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

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If you wish to continue receiving the BULL SHEET, return the enclosed card with your correct address. Current MAGCS Members need not apply unless they have an address change.

Thank you
Editor

AN ACTOR IN OUR MIDST

Ted Sokolis and his wife will appear in the play **Tom Jones** presented by the Glen Ellyn Village Theatre Guild.

Show dates are May 22, 23, 24, 29, 30, 31, June 5, 6, 7.

The theatre is in the Boat House on Lake Ellyn.

The President's Message

Recently, a letter was sent to me from a large manufacturing firm, saying that the United States Department of Agriculture was recalling several chemicals, and, if I had any on my shelves, to please return them. All of the chemicals mentioned were herbicides. Now, I am still purchasing basically the same herbicides under a different brand name and using them. It is not clear in my mind what the United States Department of Agriculture is up to. How can they recall chemicals from only certain companies? Are they going to recall these same chemicals under different brand names in the near future? If anyone knows the answer, please let us know. I am definitely against pollution, but, at the same time, I feel that I must justify the use of certain chemicals on my golf course. I am trying to cut out all chemicals that are known to contribute to pollution, and trying to get the same results on a lower application rate.

In last month's editorial, Roger felt he would receive a lot of response from concerned Superintendents over his thoughts, but, as usual, he received only one response. What does one have to do in order to get a reaction from his fellow superintendents? Why do so many Superintendents choose to remain silent, while others continue to carry the load? I suppose this question will never be answered. It has been estimated that the Bull Sheet has one-half the number of articles that the National GCSAA magazine has, and this is on a monthly basis. Therefore, you must realize the work that is put into this paper in order to maintain its good standing.

Many thanks to Tony Meyer, Woodridge Country Club, and his staff for the excellent playing conditions his course provided for the guest Superintendents at the May Meeting. The prime rib dinner served by the club house staff was superb. Mr. Jim Holmes was his usual dynamic self, telling of his new associations with a new company, and his many new experiences.

While writing this message, I have five fairways under water. Tell me, will the spring application of 600 pounds of calcium arsenate per acre be wasted away and contribute to pollution?

Dick Trevarthan

SHOTS FROM THE MAY MEETING

Host superintendent Tony Meyer of Woodridge Country Club. Many thanks to Tony for the opportunity to play his fine course.

The serious looking man in the center of the picture is guest speaker Jim Holmes, in one of his more thoughtful moments.

Low gross winner Bill Hargrave, (right), superintendent of Kankakee Country Club, and low net winner Eric Erickson, assistant superintendent of Woodmar Country Club, obviously happy about their first prizes.

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TURF MANAGEMENT

A. J. Powell, Turf Specialist

A COMBINATION FOR CRABGRASS CONTROL

Since the early 1960's, crabgrass preemergence herbicides have been used advantageously to control or reduce crabgrass infestations in turf. These herbicides are very effective if applied correctly but a program of continuous herbicide utilization is not necessary. If the crabgrass can once be controlled, proper turf management will inhibit re-investations. Ehus, a combination of preemergence herbicides plus good turf management equals excellent crabgrass control. Any management practice which improves the density and vigor of the desired turf will discourage crabgrass invasion through competition. Thus, crabgrass is generally a result of poor management, not a cause of poor turf.

There are many management practices which are important to promote good turf, but mowing height and fertilization management are most important to reduce re-occurrence of crabgrass. Mowing bluegrasses and fescues less than 2" will weaken and open up the turf just enough to allow light to reach the soil surface and reduce the competition of the cool-season grasses. Summer fertilization cannot only destroy or weaken the cool-season grasses which are in a stress period during the summer but promotes the crabgrass which is in its most optimum growing season. To encourage the growth of cool-season grasses, fertilizer should be applied in the fall, winter, and spring.

Herbicides are often necessary for crabgrass control and their application should not be delayed. A thin stand of crabgrass in late spring can become quite dominant by fall and severely reduce the cool-season specie. Then with a lapse period of another year, crabgrass may completely destroy the bluegrass and/or fescue stand and re-establishment would be necessary.

