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SPECIFICATIONS

Model 551 GASOLINE DECK PLATE

BODY:

4-wheel; horn; headlights; stop/taillight

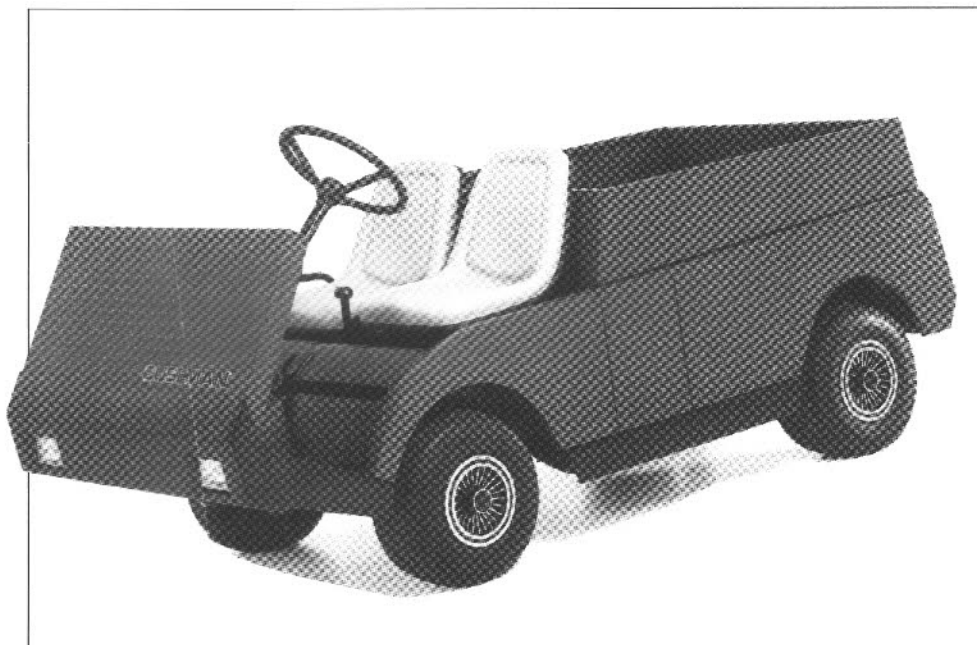
BRAKING:

Service: Heavy-duty hydraulic internal expanding on rear wheels; hydraulic disc on front

Parking: Mechanical actuation of wheel brakes

COLOR:

Green



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DIMENSIONS:

Overall height: 46" (1168 mm) to top of steering wheel w/cab (optional): 67" (1702 mm); w/canopy 70" (1778 mm)

Overall length: 102.5" (2604 mm)

Overall width: 44.5" (1130 mm)

Cargo Space: 44" x 39" x 9" (1118 mm x 991 mm x 229 mm)

Clearance: Minimum intersecting aisle: 78" (1981 mm)

Outside clearance circle: 19'8" (5.9 m)

Inside clearance circle: 96" (2438 mm)

Weight: 1055 lbs. (475 kg) with fuel and battery

Wheel base: 57" (1448 mm)

Wheel tread: Front: 35.5" (902 mm)

Rear: 35.8" (906 mm)

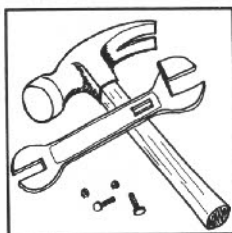
ELECTRICAL SYSTEM:

Charging: 10-amp fly-wheel alternator with voltage regulator; maintenance free battery

Lights: Two sealed-beam headlights; light switch; combination stop/taillight

Starting: 12-volt gear drive starting motor

Wiring: Wiring harness with abrasion-resistant loom; multiple plug-in connectors for accessories



