

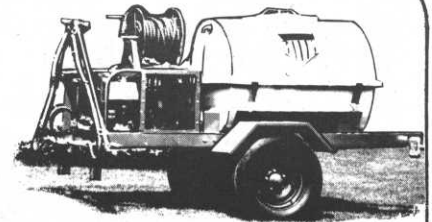
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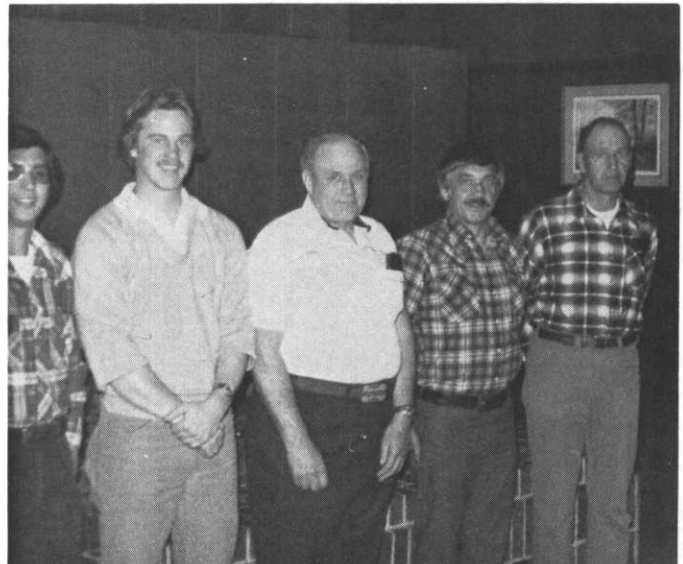
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# BUNKER HILLS MEETING



DYNAMIC DUO. Host Superintendent Jim Nicol poses with the Seasons' hostess, Judy Greenhoe.



EXPANSION. Five of the eight new members voted in at the April Business Meeting. WELCOME!

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Country Club FERTILIZER

The late arrival of spring forced the cancellation of any golf activity for the day but it did not stop a fine turnout from enjoying the other features of the beautiful Bunker Hills layout including an afternoon of cards and conversation. At the business meeting that evening, several new applicants were voted into membership. They were: Gary Peterson, Town & C.C., BII; John Prediger, Rum River G.C., BII and Bob Messerli, Forest Hills, BII. Voted in as Associate Members were: Ross Stevens, F; John Bowen, FII; Tom Dittrich, FII, Leroy Young, FII and Bill Lancette, FII. Also the following classification changes were announced: Jim Anderson to Class BI; Charles Vedvick to Class BII; Scott Liestman to Class BII and Raymond Johnson to Class AA. After the meeting an excellent dinner was served by the outstanding Seasons Restaurant. We would like to thank Host Superintendent Jim Nicol for making all the necessary arrangements in providing us with a memorable day. No doubt the May 15 meeting at the Rochester Country Club will allow the Supes to take their golf games out of the moth balls to see, if by magic, they improved over the winter.



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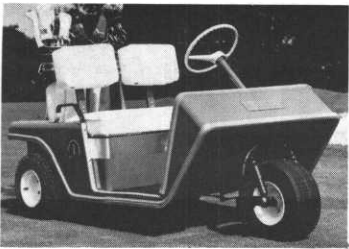
# PLOT PLANS FOR '79

Dr. Ward Stienstra  
Plant Pathology Department  
University of Minnesota

The summer field plots are located at Duluth, Northland Country Club; Rochester, Rochester Golf and Country Club; and Hopkins, Oak Ridge Country Club. In an attempt to allow for greater golf course superintendent participation, the plot plans and an invitation to examine them are included in this issue of HOLE NOTES. Each host superintendent has the latest information on treatment, dates and results. Please feel free to examine the plots with the host superintendent at your convenience.

The Rochester and the Northland plots were also snow mold test sites last fall and both severely damaged due to snow mold, i.e. 100% kill at Rochester and nearly as much at Duluth, although at this time (4/20/79) Duluth still had some snow cover.

