

## From The President's Corner



BY GEORGE HARRISON

It is a source of great satisfaction to see the results of a great combination of effort and interest such as was displayed at our last Northwest Turfgrass Conference. The program rolled on schedule. The speakers were well prepared and qualified, and the setting was well nigh perfect. Even the weatherman cooperated to give us a beautiful autumn week.

It seemed that the choice of new directors was excellent and reflected a great deal of thought on the part of the nominating committee and those doing the voting. Placing three people from different segments of the industry on our board should make the future of the association look very bright.

Tom Keel presented a paper quite unusual in its approach, in that the usage by people was indicated as a measure of

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## THE EFFECT OF SAWDUST IN TURFGRASS SEEDBEDS

BY ROY L. GOSS

The question has been asked over the years what the effect of various types of sawdust is on seedling germination and emergence. Various references in the literature have pointed out that pure cedar and pitch pine sawdust could be toxic to some seedlings. As recent as 1967 an article published in the Agronomy Journal under the authorship of D. D. Waddington, W. C. Lincoln and J. T. Troll indicates that sawdust from ash and red oak can be very toxic to most seedlings, and particularly so to Merion bluegrass.

The value of sawdust as a soil amendment has been reported over the many years. Some of the favorable changes which can be expected when sawdust is used as an amendment are: increases in humus, cation exchange capacity, aggregation, moisture-holding capacity, and aeration porosity. There is a possibility that adverse effects from sawdust can exist as well. Nitrogen deficiency often occurs when undecomposed sawdust is attacked by microorganisms. Usually this condition can be corrected by the addition of soluble nitrogen fertilizer. Sawdust from hardwood (alder, maple etc. in the Pacific Northwest) decomposes more rapidly than that of softwoods. Thus, nitrogen tie-up and the need for supplemental nitrogen is greater with hardwood sawdust. Care should be exercised in the amount of sawdust used in any soil mixture. The usual recommendations from Washington State University do not go above 20 to 25% sawdust by volume in such things as athletic fields or putting green seedbeds.

### PHYSICAL RELATIONSHIPS OF SAWDUST

In addition to the chemical advantages that sawdust can impart to a soil, there are other physical advantages to be considered. Resiliency of a soil, particularly athletic fields or putting greens, must be considered. Hard surfaces can interfere with the holding ability of a well-hit golf ball; likewise, hard surfaces are injurious to players on athletic fields. Hard sur-

(Continued on Page 2, Col. 2)

## Oregon Compost Heap . . .

BY  
BYRON  
REED



Sunday, August 25, 1968 in Salem, Oregon at the Marion Hotel, the Board of Directors of the Oregon Turf Managers Association met to discuss and form the meeting places and speakers for the 1968-69 Turf Managers monthly meetings. This is the second annual meeting held and affords an excellent opportunity to exchange ideas and thoroughly plan the coming meetings. A social time followed the meeting.

The regular October meeting is being moved to September 30, 1968 to host the guest speaker, Mr. John Escritt, from England. Location of this meeting is Arrowhead Golf Club, Molalla, Oregon. I urge all to attend and enjoy the deluxe appointments of this fine club which is owned by Mr. Gilbert Kappler. The date again, September 30, 1968 at 10:30 a.m. sharp.

Since the last writing a new golf club is opened in Salem, Oregon. This club, "Salem Towne," a deluxe senior citizens development, was constructed by Mr. Bill Schafer. Bill is now involved in constructing another new club at the Santiam junction of I-205.

A new golf club is under construction at Seal Rock, Oregon. The principals are: Mr. George Stovall and Mr. Terry Gaither. Just south of this location another golf club is under construction at Waldport, Oregon.

Hope to see all you readers at the Northwest Turfgrass Conference at Union, Washington.

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WATCH FOR THE NEW TURFGRASS!

## SAWDUST from Page 1

faces usually indicate also, that there is a lack of porosity, which in turn affects root growth and oxygen relationships. Sawdust is very beneficial in helping to build in more resiliency.

### OTHER ORGANIC MATERIALS

Many other organic materials can be used in turfgrass seedbeds. Sawdust is certainly not being recommended as the only source of good organic material. Sawdust has been recommended quite extensively in the Pacific Northwest, due to its availability at considerably lower costs than many other organic materials. Manures are not as suitable in specialized turfgrass seedbeds as the relatively stable materials such as sawdust, peat moss or bark. Manures decompose very rapidly and will not accomplish the purposes of maintaining high porosity and soil resiliency.

Peat moss has been a standard in the profession for many years. When comparing new organic materials, the usual standard of comparison is peat moss. Good, high quality fibrous sphagnum peat moss is difficult to beat in seedbed preparation. Waddington and others found in their research that peat moss did not produce any unfavorable effects upon seedling germination and emergence as compared to a number of the fresh sawdusts. Further research indicated that water-soluble fractions in some fresh sawdust could cause some reduction in seedling germination and growth. No such response was found with peat, since peat has been leached over a very long period of time and any phytotoxic substances removed.

