



WESTERN VIEWS

July - August, 1995

Official Publication of the West Michigan Golf Course Superintendents Association

Editorial Comment

This summer will definitely be entered in the record books as one tough season to manage turf. It has been hard on turfgrass, turfgrass managers, turfgrass managers' crews and I'm sure the golfers have had a few concerns as well.

Now that fall has arrived and recovery plans are well underway it's time to remember those that have been supporters through the season. The list goes on but a few I can think of come to mind. First, our spouses and families whose time has been forfeited to let us keep the course in good shape. Second, the crew who

put in many long hard hours to ensure the course stayed in good health. Third, the employers that had the understanding that turf is a growing, living commodity that we manage, and sometimes no matter what the resource it will not respond as we would like it to. The list can go on to vendors, professors and many others. One last but not least

is your fellow Superintendent. The guy down the road or the former boss or even the guy at the last meeting that you played golf with who had a helpful tip.

Well, it's time to finish up the aerifying and other fall duties. Enjoy the fall season!

Sincerely,
Al Bathum

Annual Meeting Coming Up

On October 3rd the Annual Meeting will be held at Cascade Hills Country Club in Grand Rapids. The annual board elections along with the Superintendents

Chapter Championship will also be held at this time.

Please make plans to attend and help support your organization!

1995 W.M.G.C.S.A. Meeting Schedule

Oct. 3 Annual Meeting
Cascade Hills Country Club

Nov. 3 Fall Party
Blythfield Country Club

Editor's Note: Please excuse the untimeliness of this issue. I was a bit preoccupied in July and August.

Please write me if you have any corrections or if you are interested in doing an article for us at:

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Summer Meetings a Success

The two remaining meetings of the summer were joint meetings with the M.M.G.C.S.A. and the M.B.C.G.C.S. groups. The meetings were held at The Cattails and The Majestic golf courses respectively. Both meetings were well attended and a good time was had by all who participated. Both golf courses were in good shape and offered some varied challenges. Please help support your organizations and attend meetings when possible!

August Round Tables Held

Both August Round Tables were held and although neither had huge attendance records a dozen people enjoyed each meeting. We encourage all to attend and exchange up to the minute success and defeat stories! This summer's weather, as you know, made for some interesting conversation.

Again, these meetings are only as good as the participation and our attendance make them. If you show up and exchange information you will usually pick up some useful information to help make your job a little easier.

Add a Tee

Up until the 1994 golf season at North Kent Golf Course the tee positions followed the industry norm with a forward (red), intermediate (white) and back (blue) tee. The tee positions are separated by either elevations, contours or height of cut. The average size of the tee surfaces at North Kent is 1,000 sq. ft.

The owners of North Kent, Dave and Kathey Klien, have purchased and are under construction of a new golf course — GlenKerry — in Greenville, Michigan. Course architect, Warner Bowen, designed each hole with five tee positions. Mr. Bowen's reasoning for the five tee positions is to provide the customer with a choice of yardages, eliminate forced carries and use the differences in course play to replace the need for a handicap, which many golfers have not obtained.

During the 1994 golf season at North Kent, I experimented with this concept by

adding a tee position between the forward and intermediate tees, i.e. a gold tee. My reasoning for this was:

1) The red tee, which rarely exhibits excess wear, is mostly used by the female membership and female leagues. The positioning of the tee blocks to the rear of the tee box always results in unfavorable responses.

2) The extreme front of the intermediate tee box also receives very limited use due to an effort to keep yardages consistent to the score card and tee markers.