With medium to heavy infestations of crabgrass, one must decide if controlling crabgrass or complete re-establishment is necessary. It is difficult to make this decision during the summer or early fall since the presence of bluegrass can be completely masked by the crabgrass. However, during late fall or early spring the bluegrass is obvious. If the bluegrass (or fescue) is present in at least a general stand throughout the turf area, e.g. approximately 20 to 40 plants per square foot, a good weed control program could be implemented. However, other factors such as heavy soil compaction, low pH or the presence of other hard to kill weeds such as goosegrass (silver crabgrass), numblewill, guackgrass, or bermudagrass might influence this decision.

Applying herbicides correctly is most important. Skips are always obvious and as crabgrass flowers, new seeds are scattered. This is also a good reason to help a neighbor with crabgrass control. Make sure to distribute the material in at least two directions and when using droptype spreaders do not let tall

LAWN INSECTS

by Stanley Rachesky
Entomologist, University of Illinois

A variety of insects attack turf. Grubs, ants, sod webworms, armyworms, cutworms, chinch bugs, leafhoppers, etc., are only a few of the pests that can give you a headache. Choosing the proper insecticide and using it at the recommended dosage is important if you're goin to gain control of the problem facing you this summer. Be prepared! Following is a chart to assist you in choosing and applying your pesticides.

If I could be of service to your particular operation, please feel free to call upon me at any time.

LAWN INSECTS

Insects	Insecticide[1]	Dosage per 1,000 sq. ft.[2]	Suggestions
True white grubs Annual white grubs Japanese beetle larvae Green June beetle larvae Ants	chlordane 45% E.C. 40% W.P. 10% G. 5%	½ cup 5 oz. 1¼ lb. 2½ lb.	This treatment provides 5-year protection. In established sod, apply as granules or spray to small area and then water in very thoroughly before treating another small area. For new seedings, mix in soil before planting. Do not plant vegetable root crops in treated soil for 5 years.
Ants Cicada killer and other soil-nesting wasps	diazinon 25% E.C. 2% G.	¾ cup 5 lb.	Apply as spray or granules and water in thoroughly. For individual nests pour 1% diazinon in nest. Seal in with dirt.
Sod webworms Millipedes and sowbugs	carbaryl 50% W.P. 5% G. diazinon 25% E.C. 2% G. trichlorfon 50% W.P. 5% G.	½ lb. 4 lb. ¾ cup 5 lb. 4 oz. 2½ lb.	As sprays, use at least 2.5 gal. of water per 1,000 sq. ft. Do not water for 72 hours after treatment. As granules, apply from fertilizer spreader.
Armyworms Cutworms Chinch bugs	carbaryl 50% W.P. 5% G.	2 oz. 1 lb.	Apply as sprays or granules. Use 5 to 10 gal. of water per 1,000 sq. ft.
Leafhoppers	carbaryl 50% W.P. methoxychlor 25% E.C.	2 oz. 2 oz.	Apply as a spray.
Chiggers	diazinon	1 tbl.	Spray grass thoroughly.
Mites	dicofol 18.5% E.C. malathion 50-57% E.C.	1 tbl. 1 tbl.	Spray grass thoroughly, 2 to 2.5 gal. of water per 1,000 sq. ft.
Slugs	Slug baits	Scatter in grass	Apply where slugs are numerous.

[1] E.C. = emulsion concentrate; W.P. = wettable powder; G. = granules.
[2] To determine lawn size in square feet, multiply length times width of lawn and subtract non-lawn areas including house, driveway, garden, etc. Do not allow people or pets on lawn until the spray has dried.

growth hinder even spread. Rows of crabgrass approximately 1 inch apart might be the result.

