THE BULL SHEET, official publication of the MIDWEST ASSOCIATION OF GOLF COURSE SUPERINTENDENTS.

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Preparing for Turf Stresses in 1989

by James M. Latham, Director Great Lakes Region, USGA Green Section

Golf course superintendents must have more opportunities to learn than anyone in golf or in the turfgrass industry as a whole, and rightly so because there are so many facets of the game which demand their attention. In the gentler days, greens were everything as long as a golfer could drive a peg into the tee and the fairways were cut once or twice a week. Those days are gone forever and some Turf Advisory Service visits today are more involved in bunker quality than putting quality. What a fine compliment to those superintendent's turf managing abilities.

Even so, we still do not know how to grow grass without leaves. Ultra close mowing does a great job of defoliation which reduces the photosynthetic potential of the turf. It is necessary, then, to determine the minimum TRUE mowing height for the turf species and cultivar involved. Some cultivars were selected under a quarter-inch height of cut. Bench settings are the published part of the story and vary from machine to machine. The only gauge we have is the consistent trueness of line and the drag on a ball as it rolls after being struck. Putting consistency is greatly enhanced by light and frequent topdressing, the control of fertility and good water management. Fertility control should be the most easily managed factor. We have the information on nitrogen release patterns of most sources and should be able to plan accordingly. Every nitrogen component of blended fertilizer must be taken into account when programming applications through the growing season, since their conversion to nitrates may depend on soil temperature, soil moisture and soil air (the source of oxygen needed for the conversion of ammoniates to nitrates). Vargas has pointed out the depletion of soil oxygen after sulfur application to nearanaerobic soils. Its conversion to sulfate depletes the soil oxygen further and then anaerobic bacteria convert the sulfates to sulfides which results in the formation of black layer. He suggests the application of nitrates as a source of oxygen for the anaerobic bacteria. This nitrogen, of course, will be lost as a gas through the process of denitrification under anaerobic conditions. Would not the same oxygen demand occur during the nitrification of ammonium nitrogen in the soil? The point here is a constant need for a supply of oxygen in the soil for these and other biological processes in the soil. This is a reason why high sand content greens performed so well last summer. Water percolated through the profile readily, pulling air into the non-capillary pore spaces as they drained.

These are fine points, to be sure, but as long as we are dealing with defoliated turf we need all the help we can get. There are few black or white options. For instance, at what point does shade become a limiting factor? Or, how much wind movement is necessary across a putting surface for best moisture and heat dissipation?

It is now mandatory to exert maximum control of the controllables. Sand quality is easily determined by sieving and particle size distribution can be specified. This is a simple and direct situation. The success of straight, uniformly sized sand topdressing has been widely demonstrated since Madison proposed it in 1974. Organic additives are another story, and are bothersome.

Peat bothers me because of the tremendous variation possible in the sources. The amount of detrimental non-organic material can vary widely within a very small area in a "mine". Clay, silt and very fine sand content can be amazingly high in peats that "look" and "feel" good. The only judge of quality is a rather detailed laboratory test. In construction, quality control is possible because purchases are in large, checkable lots. In year-to-year topdressing, though, some change is inevitable.

We cannot argue with the success that many superintendents have had with sand/peat topdressing, even though an 80/20 mix is not 80/20 after the little peat balls are dragged or mowed off. (Perhaps that loss is beneficial). Variability here is seldom checked, making straight sand topdressing more and more palatable.

Research projects and experiences during the 1988 season have clarified a few points for 1989 consumption:

1. Regardless of the weather conditions in May and June, Summer Patch treatments should begin when soil temperature at a 2'' depth reaches 65 °F. A second application should follow in a month. The Michigan State trials showed Rubigan, Bayleton and Banner to be very effective fungicides. Dr. Vargas feels that Banner may also be effective with slightly later applications.

2. Dr. Shearman at Nebraska believes that on days when it is evident that syringing will be needed, it should begin just before noon so that the water droplets on the turf will dissipate the heat via evaporation during the period when solar radiation is at its peak. This will reduce the amount of heat reaching the turf, thus minimizing heat buildup.