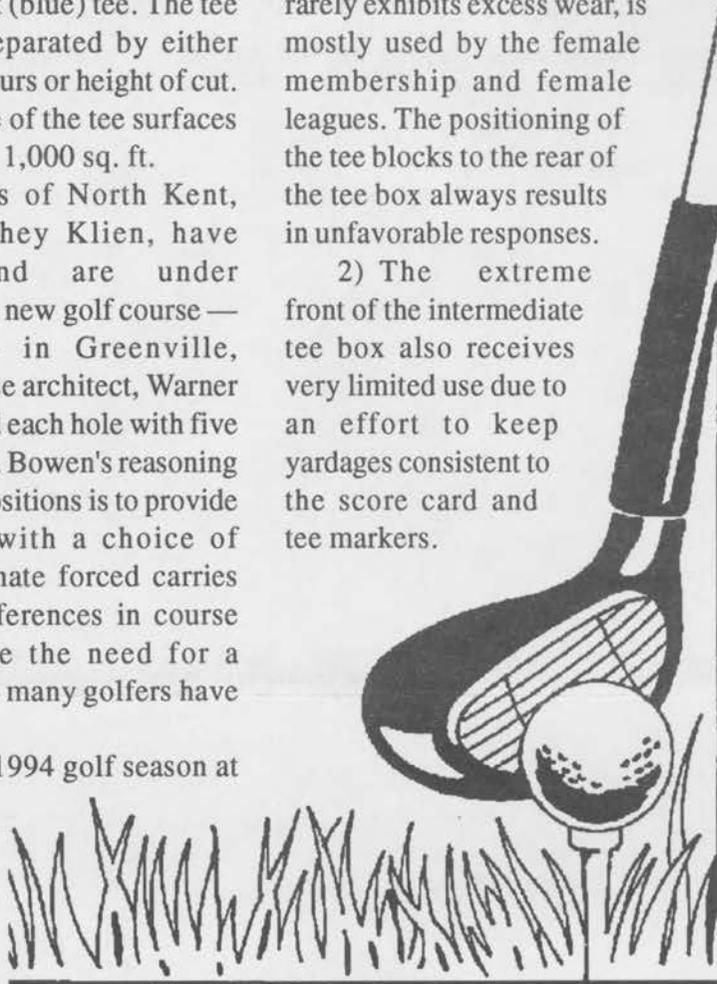
3) The intermediate par 3 tees receive extreme wear.

4) High handicapped males are reluctant to use the red tee box.

I implemented the use of the gold tees by positioning the gold tee blocks either on the extreme rear of the red box or extreme forward on the intermediate box. Although the use of the gold tees was slow to start, use increased as the season continued. The fall senior leagues used the gold tees exclusively and plan to in 1995. Our junior program also used the gold tee blocks.

The result of the added tee position seemed to be twofold. Increased satisfaction of the golfers and better overall condition of the tee surfaces. If your course could accommodate a change of this nature, I think your membership (customers) and course will benefit, so... ADD A TEE.

Thanks,
Mike Herbst
Superintendent N.K.G.C.



Golf Day at Kent Country Club Held

The annual W.M.G.C.S.A. Golf Day was held at Kent Country Club in Grand Rapids on September 11th. The day was a big success with around \$7,000 raised for Turfgrass Research. It was a beautiful fall day with plenty of sunshine. The day was split with a morning and afternoon shotgun. The golf course was in great shape and many compliments were given to Keith Paterson and his crew for

the extra effort to prepare for the day. A big round of applause to the Clubhouse staff also for the fine meals and hospitality. And last but not least, we would like to thank the vendors for their support.



Mulch Those Tree Leaves Into The Turf

The state regulation which prohibits sending yard wastes to land fills has created a problem for golf course superintendents, other grounds managers and homeowners who need to dispose of tree leaves each fall. One alternative is to compost the leaves, either on the premises or at a local composting center. The latter requires collection, bagging and a means of transport to a compost center. The former necessitates a portion of the landscape devoted to the composting. When there are many trees on the grounds composting is seldom feasible because of the amount of leaves produced. Another means of disposal is simply mowing the turf/tree leaves with a rotary mower often enough to pulverize the leaves so they fall into the turf. A legitimate question is what effect does this have on the turf, both short-term and long-term?

With these questions in mind a study supported by the Michigan Turfgrass Foundation was initiated at the Hancock Turfgrass Research Center in October, 1990 to evaluate the effects of mulching tree leaves into a Kentucky bluegrass turf. Leaves from a mixed stand of trees but

predominantly maple, were collected. Three leaf rates in a onetime application each year were applied: none, light (about 3 inches of dry leaves) and heavy (about 6 inches of leaves). The leaves were mulched into the turf with a mulching rotary mower using two passes. With the heavy rate, much of the grass was covered with the mulched leaves. Two nitrogen rates were used as well: 2 or 4 pounds N per 1000 sq. ft. annually with 1/4 of the total applied at the time of leaf mulching. The leaf treatments have been applied each October, 1991 in which oak or maple leaves were applied to a Kentucky bluegrass turf. A single rate of leaves was applied. There were 4 replications of each treatment in each study. Both studies were conducted on turfs in the open sun.

As we have evaluated the turf throughout the growing seasons there have been no meaningful differences observed in turf quality ratings, turf density, thickness of the "thatch" layer, amount of organic matter in the "thatch" layer or the number of dandelions in the plots. The nitrogen applications provided some improvement in turf quality ratings, but there was no apparent effect on the rate at which the leaves decompose.