HOMEMADE AND HANDY

By Gene Paulus

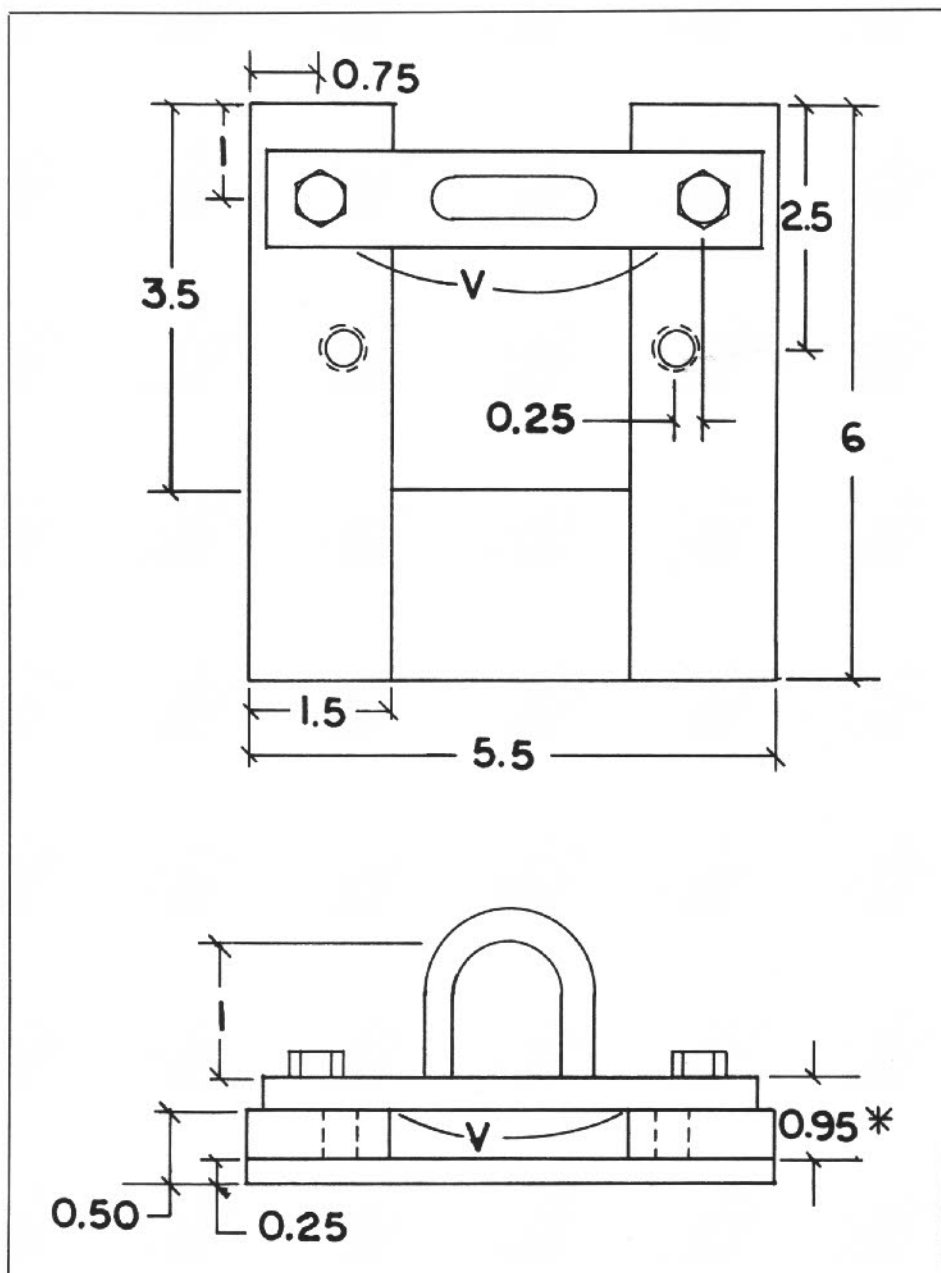


Gene Paulus with his reel bearing puller.