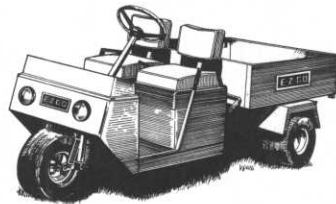
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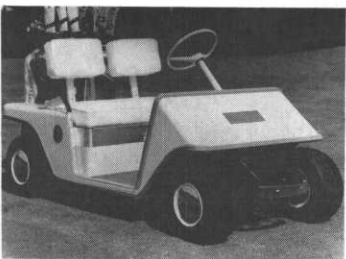
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**SALES-SERVICE-LEASING-PARTS**

The Rochester plot is 60'x102' and each fertilizer treatment is 6' wide by 60' long and at Duluth the plot is 72'x118' and each fertilizer treatment is 9' wide by 72' long. The plot at Oak Ridge will be moved to fairway #11 and as yet no field plot layout is established. Keith Scott will have several copies of the plot plan when the first application is made this spring. I will also have plot plans at each of the other superintendent's offices, Eino Maki and Kurt Erdmann.

At Rochester the following fertilizers will be applied in north-south strips starting on the west side: Par Ex 20-0-16, Scotts 22-0-16, Milorganite 6-2-0, Par Ex 31-0-0, Ammonium sulfate 21-0-0, Ammonium nitrate 34-0-0, Par Ex 20-0-16, Par Ex 31-0-0, Scotts 22-0-16, Milorganite 6-2-0, Ammonium sulfate 21-0-0, Par Ex 31-0-0, Milorganite 6-2-0, Par Ex 20-0-16, Scotts 22-0-16, Ammonium nitrate 34-0-0, and a check or no fertilizer. At Duluth the following fertilizers will be applied in north-south strips starting on the west side: Scotts 22-0-16, Howes 20-5-10, Par Ex 31-0-0, Par Ex 20-0-16, Scotts 22-0-16, Ammonium nitrate 34-0-0, Ammonium sulfate 21-0-0, Milorganite 6-2-0, Par Ex 31-0-0, Par Ex 20-0-16, Ammonium nitrate 34-0-0, Ammonium sulfate 21-0-0, and a 6 foot strip of Howes 20-5-10. Each fertilizer will be applied at 4# N/1000 sq.ft./season. The IBDU material at 2#/application and all others at 1#N. The first application is to be in June, the second in July, the third in Sept. and the fourth in October and November.

## CHOOSING THE RIGHT TREES

Trees can greatly enhance the value and appearance of your golf course but only if they are chosen wisely with an eye to both function and aesthetics. Trees can serve as wind-breaks, camouflage unattractive views, alter the difficulty of a hole, provide shade to a weary golfer or perhaps enhance an undistinguished clubhouse entrance. In the best of situations, one tree can answer several of these needs.

The considerations you should make when choosing a tree fall into three categories; the intended site, whether the tree is appropriate for your area and the tree's growth characteristics.

The tree's growing requirements must be compatible with conditions at its intended site. Soil drainage and pH are critical in determining whether a tree thrives and grows rapidly or just struggles along. Other conditions, such as whether the tree will be subjected to deicing salts in the winter and how the projected planting will affect and be affected by its surroundings should also be carefully considered.

Find out whether the tree you want to plant is adapted to your area. Some trees simply will not survive hard winters and the number of pests and diseases which attack trees is enormous. The best way to determine which trees are likely to thrive is to observe what types are doing well in your area. Your local extension agent or a reputable nurseryman can give you further guidance.

Growth characteristics which influence whether a tree is satisfactory include its shape and size, which determine whether a tree will answer the purpose you have purchased it for. For example, you should decide whether you want a tall column, a wide, spreading tree or a small accent plant.

Large leaves and some fruits will require time-consuming cleanup operations. Roots can

interfere with turf, drains and paths, but don't overlook tree roots as a means of controlling erosion. Be sure not to choose a tree that will eventually grow so large it will tangle in powerlines or droop over sidewalks or driveways.

The tree you select will be on your course for decades. Be sure the tree you choose will be a sound investment, not a liability.

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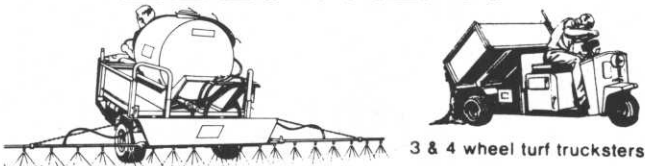
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# ROCHESTER C.C. - A CHALLENGE

