What's Going on in the Field?

Panel Members: **W.B. Buchanan,** USGA Agronomist
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A.M. Radko, National Research Director
F.L. Record, Mid-Continent Director
C. Schwartzkopf, USGA Agronomist
S.J. Zontek, USGA Agronomist

Moderator: **H.M. Griffin,** Mid-Atlantic Director

GRIFFIN: I don't know of anyone who has more exposure to golf course maintenance problems on a national scale than the Green Section Staff. We spend full time on the road looking at and trying to help solve turfgrass problems. Let's look back on 1975 and review the year's highlights.

RADKO: A major problem was the insect, *Ataenius spretulus.* In past years this insect caused minor problems but suddenly burst on the scene in great numbers last summer. Whether it will be here again next summer is not known. It was prevalent in the Mid-west, Mid-Atlantic and Northeast causing considerable damage. In some instances, as many as 155 grubs per square foot have been counted. Dr. H. Tashiro, of the Geneva Experiment Station, New York, will be working on the problem with others during the months ahead. I know they will be coming up with some recommendations for all of us.

BUCHANAN: Ice formation has been of considerable concern to superintendents and green chairmen this winter, especially when it develops on greens. In his winter injury studies at Michigan State a few years ago, Dr. J.B. Beard found *Poa annua* turf could remain under an ice cover for upwards of 60 days without suffering severe damage. Bentgrasses can go to 100 days without severe injury. Therefore, we urge superintendents not to become overanxious and try to remove the ice too early. Frequently, there is more mechanical damage to greens than ice damage if early removal is attempted.

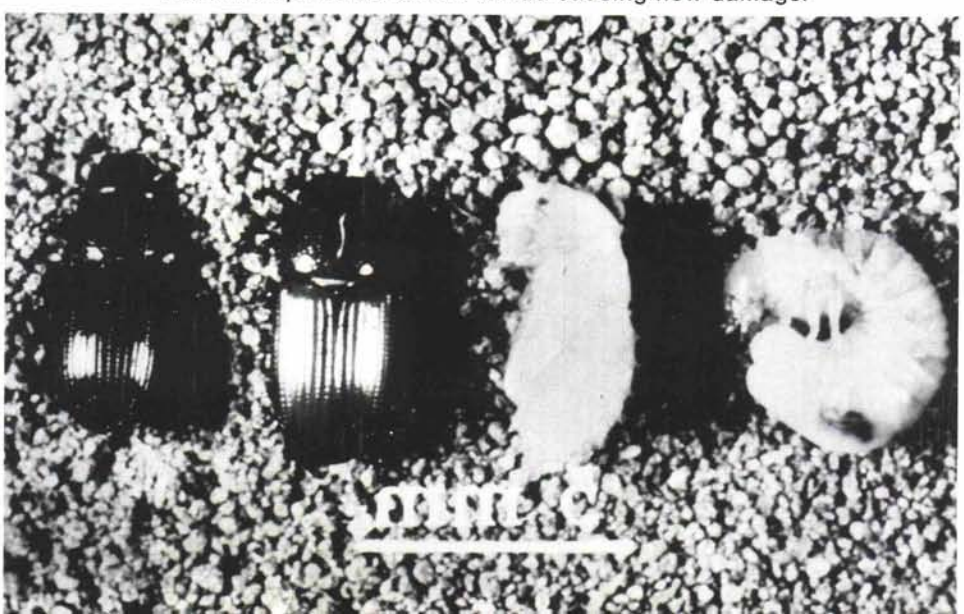
RECORD: In the Mid-Continent region this year we have had lots of snow but very little ice. Our biggest problem therefore is desiccation. You must pay close attention to it and do everything possible to prevent the drying out of soils on high places during such a winter.

GRIFFIN: In the Mid-Atlantic region, we have had some very low temperatures. In Washington, D.C., near-record lows of 7 and 11 degrees below zero have occurred. This is getting pretty cold for bermudagrass turf. We are going to find out next spring which bermudas are really winter hardy and which ones are not. We have several new strains which show promise. I think zoysia is also gaining popularity in the Mid-Atlantic region.