3. Relative humidity levels are extremely important as the temperatures rise and when the soil is adequately moist. Evaporative cooling is minimal when atmospheric moisture is high, so general irrigation may be more harmful than beneficial. Daytime hand watering (or just syringing) the high spots when needed is a better idea. Making wet soil even wetter has no cooling effect — it just reduces the soil oxygen supply. Even the most sophisticated irrigation system is incapable of solving all the water problems on undulating terrain. That's when quality **management** shows its value.

In the future we must give more consideration to the grass plant as a whole and its interactions with the rest of the environment. The more that we reduce any factor limiting growth, the better the turf can withstand the cultural stresses which we inflict. That future is now.

Director's Column



Director's Column by Ray Schmitz

Once again I have been appointed golf chairman for the MAGCS. This is my third year as golf chairman and it may have set some kind of record for endurance. From past experience I have found that it is necessary to have some assistance in order to present a successful program. This year there will be five members on the golf committee to assist in carrying out all the necessary duties. The members are Mike Bavier, Ed Braunsky, Tim Davis, Tim Kelly, and Tom Nestor.

One of the committees goals this year is to pick an interesting event for each monthly meeting and to announce it soon enough for players to choose their foursomes before the day of the event. Also we are campaigning for all participants to have a golf handicap either with their home course or through the MAGCS. At this time the MAGCS is keeping track of 45 handicaps at no cost to the players. It is important that each golfer have a handicap to enable the committee to provide various golf events.

New sweaters and golf shirts were ordered with a new style logo. This apparel will be offered for golf prizes and available to the membership for sale at our cost.

The golf committee is appointed to serve the membership. We are receptive to any suggestions or ideas that may make the golfing events more enjoyable. Feel free to contact myself or anyone on the committee.

Southwest Lawn & Landscape November 1988 Page 22 by Bob Morris High Temperatures are Gone But Not the Damage

"We recently took an infrared thermometer (the gun-shaped heat sensor that measures surface temperatures when you aim it at an object) into the field when air temperatures were hovering around 105 degrees F. Aiming that thing at nearby surroundings produced some interesting results.

"Bare, dry soil subjected to these air temperatures and light intensities climbed to 145 degrees F, just slightly below the surface temperatures of asphalt. Gravel has a temperature similar to that of asphalt. On the other hand, turfgrass and leaf surface temperatures of some nearby shrubs measured a cool 95 degrees F, ten degrees cooler than the air temperature and forty degrees cooler than bare soil."



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We Should Lay Our Claims

by Ed Wollenberg, Retired Supt.

Joyce Kilmer, in his famous poem, "TREES", wrote, "I think that I shall never see. A poem, lovely as a tree".

The membership at the Innsbrook Country Club in 1983, dedicated a Purple Beech tree in my honor, naming it, "The Wollenberg Tree". It's the greatest tribute ever bestowed me, and my love for this tree, or all trees, is only exceeded by the love for my family.

Everybody should own a tree, a valley full of trees, or a whole hillside of them. Not legally, in the formal "Know ye all men" way, written on a piece of paper, but in the way that one comes to own a tree by seeing it at the turn of the road, down the street, in a park, or, admiring them on our many beautiful golf courses. Watching them day after day, and seeing the magnificent phase in the cycle of nature.

When the time arrives, for shade and ornamental buds to swell and break, as we cross over into the spring equinox. To see the maples prepare to open their florets prior to the bursting of leaves, and how the white pines put forth each annual whorl of five branches. Also the bursting of the blossoms on crabs, pears, apples, plums and all fruit bearing trees, that sustain man, animal, and birds, and in months to come in beauty, shelter and food.

To enjoy the summer when they are in their full greenery, shade for cool and relaxing, and their various shapes and statuesque forms to admire. And then the panorama of colors in the fall, and the stark and lifeless forms of winter sleep of the deciduous.

Some 35 years ago, I once owned a sugar maple that way. It stood at the turn of a road I drove along every day, and it was a tree of wonder and beauty, for it turned red, orange and gold each year in a different combination in the fall.

I also owned a clump of flowering crabs along a rural roadside. I watched them bloom in the spring and grow through the summer, and deck itself with lacquered miniature apples that looked like berries in September, and turned wonderfully crimson in October. During my tenure at the Innsbrook Country Club, I planted a few quacking aspen, which I have seen slim and off-white at the trunk in winter, laced with green in spring, watched the silvery movement of leaves at the slightest air movement in the summer, and that looked like a flow of molten gold in October.