Always use herbicides that have been proven effective DCPA (Dacthal), bensulide (Betasan or Pre-San) and siduron (Tupersan) have been very effective in a five year testing program here at the University. These herbicides should be applied prior to April 15. However, if applied too early, such as in February and early March, the residual effect of some herbicides such as siduron may be lost before the crabgrass season passes. Also in this respect, desirable grasses which may be seeded shortly after a herbicide application will also be inhibited except when using siduron according to label recommendations. A minimum of 3 months should elapse before attempting to re-seed after application of bensulide or DCPA. This does not effect the timing of re-seeding however, since the preemergence herbicide is applied in early spring and overseeding of desirable species should not be accomplished until fall.

Preemergence herbicides are effective when properly used but are not the complete answer to a quality lawn. This paradox may be summed up in the following quotation by Engel and Ilnicki [1]:

"Weeds are encouraged by any use pattern or practice that reduces turf cover, such as heavy traffic, misuse of herbicidal or fertility chemicals, improper fertilization, mowing below optimum cutting height, and removing too much growth at one time. Many of these reflect unfavorably on man's complicity in turf weed problems."

[1] Engel, R. E. and Ilnicki, R. D. 1969. Turf Weeds and Their Control. In: Hanson, A. A. and Juska, F. V., Turfgrass Science, Agronomy Series 14: 240.

A LETTER FROM STAN FREDERIKSEN

Turf Products Manager for Mallinkrodt Chemical Works

Dear Roger:

Thanks a million for the opportunity you gave us to write an article for a forthcoming issue of THE BULL SHEET concerning the future of pesticides. Please forgive this tardy response — out-of-town trips and our current introduction of PO-SAN for Poa annua control have thrown things into a dither, and we're "way" behind in much of our correspondence.

Since your letter arrived in late February a number of us have read it and considered just how we could best contribute to your very fine journal, for the next month or two. When we get right down to a study of what's involved, we conclude that we just aren't oriented sufficiently to the subject you've suggested to enable us to do justice to it. It's true, of course, that we've been supplying turf chemicals for a long time. As you know, we introduced CALO-CLOR, the world's very first fungicide, back in 1926. During all these years, we've never heard of any superintendent or other turf manager ever being harmed in any way by any of our products in use anywhere. For this, and many other reasons, we don't visualize any of these products to be supplanted by others, for the purposes for which they are intended, and for use by the top professional turf managers such as you fellows in the Chicago area.

The questions being raised about the future of pesticides of various kinds have come up almost entirely in connection with their use on food crops. In fact, the only materials thus far subjected to Govenment scrutiny appear to be those used on food crops. In this area we have had no experience, and really don't feel qualified to write objectively. Accordingly, maybe you'll give us a "rain check", and let us have the opportunity, in the near future, to write something on the subject with which we're a lot better acquainted. If you have other ideas, or feel we can help in any other way, please let me know.

Warmest and best regards,
SIGNED: Stan

SOIL TESTING FROM THE GOLF COURSE SUPERINTENDENTS' STANDPOINT

by V. J. Zolman

Soil testing programs were initially developed to improve the crop-yielding capacity of soils used in farming and fruit and vegetables growing as new, less fertile lands were being brought into production, or as the once virgin soils were being depleted of essential minerals. These methods tested largely for basic elements such as Phosphorus (P), Potassium (K) and pH.

Later, during the Thirties, as scientific research in crops and soil chemistry advanced, tests for other elements, such as Nitrogen (N), calcium (Ca), Magnesium (Mg), Sulphur (S) and Sodium (Na) and for humus were included in the standard testing.

During the 1940's, further significant scientific discoveries were made. Professor Underwood of Australia discovered that presence of certain chemical elements in small, trace amounts is essential for proper functioning and interaction of major elements in the soil, and for proper metabolism of plants. His findings were substantiated through years of research and laboratory and field testing carried on both in the United States and abroad. These elements became known as the Micronutrients or Trace elements. These include: Boron (B), Manganese (Mn), Iron (Fe), Copper (Cu), Zinc (Zn) Molybdenum and others.

