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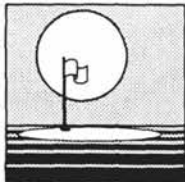
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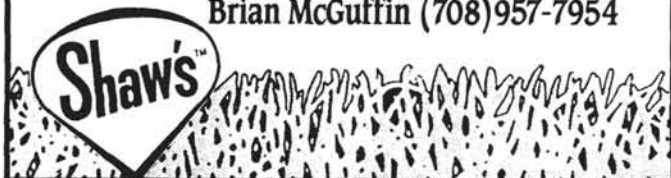
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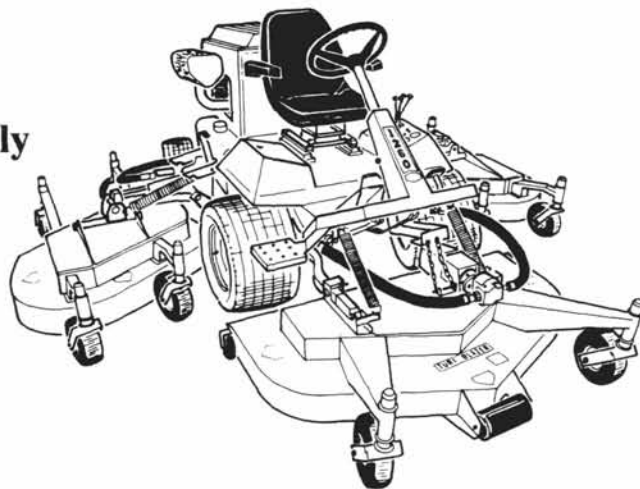
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College Corner

Mechanic Students Wanted

by John R. Piersol

**Director of Turf Management & Landscaping
Lake City Community College**

In an effort to better meet the tremendous demand for properly trained turf equipment technicians, Lake City Community College is expanding the one year, college credit, certificate program in Turf Equipment Management. The school has accepted only 15 students in past years, but the goal for Fall '94 is 32 students. As of May 19, 1994, 20 students have been accepted.

Won't you please help? If anyone knows a person who is mechanically inclined and who is looking for a stable, lucrative career, have him call John R. Piersol at Lake City Community College, Lake City, Florida, (904) 752-1822, Ext. 1225 for details about the Turf Equipment Management (T.E.M.) program.

Lake City had only seven graduates from T.E.M. this Spring, and those graduates received over fifty job offers. Two of the seven students took positions starting in the \$28,000-\$30,000 range. Not bad for one year of training!

Penn State Now Accepting Applications - Turfgrass Management Technical Program Press Release

UNIVERSITY PARK, PA — Applications are now being accepted for Penn State's Two-Year Turfgrass Management Technical Program for the class beginning in October of 1995. There is an application fee of \$35.00 and the deadline for applications is December 31, 1994. Applications can be obtained by calling (814) 865-8301 or by writing to: Turfgrass Management Technical Program, The Pennsylvania State University, 306 Ag. Administration Building, University Park, PA 16802-2601.

Penn State Competes Against Michigan State for Cutter Cup

UNIVERSITY PARK, PA — The second Cutter Cup Challenge was played last fall with Michigan State University Turf Club hosting Penn State Turf Club at Point O'Woods Golf Club in Benton Harbor, Michigan. Steve Glossinger, Point O'Woods Superintendent, had the course in excellent shape for the event.

Penn State was represented by Steve Jasimovich, Chris Modeer, Rick Pagett, and Ken Watts. Michigan State was represented by Ed Richardson, Jeff Skinner, Igancio Soto and Roger White. The match play event was tied 2 and 2, and Penn State retained the Cutter Cup for the second year. The 1994 Cutter Cup Challenge will be played in October at Laurel Valley in Ligonier, Pennsylvania and will be hosted by Mark Hollick.



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Black Layer of Putting Greens

by Dr. J. Vargas
Michigan State University

Of all golf course putting green conditions to be investigated during the past ten years, none has generated more interest or concern for curative measures than the "black layer". Dr. Joe Vargas at Michigan State University is an authority in this area and his research results and conclusions are worthy of note. Consider the following points:

- We need to know more about the practice of sand top-dressing of golf greens. Light, frequent applications should not result in the creation of a perched water table or localized dry spots that may require use of wetting agents or nematode problems.
- Natural soil supports good populations of a wide variety of organisms; often sands do not. Sand cultures allow weak pathogens to become stronger. These have been observed, particularly on Toronto creeping bentgrass. A bacterial wilt has been found to plug conductive tissue under some conditions.
- Sands may become nutrient deficient — especially for phosphorus. Calcareous sands may require use of sulfur to acidify for improved nutrient availability.