Now that summer is nearly over, most of us who work in golf course shops are beginning to think about winter maintenance and just starting to get organized with those thoughts in mind. Two years ago we approached the Ransomes Motor 180 reel maintenance program with the intention of replacing the reel bearings. After some initial frustration and question of how to get them off without breaking the bearing carrier housing, it appeared we were confronted with another "mechanic's nightmare" and decided there had to be a better way than time robbing, broken hammers and broken housings. The better way developed after putting together a few pieces of flat and round stock steel, developed after putting together a few pieces of flat and round stock steel, 5/16" — 3/8" bolts with some welding. The mechanical drawings illustrate our solution, and it has worked very well for me and quite a number of other golf course mechanics.

The drawing accompanies this article so that you can build one of these yourself or have a machine shop put one together for you. Also, Hanley Implement in Sun Prairie has made them available. This adapter is used along with a bearing puller of some sort. Harmonic 2-bolt Balance Puller or the OTC Model #515 (Owatonna Tool Company) like we use will work. Taking the bearing adapter, unfasten the two bolts from the U-clamp section, slide flat section down stem of bearing housing and attach U-clamp section over knob of bearing housing. Put on shop bearing puller. It is important to make some sort of protective sleeve to protect the end of the threads on the reel shaft. This can be made out of a threaded rod coupling nut or a short pipe counter drilled to slide over the threaded area so that the bearing puller can push against it. Press out old bearing using an arbor or shop press and press the new bearing into the bearing housing. The job is done! This homemade implement has been very helpful to us and I hope you will find it useful also.

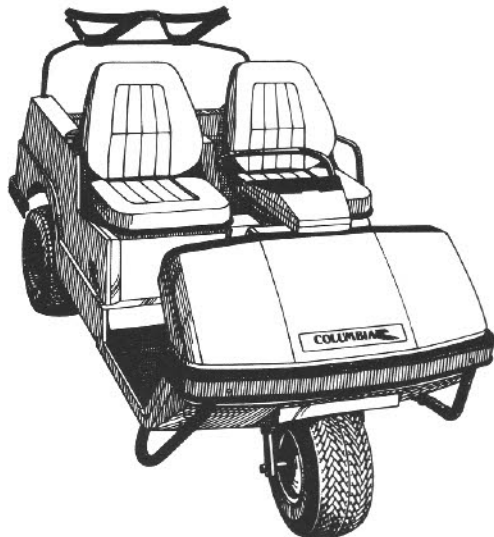
Editor's Note: Gene Paulus has been the mechanic at Maple Bluff Country Club for 5 years and he has a number of "inventions" to his credit. The mechanical drawings were made for us by Jim Berbee of Madison. Jim is a graduate student in Mechanical Engineering at the UW—Madison and worked five summers at Blackhawk Country Club.



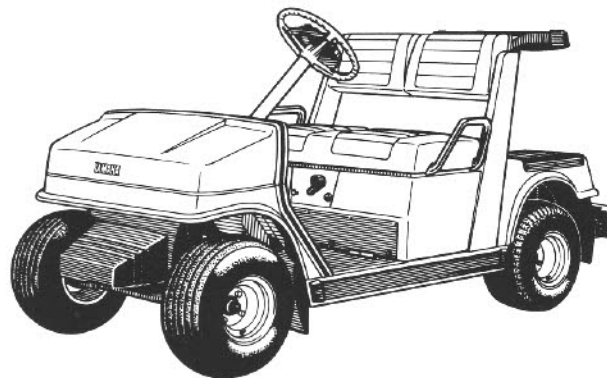
These drawings are 1/2 scale. The asterisked dimension is critical. To obtain it, washers may be added at position "V".

Thank you,

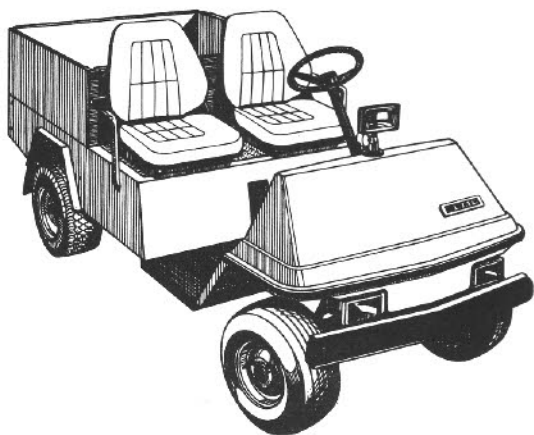
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IMPROVING GOOD TURF