From the data collected to date it appears that returning the leaves to the turf is not harmful to the grass if the mulching/mowing is done at appropriate times.

To date there is no apparent short-term or long-term negative or positive effect.

When oak leaves are predominant, it will be necessary to mulch them into the turf later into the fall because they are held on the trees longer than most other trees. For best results leave the mower set at the same height as you have been mowing the turf. It is important to use a rotary mower which pulverizes the leaves well and that the leaves are dry when mowed. Sharpening the mower blades and slow movement with the mower will help to grind the leaves finer. It may be necessary to make as many as 3 or 4 passes over the area to grind the leaves fine enough. The finer the leaf particles the more easily they fall into the turf, leaving grass leaves exposed to the sunlight.

Our observation is that the pulverized leaves will settle into the turf within a day or two, particularly if followed by a rain. Take care that the pulverized leaves do not cover the grass blades entirely. It is best if the tree leaves are "mowed" regularly, not allowing them to lie on the turf more than 3 or 4 days. Fall is a very important time for the turf to photosynthesize and store carbohydrates, particularly under trees where the turf received limited sunlight during the summer.

Although additional nitrogen has not shown any major benefit we still suggest 1/2 pound nitrogen per 1000 sq. ft. in addition to the normal fall nitrogen fertilization to enhance decomposition of the tree leaves.

Mulching the leaves into the turf is a reasonable means of disposing of the leaves. These studies prove that what many turf managers have been practicing is practical and does not harm the grass if done in a timely manner.



Fertilization - Fall and Late Fall Style

One of the very important turf management practices during the fall is fertilization. This time of year there are many other activities which require time and attention, but fertilization must also be given priority. For many reasons, turf management practices done in the fall will have a major effect on the quality of turf the following spring. Fertilization is one of the most important.

Phosphorus and potassium in the fall

The key nutrient in fall fertilization is nitrogen. Some have suggested phosphorus and potassium are the key nutrients in fall fertilization. Certainly, these nutrients should be available to turf in adequate quantities. For example, when potassium is limiting, there is a reduction in stress tolerance. Considering the potential for low temperature injury to turf during the winter, if potassium could have an impact on reducing low temperature injury, turf managers should be sure adequate potassium is available to the turf. There is also some evidence to suggest there is an increase in susceptibility to snowmold when potassium is limiting.

To be sure there is adequate potash in the soil, use a soil test for medium and fine-textured soils. If tests suggest potash is needed, appropriate rates should be applied based on recommendation and common sense. For turfs on sands, soil tests for potassium are usually low in spite of a potash fertilization program. Regular, light applications of potash at frequent intervals (spoon feeding) should be made on sandy soils, particularly on sand greens.

When late fall fertilization is practiced, some potash should also be applied along with the nitrogen. On sands, use equal quantities of nitrogen and potash. If needed based on soil test recommendations, phosphorus can be

applied in the fall fertility program as well, normally in a complete fertilizer. Seldom is phosphorus limiting on turf. An exception is when no phosphorus has been applied and clippings are routinely removed. Another potential exception is on sand greens. Sands have little capacity to hold phosphate. We have seen several cases of phosphorus deficiency on sand greens, more commonly on new greens, but also on older greens where no phosphorus has been applied for some time. Soil tests must be used to determine need for phosphorus.

Fall Nitrogen

For cool season grasses, both fall and late fall fertilization should be considered. Fall fertilization is best done during September, preferably early in the month. With the weather changes in late summer, the shorter days, cooler nights and more rainfall cause the turf plant to grow less rapid vertically than occurs in the spring. More lateral growth results in improvement in turf density after the rigors of the summer. So fertilization in the fall deserves top priority. Carbohydrates manufactured at this time of year will be more likely to be stored, building up the plant for next year.

Appropriate rates of nitrogen applied during the fall period depend on a number of variables, ranging from 1/2 to 1 lb. N per 1000 sq. ft. On occasion a higher rate may be justified; examples include newly established turf which needs pushing for rapid establishment or a turf which has suffered serious thinning over the summer due to injury from disease, insects, traffic or moisture stress or where an extensive weed population has been controlled, leaving open areas. On general turfs (lawns, grounds, etc.) all the nitrogen can be applied in one application. For greens and other high maintenance turfs, one can split this into two applications if the higher rate of nitrogen is needed. An

alternative is to use a fertilizer which contains more slow release nitrogen. Or a spoon feeding program with weekly applications of soluble sources can be used, particularly on greens.