- The black layer is associated with use of sulfur, particularly dry forms. Sulfates in water wash down into the sand. The black layer has nothing to do with either soil or sand as it may occur in either substrate. It has to do with the presence of sulfur under anaerobic conditions as the root zone becomes water saturated.

- Algae use a by-product of sulfur to stimulate their development. Control of algae is helped by getting rid of sulfur.

- Sulfur becomes an oxygen sink. That is oxygen is tied up in the oxidation of sulfur. Where there is limited oxygen, anaerobic conditions develop. This condition is enhanced by excessive irrigation, heavy rains, traffic that compacts the soil and the presence of sulfur. One inch of rain can take all the oxygen out for a 24-hour period. Sulfur may come from supplemental application, acid rain, irrigation water and over-use of sulfur-coated urea.

- What management practices can help prevent the black layer:

- ★ aeration;
- ★ light irrigation;
- ★ use of nitrate fertilizer — $\frac{1}{4}$ to $\frac{1}{3}$ of a pound of nitrogen per 1,000 square feet per application because of high salt index;
- ★ avoid applications of sulfur.

Reprinted from "Lawn Institute Harvests", April 1991; Editor, Eliot C. Roberts

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Upcoming Events — Mark Your Calendar

- October 3 — Pro/Superintendent at Glenview Club
- October 10 — MAGCS Meeting at Oak Brook Hills C.C.
- October 21 — MAGCS Dinner Dance, River Forest G.C.
- November 10 — Midwest Clinic and Annual Meeting at Medinah C.C.
- November 28-30 — NCTE at Pheasant Run Resort



Penn State vs. University of Illinois

Dudley Smith and Rick Wilson are putting together a bus trip to the football game in Urbana, on November 12, 1994. They are looking for both Illinois and Penn State alumni and friends to go along.

A charter bus will leave the parking lot of Silver Lake C.C. at 8:00 a.m. on the morning of Saturday, November 12. The fare will be \$50 per person and will include a game ticket, bus fare, drinks on the bus and a pre-game cookout. Be sure to wear your colors and come along for a good time. Call Dudley at 708/349-1307 or Rick Wilson at 708/729-5117 by November 1.

 Mechanic Needed — Call Terry at Woodmar C.C., 219/844-0585.

 Congratulations to Fernando Fernandez of Green Acres C.C. on becoming a Certified Golf Course Superintendent recently.

 John Stephenson has retired from Pottawatomie Golf Course as of September 9th. John is moving back to his home town of Quincy. John, good luck on your retirement, enjoy it, for you have earned it. Luke Cella has replaced John as Superintendent. Luke has worked for John for eight years.

October 10 - Oak Brook Hills — B. Bossert, P. Taylor College Championship, 2 man scramble. A college must have at least (2) 2-man teams to qualify for the championship. Championship winner is gross scores only. Your partner must be from the same college you attended. Your team can play with another team from a different college. The winner will be the college with the lowest two team gross total. Prizes will be awarded in both gross and net. Net scores are determined averaging the two handicaps and taking 80%. There will be a non-college open division as well.

MAGCS New Golf Champions for 1994

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 John Gurke
 Senior Flight
 Ken Goodman
 Keith Fuchs
 Fred Hall
 Commercial Flight
 Trent Bradford
 Charlie Brogler
 Richard Kepschire

- Net**
 Championship Flight
 Randy Wahler
 Tim Scott
 Ed Fischer
 First Flight
 Dan Anderson
 Joel Purpur
 Dave Blomquist
 Second Flight
 Steve VanAcker
 Brad Johnsen
 Jay Druhan & Bob Lively
 Third Flight
 Bob Padula
 Brad Helms
 Don Cross
 Commercial Flight
 Randy Kane



Left to right: Gross Champions — Paul Schaefer, Don Ferreri, Mark Thibault, Ken Goodman, Tom Robinson, and Trent Bradford



Left to right: Net Champions — Randy Wahler, Randy Kane, Bob Padula, Steve VanAcker, and Dan Anderson

Photos by Ray Schmitz

For Sale: Tow behind topdresser — any reasonable offer. Call Ted Mochel at Woodbine G.C., 708/301-1276.

 The annual white water rafting trip by MAGCS members was exciting and the Illinois Lawn Inc. celebrating 40 years will have follow-ups in the November issue.

Fertilization — Fall and Late Fall Style

by Paul E. Rieke, Crop & Soil Sciences
Michigan State University

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.

*When late fall fertilization is practiced,
some potash should also be applied along
with the nitrogen*

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

(continued page 20)



President, Alan Fierst calling the September MAGCS meeting to order at Seven Bridges G.C.



Host Superintendent and Arrangements Chairman, Don Ferreri, presenting Joel Purpur an award for 2nd place in the first flight, net division.

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(Fertilization continued)

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, 1/2 lb. of 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.

(continued page 22)




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