



TREES FOR MINNESOTA GOLF COURSES

by JOHN BALL and BRAD PEDERSEN
Horticultural Technology Department
University of Minnesota
Technology Department
University of Minnesota Technical
College, Waseca, Minnesota

Late winter is the time many golf course superintendents order the trees to be planted in the spring. Typically the selection is based upon price, availability or what the superintendent observes growing at other courses. But these trees will represent perhaps a 40 to 60 year investment, hence much care should be used in their selection. Primary consideration should be the tree's ability to thrive in the soil and the climate of the course. If the tree is not adapted to the site, it may become severely stressed. This will manifest itself as a slower growth rate, occasional dieback or frequent occurrence of pest problems. Maintenance costs will be higher and some situations the tree will need to be replaced.

Minnesota has a well earned reputation for cold winters. This can be quickly demonstrated by reviewing a list of trees that have a difficult time surviving our winter. Minnesota resides within two hardiness zones. Zone 3 (minimum winter temperature of -40 degrees F) covers roughly the northern third of the state while Zone 4 (minimum winter temperature of -30 degrees F) covers the southern areas. There is a limited amount of material that performs well in the southern areas, even less in the northern zone. Trees that are planted north of their hardiness zone may suffer reduced growth, occasional dieback or even death.

Even if the climate is favorable, there is still the question of adapting to the soil, both the soil moisture (dry or wet) and pH (acid or alkaline). People often

view the soil as something to hold the plant up rather than influencing growth. But if a river birch is planted in an alkaline soil, it may become chlorotic (yellow leaves). This is due to an iron deficiency. The soil may contain adequate reserves of iron but due to the alkaline soil, the iron is in a form unavailable to plants. Hence attention to soil pH is important to some trees. Growth may also be influenced by soil moisture, either too much or too little. Some trees such as Kentucky coffeetree are native to wet areas and have adapted to the low oxygen condition. These trees are excellent choices for wet soils.

Pest problems are another important consideration. Only a few trees, such as Ginkgo, can be accurately called pest free, most have some degree of pest problems. However, trees should be selected that have a minimum of pests. Keep in mind that this condition can change over time. Back in the 1950's honeylocust was considered a pest-free tree, now it suffers from a multitude of problems including canker and pod midge. The best advice is to select relatively pest-free trees but still limit the planting of any one species.

To help you decide what to plant next spring, the following is a list of trees for various site conditions. Notice that the same tree may appear on several of the lists. Also, while all these trees are available from Minnesota nurseries, some are easier to find than others. Please contact Dr. John Ball, University of Minnesota Technical College, Waseca. Phone 507/835-1000, ext. 285 for sources.

THE MOST COLD HARDY TREES (will do well in Zone 3)

- Amur cherry - *Prunus maackii*
- Amur maple - *Acer ginnala*
- Basswood - *Tilia americana*
- Black Hills spruce - *Picea glauca*
var. *densata*
- European larch - *Larix decidua*
- Paper birch - *Betula papyrifera*

TREES FOR DRY SOILS

- Gray birch - *Betula populifolia*
- Green ash - *Fraxinus pennsylvanica*
- Red oak - *Quercus rubra*
- Russian olive - *Elaeagnus angustifolia*

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TREES FOR WET SOILS

European alder - *Alnus glutinosa*
Green ash - *Fraxinus pennsylvanica*
Hackberry - *Celtis occidentalis*
Kentucky coffeetree - *Gymnocladus dioicus*
Swamp white oak - *Quercus bicolor*

TREES FOR ALKALINE SOILS

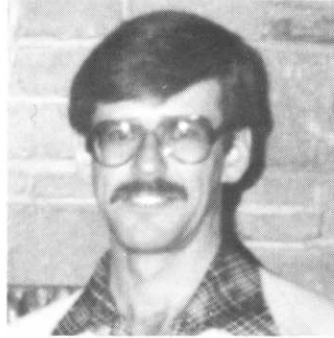
Amur corktree - *Phellodendron amurense*
Amur maple - *Acer ginnala*
Blue ash - *Fraxinus quadrangulata*
Japanese tree lilac - *Syringa reticulata*
Ponderosa pine - *Pinus ponderosa*
White poplar - *Populus alba*

TREES WITH FEW PEST PROBLEMS

Amur corktree - *Phellodendron amurense*
Blue beech - *Carpinus caroliniana*
Ginkgo - *Ginkgo biloba*
Ironwood - *Ostrya virginiana*
Kentucky coffeetree - *Gymnocladus dioicus*

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2546.



EDITOR'S CORNER

RANDY NELSON

Fred Anderson thought that his task was "awesome" replacing Doug Mahal as editor of the HOLE NOTES. Well, I must say I indeed have some BIG shoes to fill replacing Fred.

Before any new president of MGCSA makes his committee assignments for the coming year there is a great deal of anxiety and apprehension felt by each board member. Such was the case at Bunker Hills on December 16, 1985 as we directors all learned of our new tasks to serve the MGCSA. President Kerry Glader made the following committee appointments for 1986.

ARRANGEMENTS: Fred Anderson
Dan Hanson, CGCS

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Tom Haugen (Minnesota)
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