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

In our zeal to achieve perfection in turf quality, we sometimes go overboard on certain facets of management and actually work against ourselves. Years ago at a Penn State Conference, the remark was made that most people want to get rid of *Poa annua* when it is healthy, vigorous and in bloom. When it gets sickly and begins to die, however, no stone is left unturned to save it. This is just another paradox in turf management and in our definition of "Good Turf."

Today we have excellent tools with which to work — good grass varieties, good fertilizers, good chemicals and good machinery. Why is it so difficult to put it all together? Probably because we are difficult to satisfy and continually raise our sights to more lofty goals. In so doing we often forget the many interactions in turf management and overdo one phase to the detriment of others.

Once upon a time the goal was to raise the fertility level of soils to produce ever greener, more vigorous grass. In Florida some greens were receiving a pound of N per 1,000 sq. ft. 52 weeks a year. In Oklahoma fairways were subjected to 10 to 12 pounds of N per 1,000 sq. ft. per year. In this area 6 to 8 pounds of N for fairways was not uncommon, and 8 to 10 pounds was put on some greens. This heavy growth caused thatch formation, increased incidence of hard to control diseases, high mowing requirements and poor golfing conditions.

Then came automated irrigation that was to cure all ills. Few people really understood it and most overused it. The result was increased compaction, increased *Poa annua*, and we produced swamp-like conditions after an unexpected rain.

The super herbicides arrived about this time to take care of all undesirable plants also. Weakened root systems, chemical uptake by trees and shrubs, irrigation water contamination etc., became other trouble zones.

Recently, too much faith was put into systemic fungicides. They are great materials, but some fungi rapidly became immune to their action when used continually. This immunity is more permanent than an E.P.A. ban.

Historically, Americans have thrived on inventions and the latest thing had to be the best thing. As we continually raise turfgrass quality and playing conditions, improvement comes in smaller and smaller increments. Panaceas are harder to come by. We know that the new bluegrasses are no more resistant to certain diseases than Merion, as their stands mature. Perennial ryegrasses are not nearly as perennial as we thought.

From a management standpoint, improvement of good turf lies in perfection of our techniques and the careful utilization of beneficial materials and machinery, both new and old. Some points to be considered in improvement are:

Will new turfgrass varieties be better than what I have now?

Will different soil mixtures be the answer to better greens?

Can I improve my planning to make better use of the materials now available?

Certainly the last item deserves much more thought by all of us. The following suggestions may help guide our thoughts on evaluation:

1. Develop realistic goals and deter-

- mine the turf quality attainable.
 2. Determine optimum fertility rate and ratio to provide the growth rate desired. Bear in mind that quality, not quantity production is now the basic aim. Remember that there is a difference among golf course soils and whether clippings are removed or not.
 3. Reexamine the timing of all operations to see if better arrangements can be made. This is especially true of aeration vs. herbicide applications. Fertilization timing is equally important.
 4. Bear in mind that most, if not all, herbicides have an effect on desirable as well as undesirable plants. Try to find out the effect before use.
 5. Adequate irrigation is often easier to provide than adequate drainage. Get a long range drainage plan set up, determine a priority program and carry it out.
 6. Improve your mechanical knowledge and upgrade preventive equipment maintenance to minimize down time.
 7. Begin in-service training programs, even on a small scale. Your employees need to know why some operations are necessary as well as how to do them. As golf course maintenance becomes more sophisticated, more individual finesse is required by the entire staff.
- This approach will utilize new materials and machinery as well as helping to make more efficient use of familiar things. It will also encourage more productive effort from the major budget item, labor. Good turf can be improved, through better management of all the resources now available to golf superintendents, through coordination of effort, and cooperation among the people involved.



