Northwest TURFGRASS TOPICS

VOL 20 - NO. 1 PUYALLUP, WASHINGTON APRIL 1977

President's Corner

This year could prove to be one of the most challenging years on record for those involved in turfgrass related business.

During February while attending the 48th International Turfgrass Conference I had occasion to talk to several Golf Course Superintendents, from California's Monterey Peninsula, that had just had their irrigation water shut off. Unless their area receives rain — they don't know when they will be able to start watering again. I hope this is the extreme water shortage problem and no one in the Pacific Northwest experiences any water shortage problem, even remotely close to this. If problems of this magnitude do manifest themselves we may see a movement back to the "sand greens" of yesteryear.

In central Oregon we have had a very strange and dry winter. We are usually plowing snow almost daily throughout the winter but not this year. We plowed roads for the first time this winter on March 1st even though we have received some late snow in the mountains. We have less than 20 percent of our average moisture content there. It looks like a very dry summer.

Sunriver Golf Course shouldn't have any problem for water this summer as we have a deep well on each nine. We are going to try to be more efficient with water, more than ever before. I think we are fortunate here at Sunriver to have deep well water for irrigation.

The Northwest Turfgrass Board of Directors will meet at Salishan Resort in May to inspect the facilities and make final arrangements for our up coming conference.

I would like to encourage your attendance of this year's conference. It is going to be one of the best we've ever held. This year's N.W.T.G. Conference will be held at Salishan Lodge, Gleneden Beach, October 5, 6, & 7, 1977. Our next issue of Turfgrass Topics will have additional information on the Conference.

Turfgrass Field Days
June 14, 15 and 16

Annual Turfgrass Field Days at Western Washington Research and Extension Center, Puyallup

The annual turfgrass field days will be held at the Western Washington Research and Extension Center in June this year. There will be three distinct and separate field days, so be sure to mark these dates for the category under which you fit and come to the one most suited to your management specialty.

The first field day will be for golf course management personnel on Tuesday, June 14. We will meet at Farm 5 where the major turfgrass research facilities are located at 10:00 a.m. and should be able to complete the field day by 12:30 to 1:00 p.m. Go directly, then, to Farm 5 with your group. We encourage golf superintendents to bring along their president, green chairman, golf professional, club manager or others interested in golf course turfgrass management. Other persons not specifically concerned with golf courses should not appear at this particular session.

The second field day on June 15 will be for State, County and Federal workers only. We specifically request that others do not attend the field day on June 15.

The third field day will be on June 16 on Thursday for all other turfgrass interests which will include: schools, parks, home grounds, landscape architects, and other interested groups.

All three of the field days will be conducted directly at Farm 5. If you are not certain how to go to Farm 5, it is located 6 miles due East of the Experiment Station across the Sumner-Orting Highway. Maps and brochures regarding the field day can be obtained at the Experiment Station entrance for those who need further directions to find the exact location.

A number of interesting turfgrass management concepts will be discussed and viewed at the field day. Of particular interest to many of you will be the advanced research on pre- and post-emergence control of *Poa annua* in bluegrass and bentgrass turf.

Some very interesting differences are evident in the advanced management bentgrass variety trials. In these same trials you will also be able to observe post-emergence *Poa annua* removal on 30 different bentgrass varieties. We should have enough information regarding bentgrass response to serve the needs of anyone attending the field days because these varieties are extremely widespread in their adaptation throughout the United States.

A number of other current research items will be discussed and will include turfgrass diseases and the future of the turfgrass disease research program. This will be the last official field day for Dr. C. J. Gould who will retire on June 30 of this year.

Put the dates on your calendar now and plan to attend the field day most suited to your needs.

Northwest Turfgrass Conference for 1977

The annual Northwest Turfgrass Conference will be held at Salishan Lodge at Gleneden Beach, Oregon on October 5, 6, and 7, 1977. There are several important details that you will want to read and carefully note because they will be important to you with regard to registration and the conference program. They are as follows:

1. Pre-conference golf tournament — Frank Zook, Chairman of Golf Tournament, has arranged for men's and ladies' golf tournaments on Tuesday, October 4. Men will play at Salishan and ladies will play at Agate Beach. In order to participate in this tournament, you must pre-register and have your entry fee paid. The entry fee for the golf tournament is $10.00 for men and the entry fee for ladies will be indicated on the golf tournament entry form which will be mailed a little later. Men will also receive a golf tournament entry form in a mailing during July of this year. The golf tournament entry forms should be received at Salishan by September 1; however, the chairman reserved the right to accept other entries up to the time of the golf tournament.