Come May 15, 20,000 pines, narrow fairways, small greens, steep hills and an A. W. Tillinghast layout will be ready to take on the M.G.C.S.A.'s best golfers. Mr. Tillinghast is most known as the architect of Winged Foot Golf Club and Baltusrol Golf Club, both U.S. Open courses. Rochester Country Club opened in 1926 can rate right with them. It is a Par 71 course of 6166 yards that logged 25,000 rounds last year - 5,000 of them by guests. It has full facilities, pool, four tennis courts and two platform tennis courts. Superintendent Kurt Erdmann says he must cope with heavy soil, poor drainage and poor air movement because of the dense trees. Sometimes there is dew on the greens all day long. With twenty-two years on the course and thirteen before that at Soldiers Field, Kurt has the experience to cope with these conditions as well as an abundance of Poa Annua that is the principal turf at the course. Rochester Country Club has hosted the M.G.A. Amateur Championship three times in 1930, 1956 and 1970. This year it will be the site of the M.G.A. Four-Ball Championship in August and undoubtedly will be a great test for the state's best amateurs. Future M.G.C.S.A. monthly meetings are scheduled for Owatonna Country Club on June 11 and the family picnic at Tartan Park on July 16. The August site and date are still open at the present time. Looking further ahead, we will be at the Edina Country Club on September 17 for the big M.G.C.S.A. Golf Tournament. On October 8 Indian Hills will host the meeting. November 12 will find us at the Hanson House in Long Lake and finally, on December 5, 6 and 7 the Annual Turf Conference will again be at the Sheraton Northwest, the same site as last year. Gentlemen, mark your calendars.

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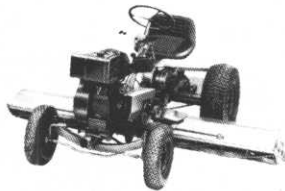
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# ATAENIUS OUTLOOK - S

## SCIENTIFIC

Mark E. Ascerno  
Extension Entomologist  
Dept. of Entomology, Fisheries & Wildlife  
University of Minnesota

Ataenius spretulus is a potential pest of Minnesota golf courses. By way of review, A. spretulus or the black turfgrass ataenius, as it is now called, is a scarab beetle (white grub) with a one year life cycle. The larval stage produces typical white grub damage by feeding on grass roots. Greatest damage is on fairways where annual bluegrass, Poa annua, is prevalent. However, it will also damage bent grass and other bluegrasses.

The adult beetle spends the winter in protected locations away from the fairway. In spring, the adults move from wintering sites to sunny locations and occasionally can be seen in large numbers on the greens. This is not the egg-laying time; the adults begin to lay eggs a few weeks later. The eggs hatch soon after being deposited, and the larvae feed on grass roots until late July when they move deeper into the soil to pupate. Adults begin to emerge a few weeks later and seek egg-laying sites or places to pass the winter depending on time of emergence. Two generations a year are common in eastern and southern United States but appear to be linked in Minnesota to extended summer conditions.

Larval control can be obtained by applying diazinon or ethoprop. However, this method is not totally satisfactory since the occurrence of damage is often the stimulus for control. Another approach has recently been tested with encouraging results.

Dr. Harry Niemczyk, Ohio State University, initiated cooperative testing programs in Colorado, Missouri and Minnesota related to controlling the adult black turfgrass ataenius just prior to egg-laying. This approach has the decided advantage of eliminating the beetle prior to the onset of damage. Harry and I agreed to the project and established the test in cooperation with Dean Sime at Interlachen Country Club, Edina, in 1978.

In addition to determining the efficacy of Ataenius spretulus adult control, we were also interested in usable indicators of just when the adults were laying eggs and hence, the time to apply pesticide. The experiment involved observation of several phenological events and correlations to adult egg-laying. Previous work by Dr. Niemczyk and his team suggested that bloom of black locust and Spirea were probable indicators of adult egg-laying. Other events were also observed.

Diazinon AG500<sup>R</sup> was applied to selected fairways in response to these phenological events. The tee end of each fairway was left untreated to serve as a control. Minnesota results showed that beetle larvae were absent in both the check and treated areas. The lack of larvae in the untreated areas made it difficult to draw conclusions concerning the Minnesota test. I suspect that Ataenius population levels were too low at Interlachen in 1978 to show any differences between treatments. However, based on results from other states and conversations with Harry, I think adult control would be an effective method of black turfgrass ataenius control when needed in Minnesota. To this

Continued on Page 9

# SCIENTIFIC & PRACTICAL

## PRACTICAL

Dean Sime  
Golf Course Superintendent  
Interlachen Country Club

On July 13, 1932 Dr. A. A. Granovsky inspected a grub infestation on a Minneapolis golf course. This grub had caused considerable damage by killing the grass here and there on greens and fairways. Diggings in one six inch square yielded 29 grubs, 8 pupae and one freshly emerged adult. The name of the beetle, *Ataenius spretulus*.