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1986 PROGRAM FOR WISCONSIN GOLF TURF SYMPOSIUM SET

Bob Welch and his Symposium committee are wrapping up final details for this year's Wisconsin Golf Turf Symposium. The meeting will be held on the last Wednesday and Thursday of October as it always is.

The title of the program is "The Micronutrients — Who Needs Them?" Speakers addressing this topic for us are:

- Dr. Jack Butler — "Iron and Other Micronutrient Interactions and Relationships to Soil pH."
- Dr. Wayne Kussow — "Tissue vs.

- Soil Testing For Micronutrients and Interpreting the Results."
- Dr. Randy Kane — "Microelement Availability and Effect on Disease Occurrence."
- Dr. Robert Shearman — "N-P-K Effects on Micronutrient Availability, with Emphasis on Potassium."
- Dr. James Beard — "Importance, Stress Tolerance, Introduction and Toxicity of Micronutrients."
- Oscar Miles — "Microelement

Nutrition In Sand Based Tee Construction."

- Don Clemans — "The Effects of Micronutrients on the Establishment of New Greens Under Various Growth Mediums."

It is readily apparent that this 21st Annual Wisconsin Golf Turf Symposium promises to be an exceptional educational event. Make plans now to attend. A mailing with registration information will be sent soon.

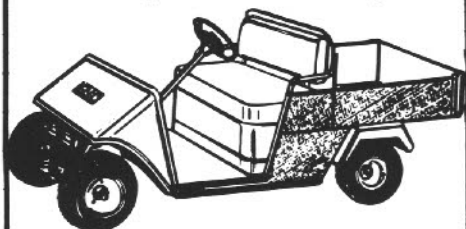
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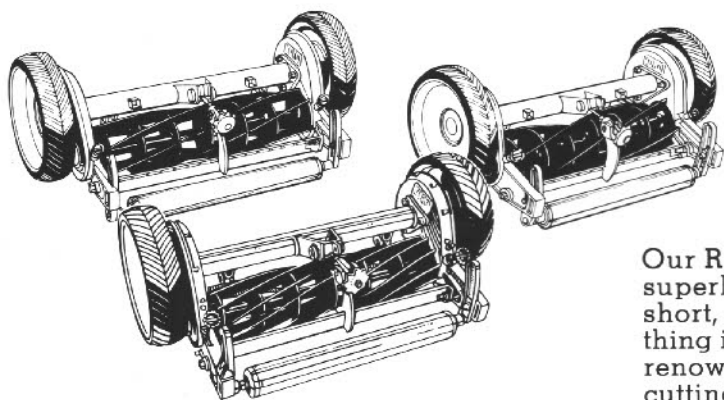
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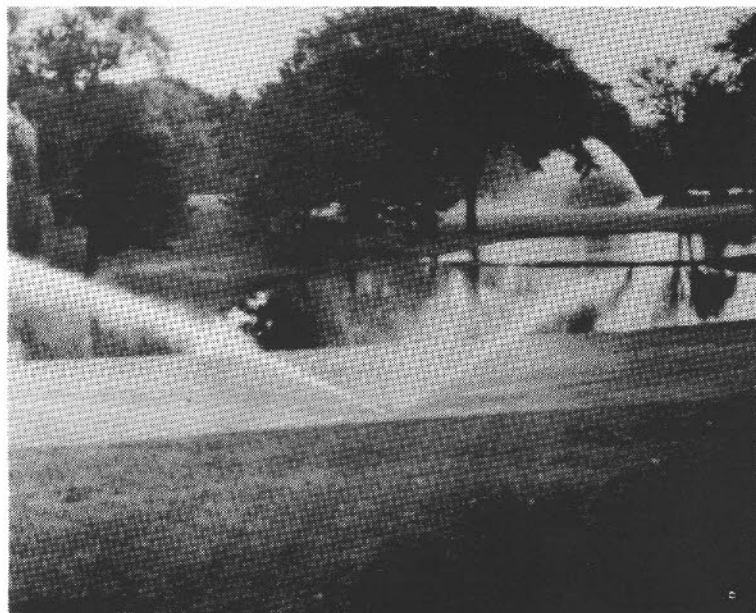
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WGCSA Summer Meetings Roundup