2. Conference pre-registration — Salishan Lodge is an extremely busy and sought-after site. Hence, they request pre-registration bookings by September 1, 1977. Sometime in July you will receive a packet of information regarding Salishan Lodge and pre-registration forms and room reservation forms. If you intend to stay at Salishan Lodge, you must make your reservations by September 1. If you wish, you may book the reservations at any time between now and September 1 without benefit of the information being mailed by the lodge.

The board of directors are encouraging as much pre-registration for the Conference as possible. This will speed things up at the conference headquarters, and allow you to attend all the educational sessions without being involved in registration lines. As an incentive for pre-registration, you can register at a reduced rate. Pre-registration by September 1 will be $12.00. Any registrations coming in after September 1 will pay $16.00. In addition to the reduced registration fee, a valuable door prize will be given away during the conference. Only those who pre-register will be eligible for the door prize drawing. It certainly may be well worth your time to pre-register and be eligible for the drawing.

3. Conference procedure — The educational sessions for the conference will begin promptly at 8:30 a.m. on each of the three days, Wednesday, Thursday, and Friday, and will continue until 1:30 p.m. All times after 1:30 p.m. is your free time for private sessions, other small conferences, golfing, swimming, beachcombing or whatever you desire. Complimentary golf will be available for conference participants only at hours when the educational sessions are not being conducted. Anyone who had rather play golf than attend the educational sessions will be requested to pay green fees. All golfing must be scheduled by appointment through the golf pro shop.

4. Golf tournament rules — In order to avoid problems of handicapping, there will be four flights. The first flight will be handicaps of 0-10, second flight, 11-15, third flight, 16-20, and the fourth flight, 21 and over. The first place in all flights will receive the same percent of money from their respective flights for the number of entries. Other prizes will be awarded on the same scale. (EDITORS NOTE: You might

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Fusarium Patch - Some Final Comments

Chuck Gould

Fungicidal Control

Dr. Goss and I obtained excellent residual control of Fusarium Patch last year with certain fungicides despite the very favorable weather for the fungus. In our last series of tests twelve applications were made between October 2, 1975 and May 19, 1976, and then discontinued. However, good disease control with some materials lasted until December 7, 1976. The best were Chipco 26019, BAY MEB 6447 and Fore and Tersan 1991 alternating. Tersan 1991 (benomyl) by itself gave poor results. Apparently the Fusarium has developed resistance to it. Also, Terraclor (PCNB) gave good control while it was being applied regularly but after its effects wore off the Fusarium attack was worse than in the untreated area. In this case we suspect the PCNB eliminated some of the beneficial microorganisms in the soil which normally suppress the pathogen.

The Chipco (RP) 26019 is the most promising turf fungicide we have found in 20 years of testing. It is not only effective against *Fusarium nivale* but also against *Corticium* red thread, and according to other turf pathologists in the East, against many of their turf pathogens also. It has been extremely safe on our bentgrass/*Poa annua* turf at rates much higher than we will be recommending. Unfortunately, its registration has been held up by EPA. We are still hoping that samples will be available to you on an experimental label basis this fall and under a full label next year. But, if you use Chipco 26019, do so on an alternating basis or use it in a mixture with other fungicides to reduce the risk of resistant strains developing.

Finally, remember to apply fungicides at least once a month during the summer and winter. Even though you may not see the typical spots of Fusarium during warm/dry or freezing weather, the fungus is there, slowly establishing itself in very small spots, which can 'explode' when the temperature and humidity turn favorable. So, try to make regular applications every two weeks during Fusarium weather and every four weeks at other times.

Nutrition

Ammonium sulfate and Milorganite are still producing less disease than urea. So consider using the former during Fusarium weather.

Sulfur by itself (2 lb+/1000 ft²) gives a marked reduction in *Fusarium* but, when the turf is good and dense and other conditions are favorable, the fungus can still cause trouble. Therefore, a regular spraying schedule should be followed.

Resistant Varieties

Better ones are on the way. Some that looked good in our small scale plots are falling down in Dr. Goss's Bent Management plots but others are still holding up and are well-worth trying. See them at the Field Day. A complete report on our bentgrass variety screening tests will be published in the USGA Journal sometime later this year.

Conference

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suspect that a low handicapper entering a high handicap flight could just possibly be lynched from a tall hemlock tree or possibly keelhauled at Depoe Bay by his irate competitors). In all seriousness, you should try to pick the flight representing your capabilities as a golfer.

So Long

Chuck Gould

After 36 years at the Station, I will be taking down my 'shingle' on June 30. It has been an enjoyable and interesting, although, sometimes, frustrating, experience. Frustrating in the sense that there simply wasn't enough time or assistance to tackle all the problems nor in sufficient depth, nor to visit problem areas as much as desired. However, we have made some progress. But this could not have been done without the cooperation of many individuals, including Roy Goss, Al Law, Ron Ensign, Doug Taylor, Drew Smith, Tom Cook and Stan Brauen, plus so many superintendents and others that I hesitate to name any lest I forget some. Nor could we have done as much without the financial assistance from the Northwest Turfgrass Association, Washington and Oregon Golf Course Superintendent Associations, the USGA Green Section (thru Bill Bengeyfield and Al Radko) and over a dozen different chemical companies. To all these, I express my appreciation.