MONCRIEF: We have had some totally frozen bermudagrass greens in the South for the past three or four weeks. Those greens being played under these conditions may experience some bermudagrass loss next spring. This is especially true if the cup and flagstick have remained in the same place on the regular green throughout this period. When we have freezing conditions of this sort, more and more superintendents are creating a temporary target area for the flagstick and cup until normal weather conditions return.

GRIFFIN: For a moment, let's turn to the subject of bluegrasses. In the Mid-Atlantic region at least, I

Ataenius spretulus: an old beetle causing new damage.



Turning a power rake into a small dozer.

don't believe there is much of a future for bluegrasses on golf course fairways, at least with the strains we now have available. The disease *Fusarium roseum* is a major problem along with insects such as *Ataenius spretulus*. and others.

Any comments?

ZONTEK: There is no doubt we do have problems with bluegrasses. As Lee Deiter, of Washington Golf & Country Club, has pointed out, bluegrass is being forced to grow at too low a cutting height with too much nitrogen, too much water and maybe not enough other good maintenance practices, such as liming and aeration. But the researchers are continually trying to improve bluegrass strains, to improve disease controls and to develop better insecticides. I think there is a great future for bluegrass progress simply by sorting out the tremendous amount of information already available on diseases, insects, etc. and adhering to Professor Dickenson's adage, "Help the grass plant to grow; don't force it to grow."

SCHWARTZKOPF: In the Mid-Continent, the failure of bluegrass on fairways has probably been due more to the cutting height than anything else. The superintendent is being forced to cut bluegrasses too short, and this places undue physiological stress on the plant. There is also the tendency for some to overwater in order to maintain *Poa annua* during the summer. Unfortunately, many golfers believe "green is good and brown is bad." When everyone realizes the capabilities and management requirements of bluegrass, I think bluegrass will probably do very well. I have played bluegrass fairways that were cut at 7/16-inch. When I mention this to some people, they simply shake their heads in disbelief. But those bluegrass fairways were so dense, it was almost hitting a ball off bermudagrass fairway turf. They were excellent. But we simply do not have bluegrasses available today that will very long survive the ¾-inch or less height of cut.

RADKO: Well, I do not think we should allow bluegrasses to be knocked out of the turf manager's box. Today, there are a number of excellent bluegrasses being developed by researchers like Dr. Joe Duich of Penn State and Dr. Reed Funk of Rutgers. These bluegrasses will one day be equal to our other good grasses for fairway turf. They will survive a height of cut desired by most golfers. We are definitely working our way down to this point.

GRIFFIN: To move on to another subject, has anyone seen unusual diseases or a new disease or new insect this year?

SCHWARTZKOPF: Yes, I ran into two instances this summer where Japanese beetles were found to be resistant to insecticides previously very effective. There seems to be a growing resistance or immunity to many chemicals now in use.

MONCRIEF: Along this line, there is certainly an advantage for us in the South with the lower temperatures this winter. This will help reduce the buildup of insect populations and there should be a reduced need for pesticides and insecticides for control later this year.

SCHWARTZKOPF: Anthracnose was identified in the Detroit area last summer on some *Poa annua* fairways. Control seemed to be achieved with systemic-type fungicides. However, there was also a change in weather conditions, i.e., temperatures and humidity, at about the same time and so it is difficult to say whether the weather or chemicals brought about actual control.

ZONTEK: We have run into a lot of discussion about

the control for *Hyperodes* weevil during the past year. Our recommendation is two pounds active per acre Dursban or four pounds active per acre Diazinon applied in mid-April. A second application at the same rates should follow in mid-May. We have observed that the granular forms of these insecticides perform better than the liquid formulations. However, the liquids can do a fine job if watered in well after application.