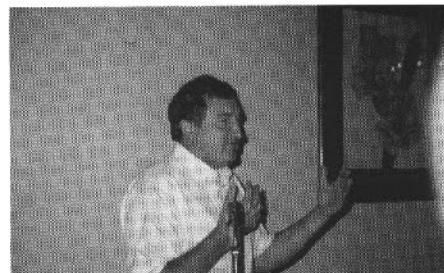
NORTH SHORE MEETING — JUNE

Once again, somewhat cool and definitely overcast and, from time to time, wet weather greeted those 71 Wisconsin GCSA members who travelled to Menasha, Wisconsin to attend the June monthly meeting held at North Shore Golf Club. There were outstanding playing conditions for all those who chose to tour the golf course with clubs in tow. Our thanks to the staff for the effort put forth to insure the meeting's success.

Following an excellent dinner prepared by the North Shore clubhouse staff, approximately 105 WGCSA members and guests heard

Mr. Peter Beaves, President, MidWest Irrigation, expound on a number of items dealing with irrigation system installation and irrigation techniques. The question and answer period following Mr. Beaves remarks provided additional information that should prove invaluable in practical application.

Appreciation must be noted publicly for an "arrangement" worked out among Superintendent Roger Bell, North Shore Golf Club Head Professional George Nackel and E-Z-GO's Gary Monfre which allowed all golf car revenue for the day to be split between WGCSA golf prizes and golf turf research.



Peter Beaves travelled from his headquarters in Dubuque to address WGCSA members at the June meeting.

Including the WGCSA monthly raffle revenue, a net donation of \$768.00 was forwarded to the Wisconsin Turfgrass Association. All in all, a very rewarding day for the Wisconsin Golf Course Superintendents Association.

WAUPACA MEETING — JULY

For the first time this year, sunny skies greeted WGCSA members who ventured to the North Central part of Wisconsin for the July monthly meeting. Despite a "light" turnout at a very busy time of the year, those members and guests in attendance were treated to a superbly conditioned Waupaca Country Club golf course. Our thanks to Host Golf Course Superintendent Don Peterson and his staff for the meticulous preparation in order that WGCSA could enjoy such a fine facility.

An excellent dinner preceded our guest speaker for the evening educational session, Dr. Donovan Taylor, Assistant Professor of Soil Science, University of Wisconsin-River Falls. Dr. Taylor's remarks on sand topdressing and the effects on putting green maintenance provided some valuable insights into that management technique. The question and answer period and the informal discussion period after the meeting proved to be a useful and appropriate end to another excellent meeting of the Wisconsin Golf Course Superintendents Association.



Don Taylor, author of a recent article in "Golf Course Management," spoke on sand topdressing at the July meeting.

WATERTOWN MEETING — AUGUST

Two months in a row for sunny skies and pleasant temperatures as 78 Wisconsin Golf Course Superintendent Association members and guests played on host Golf Course Superintendent Ron Grunewald's Watertown Country Club golf course. The ideal weather and superb conditions led to some great golf and good fun for all involved.