At Innsbrook I inherited and laid claim to all their wonderful and many varieties of trees. Such as the row of 'Schwedler' Maples along the road and the 13th hole. Where I have walked in their shade and watched them shed their seed, and seen their stark reality in leafless winter. But in October I would revel in their gold, which is like sunlight even on an overcast day, and I would scuffle in their leaves and own them in that fashion.

And, the larches on the second and sixth holes are my trees. In the spring they take their time about putting forth any new needles. All summer long they are a beautiful spire of green, and by Novmeber they shed their yellowish tan needles, for they are the "woodchucks" of the conifers — the only ones along with the Bald Cypress or rare tamaracks in our area which "hibernate" in the winter.

My ownership is beyond legal title. Others may own them too, if they like. Trees are anyone's for the finding. To own and love forever, each, in your own special way.



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NGF Receives USGA Grant for Special Public Golf Course Development Program

JUPITER, Fla. — In an effort to help stimulate the development of public golf facilities across the nation, the United States Golf Association Foundation has made a one-time grant of \$45,000 to the National Golf Foundation.

The grant was made available through the USGA Foundation's President's Fund and will be used by the NGF in its development of an extensive promotion and information program designed to:

(a) Create among local government officials, developers, lenders and other key groups an increased awareness of the need and opportunity for public golf course development in the U.S.

(b) Help initiate actions that will lead to the development of these courses nationwide.

The program will involve creation and targeted placement of brochures, booklets and advertising messages.

"We are very pleased with this grant; not only because it will intensify the NGF's overall effort in this area, but also because it demonstrates the USGA's recognition of the importance of public golf course development to the future growth and enjoyment of the game in America," said Dr. Joe Beditz, NGF Executive Vice President and acting President and CEO.

"It is an outstanding example of the type of pro-active cooperation needed within the game to help the programs of the *Strategic Plan for the Growth of Golf* move forward," he added.

Speaking on behalf of the USGA, President William C. Battle said, "The USGA's President's Fund was created specifically to fund projects which are important to the game, but would not be part of our normal services.

"Encouraging the development of public golf courses is one of the reasons the USGA Public Golf Committee was created and we are delighted to assist the National Golf Foundation in this worthwhile project."

The Strategic Plan is a wide-ranging blueprint for collective action to maximize the game's growth potential into the next century. It was launched at Golf Summit '88 in November.

Some 400 golf association and industry leaders attended to review and begin implementation of a variety of specific action programs ... one of which focused on the fact that a growing shortage of golf courses could well be the greatest inhibitor to the future growth and enjoyment of the game in the U.S.

NGF research has indicated that the demand for golf in the U.S. is increasing at such a rate that the number of golfers could very well increase from its current level of 21.7 million to over 30 million between now and the year 2000. In order to accommodate this growth, researchers estimate that 300-400 new golf courses per year will be needed.

By comparison, the nation recently has been averaging little more than 125 courses per year.

An encouraging sign and a tribute perhaps to the recent efforts by the NGF and others is the fact that more than 200 new golf courses opened for play in 1988, as compared to a total of 110 in 1987.

"With this grant from the USGA Foundation, the NGF will be able to first target nearly 30,000 municipal officials,

(cont'd. page 14)

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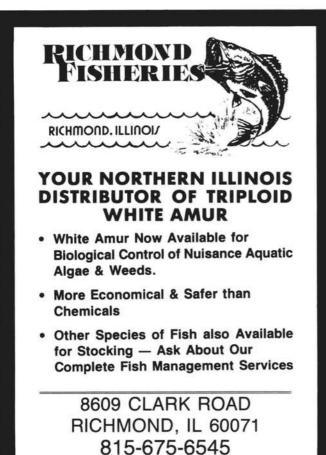
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March Meeting at Nordic Hills C.C.



Tom Fermanian explaining his research at U of I



John Cleland, Golf Professional, Exmoor C.C.