My replacement — ? We haven't received the final verdict yet, but Dr. Bay and Dr. Schafer are both hopeful for one, even though the university budget is 'tight'. We should know for sure by Field Day.

I certainly appreciated being made a lifetime honorary member of the Northwest Turfgrass Association at the Spokane meeting last fall and my thanks to Jim Chapman who did a beautiful job of framing the certificate.

And many thanks to my Canadian friends for the "testimonial" at the Western Canadian Turfgrass Conference in March and the beautiful piece of B.C. jade that came with it.

Hopefully, our paths will continue to cross on an informal basis after June 30.

Managing Turfgrasses During A Water Shortage

By Roy L. Goss

Water supply for all uses will be short in 1977 from all present indicators. Soil moisture is deficient in the root zone of deep rooted crops (4 to 5 feet) in the usually wet western Washington region and is extremely deficient in eastern Washington. Weather forcasts are not cheerful and offer little hope of accumulating any significant water reserved in the form of snow in the mountain water shed areas. Unless we have an unusually long, cold, wet spring and summer, let's face it, water use must be restricted.

Turfgrasses will be placed in low order of priority with regard to essential water uses. All is not gloomy, however, since the turfgrass plant does have the ability to survive on a minimum amount of water. To keep a lawn looking beautiful and in lush condition it should be watered a minimum of once weekly and perhaps twice weekly during the normally dry months. As a general rule, when water supplies are plentiful, there is a tendency to over-irrigate lawns and garden areas. It is never wise to apply more water than is necessary to moisten the soil to the depth of the root zone.

Turfgrass roots generally do not extend to a greater depth than 10 to 12 inches under good maintenance practices. Over 80% of these roots can be found in the surface 2 to 4 inch depth. Few roots are found at depths below 10 inches. These deep roots may be considered as a survival mechanism during periods of deficit soil moisture. When all of the available water is used from the surface 6 inches, a few deep roots can continue to provide adequate moisture to prevent the plant from dying. Since few roots occupy these deeper soil zones, the use rate is likewise much slower, hence, a little water in this zone will last much longer than in the surface.

Recommendations for Limited Watering

If some water is available for turfgrass irrigation, it should be applied so that the entire root zone is moistened. Before watering, one should examine the soil with a soil probe, shovel, or sharp knife that will cut a core 6 inches deep. If soil moisture is present, then the amount of water applied should be reduced accordingly to replace only that which has been used. If it is determined that the entire profile is dry, then a complete watering should be made. To determine if the applied water has wet the entire root zone, wait 8 to 12 hours after sprinkling then examine the soil. All excess surface water should have penetrated into the lawn in this amount of time. This is the only feasible way of determining proper water use due to variability in soil textures and turfgrass conditions. Water should be applied in this manner as long as supplies are available for this use.

Try to make all of the water available to the plant. Sprinkler or irrigation water application is generally more efficient if applied for only a few minutes at a time then repeat as often as infiltration indicates until the root zone is completely moist. For example, to apply one inch of water, best efficiency is attained by applying four increments of 15 minutes each rather than the entire amount in one setting. Thatch buildup in turfgrass areas, compacted soils, heavy soils and sloping terrain prevents water penetrating rapidly; hence a good part may run off and be lost. The use of surfactants or wetting agents will induce matted or thatchy lawns to accept water more rapidly. These materials are available from most turfgrass suppliers.

Managing Turfgrasses Without Supplemental Sprinkler or Irrigation Water

Under the conditions of prolonged drought, it may be possible that no water will be available for turfgrass areas which would include home lawns, parks, cemeteries, golf courses, playfields, and others. You should start planning now to initiate the following alternative programs:

1. Remove as much thatch as possible from the turf. Thatch is the dead, matted accumulation of stems and roots above the surface of the soil. The thatch layer interferes with water movement into the soil and traps water which is evaporated and not effective for the plant. If this thatch layer is removed, any amount of precipitation will be more effective in reaching the deeper root zone.

2. Reduce fertilizer applications. In western Washington fertilizers should be applied at the present time. We will most likely receive enough precipitation during this period of time to maintain good growth of turfgrasses. If rains continue to come, fertilizer applications can continue as long as there is

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Managing Turfgrasses

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ample soil moisture. Once soil moisture has begun depletion, apply no further fertilizers. Fertilizers applied to dry turf will either not be activated or will create further damage since the fertilizer concentration will be in the immediate surface and not diluted and carried into the soil. This would essentially result in a fertilizer burn and accentuates the drought injury. Dry turfgrass areas in eastern Washington should not be spring fertilized unless some water is available.