Thus begins our story about a little monster who has been lying in the weeds for forty some years and not gaining much recognition until he became known as the Cincinnati flash. In 1975 he ravaged a number of golf courses in Ohio and had we recognized the symptoms, the same could be said for Minnesota. And what's his favorite meal? Why, of course, a nice succulent *Poa annua* fairway.

Generally, you will first become aware that you have a problem when turf begins to wilt in rather general areas. It will become noticeable in July when weather problems are generally at their worst. Eventually, the turf dies and you continue to be disgruntled with that "failure" grass.

Having attended various conferences, you begin to think of the possibility of *Ataenius* and desperately go about tearing at the dead turf. It lifts easily as if there were no roots, but upon digging further you do not discover anything really pertinent as to the cause. So again, the obvious, "failure" grass under stress. The real irony about this is that when this state is reached, the *Ataenius* has developed into the pupae stage and has buried itself deep in the soil. You may look all day and find only a few beetles in the Larvae stage but had you looked three weeks earlier, the cause of death could have easily been determined.

The beetle will remain in the pupae stage until mid August when it will emerge as an adult. In more southern areas it is possible to have two life cycles per year. However, in Minnesota the second cycle is not evident. It over winters only as an adult in leaves and underbrush adjacent to the fairways. In Spring it begins flying again and may be attracted to lights. In mid May it begins to deposit eggs in your favorite turf and again, its life cycle proceeds.

Dr. Harry Niemczyk, at Ohio State University, began studying this creature in 1975. Little was known prior to that time, primarily, I believe, because the cause of death had simply been attributed to failure grass. Dr. Niemczyk has determined that the most feasible means of control is to go after the adult beetle in the egg laying stages. This, in Minnesota, is early May, especially the week that *Spirea* and the Black Locust are in full bloom. Using Diazinon at a rate of 6 lbs. active ingredient per acre has shown very promising results. This was done at Interlachen in 1977 with the supervision of Dr. Niemczyk and our local Extension Entomologist, Mark Ascerno. I was encouraged as essentially no Larvae were found on treated fairways and a less significant number were found on two check fairways. Damage was evident on the check fairways but not nearly as severe as the preceding season. I should also report that some tip burn did occur using the liquid formulation. When using this product, water should be applied to wash it from the leaf surface.

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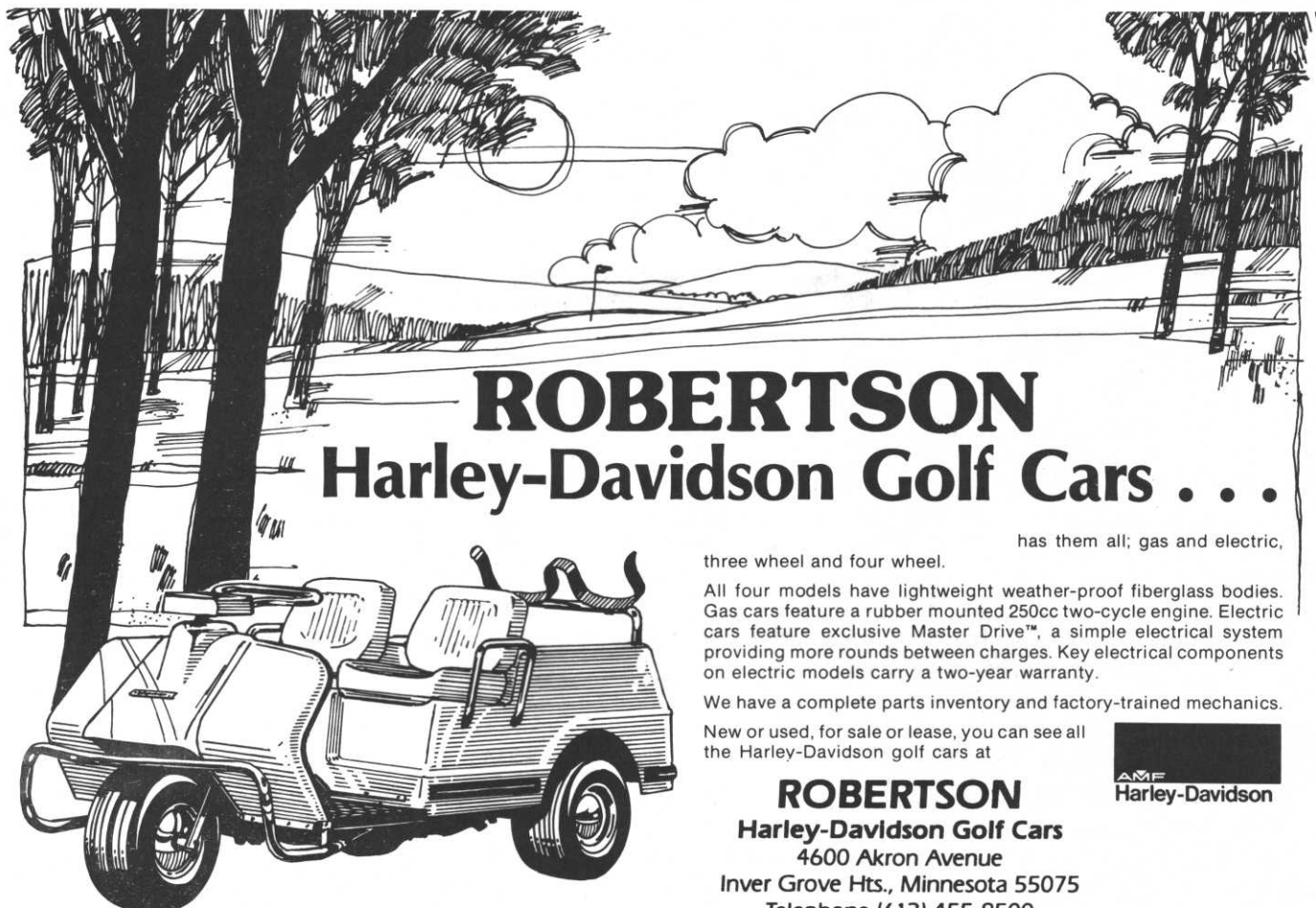
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end, I have requested that Ciba-Giegy seek a 24c registration in Minnesota for adult control with Diazinon AG500<sup>R</sup>. I hope to hear soon concerning the status of this request.

