapted species and in healthy, hardy
condition to start with. These factors
contribute much toward resistance,
but there are specific diseases and in-
sects which infest even the healthiest
trees. Dutch elm disease and elm leaf
beetle damage to the American elm
are good examples of this type of
problem. Where these specific insects
and diseases exist, they usually are
given wide publicity so as to become
common knowledge.

5. Susceptibility to Ice and Storm Damage—This is much more a consideration to be dealt with in northern climates than in the deep South and coastal areas where snow and ice storms are less frequent and severe. We must again consider the region of adaptation and growth characteristics before making any final decisions on the species to be planted. In general, trees with weak crotches, brittle wood, shallow roots, and those infested with disease and insects are most likely to be damaged by snow and ice.

Maples and poplars are examples of trees which break easily, and elms need to have their limbs braced to avoid splitting under their own weight as they become older. The sweetgum and live oak are examples of trees which are more resistant to ice and storm damage.

6. Longevity—Theoretically, trees could live forever since the living cells are renewed each year; but, like people, they suffer the infirmities of old age. The rate of food production by the leaves is slower and wounds do not heal as easily in older trees. However, the age at which a tree is considered old varies with the species.

If a tree or group of trees is planned as a permanent feature of the landscape, then the trees of greater longevity would be more desirable. In many instances, a fast-growing but short-lived tree such as mimosa or Chinese elm may fill the immediate needs until trees of greater longevity have had a chance to become established.

In any case, every golf course should plan ahead for the eventual loss of older trees by planting young trees to take their place.

7. Crown Shape—Crown shape is largely dependent upon pruning, but each species of tree has a natural crown shape characteristic of that

particular kind. The mature crown shape of a tree should be considered in relation to its surroundings and may serve a special purpose. In vast, open places, a tall, spreading tree such as the live oak can be a thing of beauty. In more restricted locations, the narrow, upright growth of Lombardy poplar may be more in order. With the proper choice of crown shape, the tree may be chosen to enhance greatly the beauty of the surroundings in which it grows.

8. Density of Foliage and Shade—Dense foliage produces heavy shade and, as a rule, poor air circulation in the surrounding area. Neither of these conditions is conducive to the growth of grass.

9. Height—The definition of a tree requires the plant to be at least 10 feet high and classifies similar plants of less height as shrubs. Trees may be selected for their height or lack of it, but ordinarily this is one of the less important characteristics when all else has been evaluated. Common sense, more than anything else, dictates the size of tree required in any given situation. It would be just as ridiculous to plant a large, stately tree, such as live oak or magnolia, under overhead obstructions as it would be to plant an arborvitae for shade.

In choosing the height of a tree, the mature size of the plant should always be considered to avoid difficulty later on.

LOCATION AND SPACING

1. Affected by the Above Factors—All of the growth characteristics of a tree must be considered when selecting the planting location. Shallow-rooted trees are often a menace under concrete walks and near greens; deciduous trees which produce heavy litter are a problem around swimming

pools and heavily used areas; a tree which has become an intricate part of the landscape may well become disfigured and ugly if insects or disease are active on it or if it is broken down during a storm; short-lived trees die off within a relatively short period of time and leave a conspicuous vacancy if no replacement has been planned; trees should be planted with the mature crown shape in mind so severe pruning will be unnecessary and so that they do not shade one another; dense foliage and shade may restrict the growth of other plants in the area and reduce the air movement so necessary to proper growth of grasses; if a tree grows too high or too low, it may be out of proportion to its surroundings. From this basic list, it is not hard to see how every aspect of

the tree's growth habits should be considered when choosing the proper location.

2. Affected by Maintenance Equipment Operation—All too often trees are planted with little thought of the type of equipment used to maintain the area around them. It is easy to see the folly of planting trees 10 feet apart when the mower maintaining the area around them is 14 feet wide. A considerable amount of time and effort may be saved by simply spacing the trees a little farther apart to allow room for the mowing equipment to move between them easily. By the same token, trees are as often placed too close to other objects as they are to one another, creating the same space limitations on equipment.

Golf Course Vacuum Cleaner

Heinz Lessau, superintendent of the all-grassed golf course at New Mexico Institute of Mining and Technology in Socorro, possesses the rare combination of ingenuity and skill as a metal worker and welder. Out of a smoke vent from an old commercial stove, a metal and rubberized section of a carburetor from a junked B-29 bomber, a section of an air-conditioning vent, the frame of a three-wheel motor scooter, and a motor from a piece of farm equipment, he has fashioned a vacuum cleaner that copes with leaves that tend to clutter his fairways.

Besides picking up leaves, the equipment grinds them to tiny fragments and blows them out on the course. The total cash outlay to construct the vacuum cleaner machine was \$75 and this was to purchase the 12-horsepower motor which operates the combination leaf grinder and blower. A miniature

rubber-tire tractor is used to pull the machine about the links.

Lessau says the machine enables one person to perform the work of five or six men in the removal of leaves from the fairways.

This is only one of several machines Lessau has built. He has access to a supply of surplus military "junk" which he uses profitably in extending his golf course machinery budget. Lessau has adapted low pressure aircraft tires to farm tractors to lessen the damage to wet turf, he has devised a compost grinder, a dump trailer, and has improved spraying equipment. A fertile imagination, his skill as a metal worker and welder, a supply of odd parts and materials, pride of workmanship and a devotion to his job combine to make Heinz Lessau a valuable man on the staff of the New Mexico Institute of Mining and Technology.