(Continued on Page 3, Col. 1)

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**SUMMARY OF RECOMMENDATIONS  
FOR THE USE OF SAWDUST**

1. Never use sawdust in quantities greater than 25% in the construction of seedbeds for putting greens and athletic fields.
2. Avoid the use of pure cedar, pitch pine, or spruce sawdust, particularly those with high resin content.
3. It is highly preferable that the sawdust material be weathered for a period of two to seven months before using in seedbeds. This will allow some leaching to help remove phytotoxic soluble substances.
4. Once the seedlings have germinated they must receive adequate available nitrogen to keep them in a healthy state of growth with good color. Soil organisms attacking raw organic material require large amounts of nitrogen for the proliferation of their species. If the nitrogen is not in sufficient quantity the soil bacteria will exhaust this supply at the expense of the plant growth. For these reasons seedlings

can become pale-green, yellow, and even become completely stunted with reddened tips, due to nitrogen starvation.

5. Be positive that sawdust materials are thoroughly blended with soil ingredients so that no pockets or layers result in the mixture. Pockets of sawdust can decompose, leaving rough and uneven surfaces. Sawdust pockets can also interfere with vertical movement of water, and can result in dry spots under periods of moisture stress.
6. The author does not recommend sawdust as a seed mulch material. Peat moss is more desirable and effective when this practice is necessary.

Rules-of-thumb vary in recommendations for nitrogen application with sawdust materials. The safest rule is to observe the color and growth rate of the plant. One to 1-1/2 pounds of available nitrogen per 1000 square feet at the time of planting turfgrasses with sawdust mixtures will generally start the plants growing suitably. Light, frequent fertilizations with nitrogen (1/2 to 3/4 pound per 1000 square feet per application) will usually keep the plants in a vigorous state of growth. As the plants become older, rates of nitrogen fertilization may be increased up to 1-1/2 pounds per 1000 square feet at greater intervals between applications.

One of the safest means for preventing nitrogen deficiency, where raw organic materials have been used in mixtures, is to incorporate recommended quantities of urea formaldehyde nitrogen. Fifteen pounds of 38% nitrogen from urea formaldehyde will usually supply adequate amounts of nitrogen to prevent any deficiency over a considerable period of time. If large amounts of sawdust are used, it may be

(Continued on Page 4, Col. 1)

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## PRESIDENT'S CORNER from Page 1

value of our parks and turf. It was interesting, too, to note the variety of park types being built in Oregon. Tom's experience should be very valuable to your board.

Art Elliott has been a pusher for progress in our Northwest Golf Course Superintendents Association for many years. If his business-like approach works as well for our group we will be very fortunate. Art probably associates with more persons interested in Turf than anyone else in our organization. His job as membership chairman is very important and I am sure that all of you will give him all possible aid. Send him prospects and keep him busy!

Dick Malpass has more years in dealing with the people involved with Turf research than anyone I know. We were lucky to have him returned for another term. He is one of the most generous with his time and effort. After the conference he escorted John Escritt to Oregon for several meetings and then returned him to Puyallup so that the Gould's could take him on to British Columbia. Send any ideas that you may have for turf research needs to Dick for presentation to our research committee meeting.

## SAWDUST from Page 3

necessary to make a small initial application of soluble nitrogen along with the urea formaldehyde until the release rate of the urea formaldehyde is stabilized.

At this time, no undesirable results have been observed in the Pacific Northwest with the use of sawdust materials in golf course putting greens and athletic fields where the above recommendations have been observed.

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A big vote of thanks and appreciation should go to our staff members, Dick Haskell and Roy Goss. Each year brings a little more paper work and fiscal responsibility for Dick as our association grows. Keeping up the mailing list and membership list is a tedious job at best, but Dick seems to manage and come up smiling. Roy's effort in providing a stimulating and educational program is unsurpassed in the field. He provides the needle that gets the proceedings to the printer on time, provides the guidance that gives us a well-rounded program, and still maintains a sense of humor that keeps the program interesting as well as professional.

Choosing Hayden Lake as the next site for the conference should be a big added attraction for conference attendance. That course is great sport to play and the setting on the lake is gorgeous. It is going to be hard to top the program that we had this year but your board will do its best to provide something of interest to everyone. Put aside the last week of September for the conference now! Let's show John Harrison we appreciate his efforts.

(Continued on Page 5, Col. 1)



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## NEW LOOK in TURFGRASS in Future Issues

The Turfgrass Topics has about completed its tenth year of publication. The Board of Directors of the Northwest Turfgrass Association feel that the Turfgrass Topics has served a very useful purpose to the Readers. It is felt by some of the directors that a little larger issue with a slightly different format and style will be in order in coming issues.