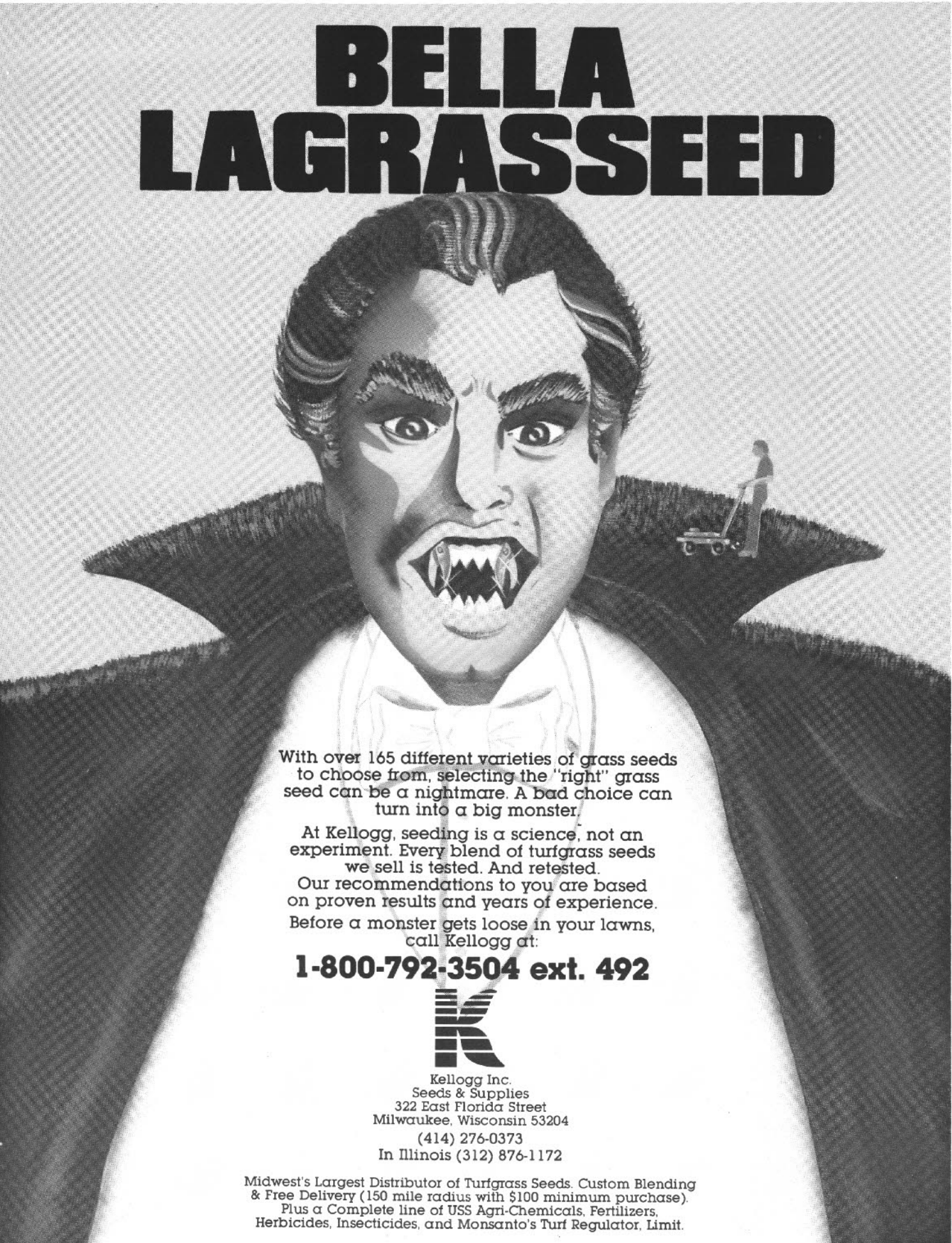
The Watertown Country Club clubhouse staff provided attendees with an excellent evening meal and the efforts by the entire Watertown staff were applauded. Our educational speaker, Mr. Robert Hupertz, Equal Rights Supervisor from

Milwaukee, provided an insightful description of fair employment practices and the ramifications. His sometimes humorous approach to his topic made for an exceptional educational opportunity.

Of note from the August WGCSA Board of Directors meeting were decisions to revise the pre-registration, pre-payment policy for monthly meetings and to sponsor a one-night Wisconsin "hospitality" site at the GCSAA Conference and Show in Phoenix. Also announced as the September meeting site, Don Ferger's Beloit Country Club on September 25, 1986.

The **GRASSROOTS** is a bi-monthly publication of the Wisconsin Golf Course Superintendents Association. Editor and Publisher — Monroe S. Miller, Editorial Staff and Business Affairs — Rodney Johnson — Sheboygan Country Club, and Michael Semler — South Hills Club. Printed in Madison, Wisconsin by Kramer Printing. No part or parts of the **GRASSROOTS** may be reprinted without expressed written permission of the Editor.

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