RADKO: Another problem we saw prominently in the Northeast this past summer was pythium. Because of EPA regulations, there has been a reduction in our old standby fungicides carrying mercury. These were used for years and I'm sure helped in pythium control. Now that the mercuries are no longer in wide use, we are going to see more and more of the pythium problem. The superintendent should prepare for it.

GRIFFIN: We have had a new disease this year in North and South Carolina and Tennessee on bentgrass greens. I've never seen it before but it seems a very serious one. It develops in ring form and eats into the thatch leaving small hollows throughout the green. Fortunately it is not too widespread. It seems to last from 3 to 12 weeks and sometimes up to a full year. We've just not been able to get rid of it so far with any of the standard fungicides. Some drenches seem to have an effect as well as an application of heavy amounts of lime or an organic fertilizer. But the pattern is confusing. One thing works one time and another the next, but it is difficult to pin it down. Someone has suggested the disease is soybean root rot and there is no control for that other than crop rotation!

MONCRIEF: The farther South we go the more different strains of pythium we find. Drainage is certainly important in pythium control because it is a water-loving disease organism. So you need good drainage. We use Captan as a fungicide in the soil to try to keep the disease suppressed as much as possible. It is doing quite well and has a residual effect.

To improve disease and insect control on turf in the future, the Green Section is supporting research on electro static sprays at the University of Georgia. This technique has been used with outstanding success in row crops. We hope to adapt it to turfgrass purposes and, if successful, it may be possible to use 50 per cent or less chemicals to achieve the same degree of control. This has been the case in row crop work.

RADKO: Another interesting thing in electro static sprays is that there is far less water needed for the application. It is a beautiful thing to watch and we hope it works out well for turf.

GRIFFIN: This leads us into the area of labor saving innovations. Do any of you have a report of this subject?

ZONTEK: I have two examples of how a conscientious superintendent and his mechanic can develop important equipment for the golf course.

Superintendent Arthur Elmers and mechanic Bill Coerper, of Preakness Hills Country Club in New Jersey, grew tired of hand shoveling sand back onto the faces of bunkers after heavy rains. They developed a blade-like attachment for the mechanical sand rake. The small, dozer-like blade pushes the washed sand back into place. Then the operator locks the blade in the up position and simply rakes the sand in the bunker in the usual manner. All of the work is accomplished without the workman's leaving his seat.

Another good idea utilizes the mechanical bunker rake and was developed by Superintendent Les Allen, of Kernwood Country Club in Massachusetts. To remove runners and overlying grass blades on putting surfaces, Les had developed a Delmonte rake attachment for the mechanical sand rake. The spring teeth of the rake roughs up the runners as it is drawn back and forth across the green, and then a regular putting green mower follows, cutting off the raised grain and nap. It works very well.

MONCRIEF: Speaking of bunkers, the Green Section's support of research on a machine to mechanically remove pebbles, rocks and other debris from sand bunkers is progressing very well. We hope to have it on display at the U.S. Open site, the Atlanta Athletic Club, Atlanta, Ga., this June.

GRIFFIN: I would like to ask the panel how they see the general outlook for play and golf course maintenance in 1976?

BUCHANAN: Play is up, and as long as we have revenue coming into the club, maintenance costs are going to have to keep pace. One point that constantly comes to my mind is the article by Superintendent Bob Williams, of Bob-O-Link Golf Club in Illinois, in the *USGA Golf Handbook.* He mentions that most clubs today have an annual gross income of about a million dollars. This comes from dues, fees, restaurant, bar, lockers, pro shop, caddies, pool, tennis, etc. It is a figure representing the total amount of money spent at a club in one year by members and guests. Now, if golf course maintenance costs average about $150,000 a year, one can conclude that only about 15 per cent of the club's annual gross income goes to grounds and greens upkeep. Of this figure, approximately $100,000 or 10 per cent of the gross annual income accounts for ground maintenance salaries and wages. When viewed in this light, it seems golf course maintenance operations are one of the most efficient areas in the total private club operational picture. Certainly, with everincreasing play, golf course maintenance expenditures provide an extremely poor target for the cost cutting axe.