Based on our observations at Interlachen and at other sites, the following sequence should be helpful in determining when to spray. Establishing the need to spray, however, is at best an educated guess. Superintendents should look for adults on greens in mid-May particularly around mid-day. Remember this is an "on your mark" indication, not an indication to spray. Poa annua seed head formation and "cotton" release from cottonwood tell you to "get set", and full bloom of Apirea variety vanhouttei and bloom of black locust tell you to "go". The tested approach involved application of Diazinon AG500<sup>R</sup> at 6 lbs. AI per acre (4.4 oz./1000 sq. ft. in 10 gallons of water). The material was watered in for five minutes immediately after application. Phytotoxicity (brown streaks) in the fairway was noted at Interlachen but this mowed off within one week of application.

Remember, at present Diazinon AG500<sup>R</sup> does not yet have a label for this use. Hopefully, Minnesota registration will come quickly.

Several questions remain - the most important in my opinion being year to year need. Minnesota could experience economic population levels in some years but not in others. Unfortunately, there currently is no way to relate adult numbers to the level of damage. This should be the next step in developing a sound approach for A. spretulus adult control. As of now, I can only say that Ataenius spretulus can cause economic damage to Minnesota golf courses and that adult control appears to be effective and preferred over larval control attempts.



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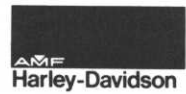
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Continued from Page 8

To those of you who are not sure if you have this problem, ask yourself what happened on your course last season. If you had problems with *Poa annua* wilting and dying, purchase a lighted insect trap such as those used for flies and other insects. Place it somewhere out on the course where it is feasible and monitor the results every morning. This should begin in the first week of May and continue for about three weeks. If you have a significant number of *Aetenius*, call Mark Ascerno at 373-1059 for further information. Remember timing is extremely important when attempting to control the adult stage.

Some work has been done in controlling the beetle in the Larvae stage. A product called Mocap has proven to be most effective. This is an extremely volatile product and protective gear must be used in its application. Also your course must be closed to play the day of application. I would suggest its use only in what is deemed an extreme emergency. Other products used for control in the Larvae stage become bound in the thatch layer and the results are mediocre.

In summary, first determine if you have a problem. I tend to believe that since this creature has been around for many years that its population tends to cycle with the extreme winter conditions. I also feel that courses surrounded by heavily wooded and natural areas may have more problems due to the winter protection these areas offer. If you determine you have a problem, call Mark Ascerno for positive identification and up to date control recommendations.

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