Social gathering after the meeting at Nordic



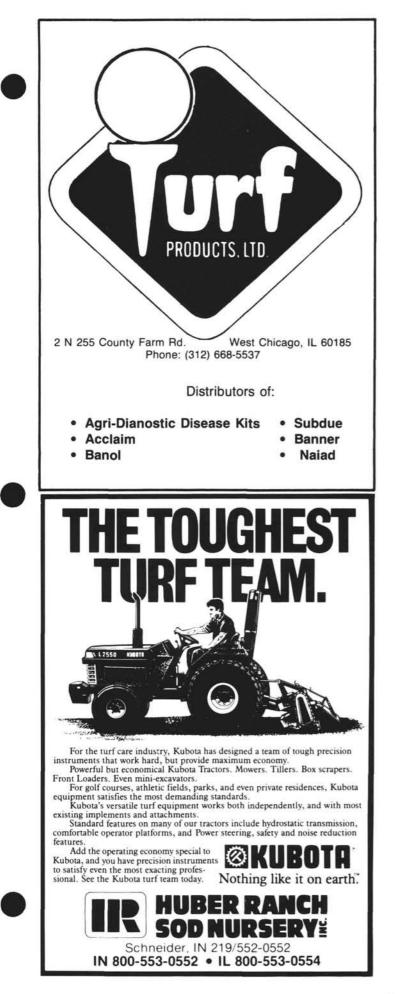
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Memorial Tree Planting Programs

by Thomas L. Green, PhD. & Kris R. Bachtell Memorial tree planting programs are an effective method for golf clubs to generate extra money for new tree and replacement tree planting. Many golf clubs in the Chicago-area currently have or are considering implementing such a program. As consultants to several local golf clubs, we have observed that these tree planting programs need to be well organized and carefully managed to avoid a few common problems. Issues that often result in problems and our suggestions how to avoid these problems are highlighted below.

LOCATION OF NEW TREES

The superintendent, or the superintendent along with the golf club's greens committee or men's golf committee should determine the location for all new trees. If the new tree is to become an asset to the golf course rather than a liability, it needs to be properly cited. Ask these important questions regarding the placement for each new tree. Will the canopy block a vista or important view for the clubhouse? Will the normal growth of a mature specimen interfere with the normal play of the game?

No tree should be positioned so that it interferes with a good shot. Yet, at many golf courses we have observed memorial trees routinely planted too close to the fairway or adjacent to the clubhouse. When mature, many of these trees will become too large for their allotted space. To avoid potential disputes with the club membership it is important for them to understand who is responsible for positioning the new trees and why.

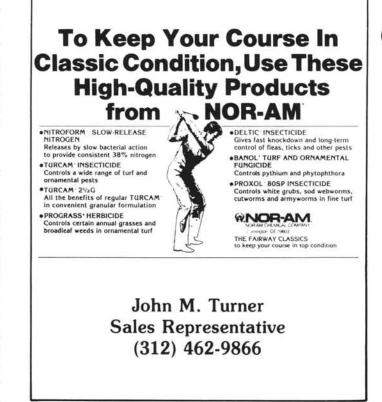
SELECTING THE PROPER KINDS OF TREES

Selecting the kinds of trees to use should be determined by the same individual(s) responsible for locating the new trees. Donors should be given a list of appropriate kinds of trees and allowed to make their selection from it. Selecting plants this way guarantees the use of trees that are well-adapted to the soil conditions and climate of the golf course, thus avoiding the use of inferior species. This will help reduce the number of replacements necessary each year and also reduce the golf clubs' obligation to replant inferior tree species.

When developing the selection list of trees, be sure to include species that are native to the course or native to the Chicago region. These plants have evolved to be tolerant of the soils and climate of this region. As a rule, these kinds of plants are less often affected by harmful insects and diseases as compared, non-native kinds of plants.

Many golf clubs in the Chicago-area have been developed in areas once dominated by an oak-hickory woods. The native trees on most of these courses are mature and over-mature, and are between the ages of 70 to 150 years old. The maintenance of the turf in these wooded area has not allowed the growth of young, seedling trees. To maintain the natural ambience at these courses, the planting of native oak and hickory trees needs to be initiated. Planting a few trees every year, over a 15 to 20 year period, will help develop a diverse age group of trees.

Attached is a suggested list of trees for golf course planting in the Chicago-area. This list includes both native and non-native kinds of trees that perform well when properly sited.





(cont'd. page 14)