These discoveries—plus the rapidly changing natural environment (particularly in our industrial areas) —pose a new challenge to the traditional soil testing methods. In our present natural environment where, on one hand, the soils are being depleted by ever higher-yielding varieties of crops and on the other hand, subject to pollution from air, irrigation waters, herbicides, fungicides and insecticides, requirements for proper soil testing have increased tremendously. Methods that were once satisfactory no longer suffice. It is becoming increasingly (and at times painfully) clear to many whose existence depends upon proper soil husbandry—such as farmers, fruit and vegetable growers and indeed, the golf course superintendents—that the maintenance of top-yielding soils under these conditions requires more precise and more scientific methods of soil testing. Plants that once thrived under application of conventional fertilizers are now more and more becoming diseased, fungi and weeds prove as the changing environment is placing an ever increasing demand for precise balancing of major, secondary and trace elements in the soil.

Proper testing methods for golf course turfs

In principle, the test requirements for golf courses are not fundamentally different from general agriculture. However, there are some significant differences arising from special problems confronting the golf courses. For example, the fact that golf courses are usually (simply for business reasons) located near industrial centers—that is, in areas subject most severely to the effects of pollution—makes it imperative that the tests are carried out on the basis of latest scientific principles. Such tests should include the following:

(1) Sampling of soil must be designed on the basis of precise statistical techniques. Usually, a minimum of 10 plugs must be obtained for each sample. Improper sampling yields erroneous analytical results that fail to provide a proper basis for treatment recommendations.

(2) The analysis must be specifically designed for golf course turf. It should include:

a. pH

b. Major, Secondary elements (lbs./acre) and Micronutrients (p.p.m.)

c. Cation Base Saturation Percentages

d. Total Exchange Capacity

e. Standard of factors (nutrients) in the soil according to requirements of turf grasses

(3) Tests must be carried out for soil, on each green, tee and fairway, top-dressing and irrigation water by group of suitable quantitative analyses.

(4) Interpretation of the analysis of data contained in the Research Report is very responsible work. It must be carried out by an analyst with a good background in chemistry, bio-chemistry and soil science. It should include:

a. Evaluation of analytical data and interactions for determination of diagnoses for each tested part of golf courses (greens, tees, fairways).

b. Suggested treatment, calibration of chemical compounds (fertilizers) for 2-4 years program for balance the soil, based analytical data of soils, top-dressing, irrigation water and requirements of turf grasses.

Only through application of well designed tests such as these can the superintendents cope with problems confronting them in turf management in the Seventies.

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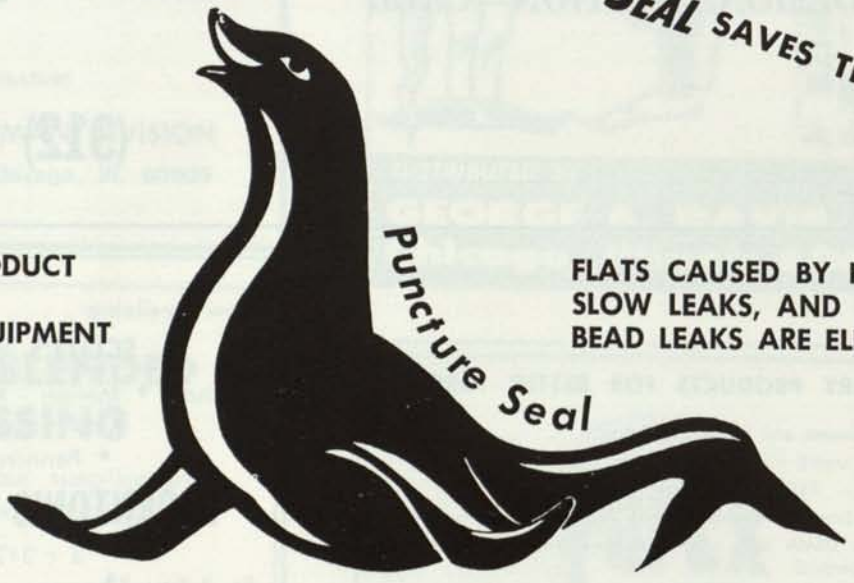

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