Normally, it is best to withhold applications of nitrogen during October to permit the turf to "harden off". This permits the turf to accumulate carbohydrates and reduces the potential for frost-injury should the turf become very succulent before a major freeze. Avoiding nitrogen during October may reduce susceptibility to snow mold as well.

Late Fall Nitrogen

There are a number of opinions as to how and when to use late fall nitrogen applications. This occurs partly because of differences in climatic zones and variations from season to season. Perhaps a more important reason for variations in late fall fertilization is the objective for this practice.

From my perspective, the objective is to *supply nitrogen to the turf after growth has ceased*. The root system is still active since the soil is warmer than the air. Nitrate nitrogen can still be taken up and utilized by the plant. If proper nitrogen fertilization has been practiced during the fall (September) period, the turf should still be green and physiologically active. This permits the plant to continue photosynthesis whenever modest temperatures and some sunlight conditions occur. Carbohydrates manufactured during this time are not "burned off" with growth and clippings, but are stored. This builds up the plant for next spring.

Rate of application of nitrogen will again vary with turf conditions and the philosophy of the manager. For greens,

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Fertilization, continued

1/2 lb. N per 1000 sq. ft. may be sufficient. If tees are still thin from traffic, especially on par 3 tees, 3/4 to 1 lb. N per 1000 sq. ft. may be needed. Fairways could receive 1/2 to 3/4 lb. Lawns & general grounds can receive 3/4 to 1 lb. N.

Some turfs may perform better without the late fall nitrogen. Some lawn care companies cannot justify the cost of late fall nitrogen to customers who may not continue with their services next year. However, the quality of the turf the next spring should be excellent when spring sales begin.

Snowmold was severe on many turfs over the winter of 1992-93. Late fall nitrogen applications contributed to greater snowmold in some cases. If turfs are hard hit by snowmold nearly every year and no snowmold preventive program is followed, it may be best to avoid late fall nitrogen.

However, based on plot research

done by Dr. Joe Vargas and observations in the field, it is clear that while in most years the late fall nitrogen may increase the amount of snowmold, there is much quicker recovery from any injury caused. The snowmold damage may be more superficial with the late fall nitrogen and/or the recovery is quicker. Either way the next spring the turf returns to a better quality condition sooner with late fall nitrogen.

For the Great Lakes region, we suggest applying the nitrogen after growth has ceased for all practical purposes. This does not mean there will be no need for further mowing, but regular mowing will not be needed. An additional mowing or two may be needed before growth ceases entirely. This occurs anywhere from the last week of October to the second week of November.

Potential problems with late fall nitrogen fertilization include the potential

for leaching of applied nitrogen, late fall growth which would require more mowing, affecting snowmold and other winter injury, increase to thatch and other spring growth. In a study at Michigan State being conducted by Eric Miltner and Bruce Branham, which compares late fall nitrogen applications with those emphasizing spring applications, there is no significant leaching of nitrates from either treatment so far. If the nitrogen is applied while the plant is still physiologically active, most of the nitrogen should be used and will not be available for leaching over the winter. There is evidence from Ohio State that late fall nitrogen may increase susceptibility to thatch formation to some degree.

While there may be a small increase in growth during the fall or spring, most turf managers are satisfied that the benefits are far greater than the potential

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Fertilization, continued

negative effects. There is no evidence for increased susceptibility to low temperatures or crown hydration injury which is caused by late fall nitrogen.

Benefits of late fall nitrogen include good carbohydrate levels in the turf the next spring, good early spring root growth, good fall and spring color and good turf density so there is less potential for establishment of spring weeds. Since root growth of cool season grasses begins before top growth, it is essential that a high level of carbohydrates exist in the plant to initiate that root growth.

The next spring the turf will have a good color. There will likely be a small increase in mowing needed in the spring compared to a turf which receives no nitrogen either in late fall or spring. But the growth will be very limited compared to a turf which receives an early spring fertilization. Avoiding early

spring nitrogen has the advantages of reduced carbohydrate loss caused by the excessive growth, less mowing, potential reduction in several diseases and greater moisture stress tolerance during the summer. If we can provide a turf which has good density and fewer weeds, requiring less herbicide as well as greater stress tolerance, why should we not adopt the practice?

With many advantages apparent for late fall nitrogen and few disadvantages, it is clear why so many turf managers have adopted this practice. I have not talked to anyone who has tried late fall nitrogen fertilization who has not continued to utilize the practice for agronomic reasons. This is the best testimonial for late fall fertilization.

Paul Rieke
Hole Notes article



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