3. Increase the mowing height if possible. Root growth is usually proportional to the top growth of turfgrasses. If grasses are mowed short, the root system is generally shallow. This theory works up to approximately 2 to 2½ inches of mowing height. This increased height is not an insulating factor but only allows the plant to develop a deeper root system. Under normal conditions, this practice would be discouraged. Higher mowing on a continual basis will result in greater thatch formation particularly with bentgrass and fescue lawns. Reduce the mowing height when ample water is again available.

4. If any sprinkling or irrigation water becomes available during the summer season, thoroughly wet the lawn down to the deepest roots. If we assume that no rainfall will occur between May and October, grasses will survive if they are thoroughly wet two or three times during this period due to the deeper roots bringing up sufficient moisture to keep the crowns of the grass plant alive.

5. If no water is available, many grass plants probably will not survive. You will have no way of knowing until the fall rains return or until irrigation water becomes available. Individuals can test the viability of the grass by removing a large plug from 4 to 8 inches in diameter and 6 inches deep and placing this in a pot and watering it for a few days to see if it will revive. If it does not, you can assume the entire plant is dead. In this case, all dead grass and thatch should be removed down to the soil level and the area entirely reseeded no later than October 25.

In some cases this may be the excuse you need to renovate an old lawn or other turfgrass areas that have rough surfaces, high weed infestations, or many incompatable grass strains. This could be your chance to start over anew in the fall of 1977.

All weeds should be controlled in the lawn area. Those such as dandelion, false dandelion and plantain are deep rooted and may exhaust deep profile water which may be required to keep the grass plant alive. It is important to remove these weeds no later than May to prevent them from removing the much needed soil moisture.

For areas in eastern Washington lawn reseeding should not be attempted before the spring of 1978. By the time one can expect additional water in eastern Washington, it may be too late in the fall to expect germination and establishment.

Finally, very expensive areas such as golf course putting greens must receive at least limited amounts of water to keep them alive. It takes approximately one year to produce a putting green turf of usable quality. If the grass dies, it will be necessary to remove the entire surface and reseed or resod the area. Not only will this result in a great expense, but also a tremendous loss of revenue to municipalities, privately owned public courses and to private golf courses. An 18-hole golf course usually has only about 2 to 2½ acres of putting green turf and by conserving or eliminating water on the remainder of the course, you should be able to scrape up enough to keep putting greens alive. If the surface two to three inches of putting greens receive water, they will survive since close mowing results in a shallow root system and only small amounts of water would be required at a time to keep these areas alive.

Annual Turfgrass Field Days

June 14 - Golf Course Management Personnel
June 15 - State, County and Federal Workers
June 16 - Other interested groups

Farm 5 • Puyallup, WA

Blister Smut - A Permanent Problem?

Chuck Gould

The new blister smut *(Entyloma dactylidis),* which we found in the bluegrass variety plots in 1975, persisted through the summer of 1976 in light amounts, and again severly attacked many varieties during the winter of 1976/77. Although traces of it could be found during the summer, it seems to be a winter-type disease and starts disappearing as soon as the bluegrass begins growing again. In early stages it has probably been confused with Helminthosporium leaf spot, but there is no mistaking it in the late stages when the dead white, yellow or tan-colored leaves are speckled with the very small black blisters.

Drs. Taylor and Fushtey found it in their bluegrass variety plots at Agassiz, BC this winter. Since, it is established in both areas, has been severe in Washington for two winters, and traces can be found even during the summer, we must assume that it is going to be a permanent problem. However, the mildness of the past two winters may have contributed to its severity so perhaps in normal winters it may be less devastating.

Unfortunately, some of the varieties most resistant to rust and Helminthosporium are susceptible to the smut, but fortunately there are some other varieties with good resistance which can be used in blends. The smut-resistant types include: Adorno, Aquila, Arena, Birka, Civa, Cougar, Delft, Delta, Enpora, Glade, Olymprisp, Onar, Pion, Sydsport, Wepal. Four of the most susceptible were: Banff, Baron, Parade and Victa.

Turfgrass Field Days
June 14, 15, 16
Puyallup, Washington

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NORTHWEST TURFGRASS TOPICS is sponsored by the Northwest Turfgrass Association and financed through funds of this organization. Any communications concerning distribution of this paper or association business should be directed to Jim Chapman, 17012 N.E. 21st St., Bellevue, Washington 98008, or Roy L. Goss, Western Washington Experiment Station, Puyallup, Washington 98371.

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