### Dick Turley Passes Away

Dick Turley, formerly a staff member of the Canada Department of Agriculture Research Station at Saanichton, British Columbia, near Victoria, passed away earlier this year. Most of us closely associated with the turfgrass industry remember the many contributions Dick made. He conducted part-time research programs on the adaptation of turfgrasses to the lower mainland areas of British Columbia and conducted a number of management studies, which included fertilization, fumigation, weed control and irrigation.

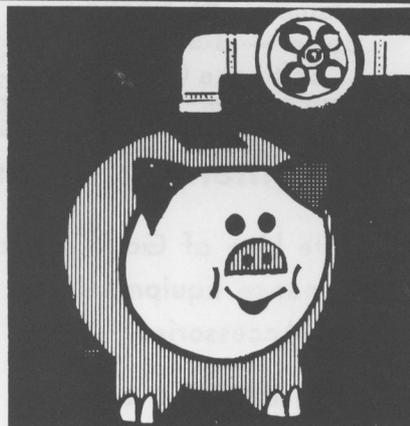
Most of us recall the excellent paper that Dick presented at the 21st Annual Turfgrass Conference at Harrison Hot Springs, British Columbia in 1967. We will very much miss Dick Turley in the turfgrass industry and at our future conferences and gatherings. We are indebted to him for his contributions and extend to his relatives and friends our most sincere sympathy.

Editor's note: The editor apologizes for not having more detailed information but was only advised of this matter recently.

### PRESIDENT'S CORNER from Page 4

A few observations -- the sodding job at Federal Way High School was a success. Six weeks after the sod was laid the football team was holding practice. The sod was laid during the hottest week in July and still came through in great shape.--- I saw a classic case of ophiobolus and fusarium

at the same time on a golf green last week. Skimpy maintenance practices seemed to be the major cause. A few dollars saved nearly cost them the greens.--- Auburn City Park Golf Course contract was awarded to Sprague Landscaping of Lynnwood. Construction is to start immediately --- Ray Coleman says that both Fairwood and Twin Lakes will have their second nines ready for play by early next summer. He plans to use a hydro-seeder for fairway seeding at Twin Lakes. --- Artondale Golf is well underway on the golf course remodeling. The new arrangement should make it a lot more fun to play and make it more challenging, too. --- seems that every issue of the paper has something in it about new parks, remodeling of old ones, new golf courses planned. It is an exciting time we live in.



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## LET US NOT CONFUSE

A rather lengthy article has been written in this issue of the Turfgrass Topics regarding the use of organic materials as soil additives for turfgrasses. This is an excellent opportunity to point out the difference between organic matter and humus. There is a vast difference.

Organic matter is a term to describe all material that has originated from a living origin, both plant and animal, and which may or may not have completely decomposed. Organic matter can contain sugars, starches, fats, proteins, minerals, vitamins, and hormones. Upon decomposition most of these materials are further broken down to basic components or enter into combinations in the soil. One of these combinations appears to be a product called humus and is usually composed of a complex molecule of ligno-

protein. A complex organic material called lignin and protein at a certain stage in their degradation combine to form this material, humus. Therefore, one basic difference between organic material and humus is mostly its stage of decomposition.

It takes a large amount of raw organic material to produce even the smallest amount of humus. Peat bogs and other vast organic deposits are not humus. As most of us are aware, peat will undergo further decomposition until it reaches the humic state. Humus has a strong affinity for cations (all positively charged elements and compounds in the soil) and becomes an important additive in soils with low clay content. For this reason specialized areas such as putting greens and athletic fields are greatly aided by the addition of organic materials which eventually will decompose and build up the humus content. This is one method of increasing the cation exchange capacity or nutrient-holding capacity of this type of soil.

Most organic materials contain a fairly balanced quantity of minor elements. Therefore organic material will help to take the place of clays that hold many of these minor elements. Organic materials, and eventually humus, become increasingly important as the sand content of a soil increases. For this reason we can "build soils" from nearly pure sand and still not be completely devoid of minor elements.

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## Dr. Marvin H. Ferguson Retires

Dr. Marvin H. Ferguson retired from the U. S. Golf Association Green Section on August 31, 1968 after 21 years of service. Dr. Ferguson started his career under Dr. John Monteith in 1940 in turfgrass management. He worked for a time at the old Arlington Turf Gardens in Arlington, Virginia. The U. S. Golf Association and the United States Department of Agriculture carried out cooperative studies in turfgrass research at this location.

Dr. Ferguson obtained his Ph.D. degree from the University of Maryland in 1950, then became the USGA Turfgrass Research Coordinator and Mid-continent Director of the USGA Green Section, a position he held from 1952 to 1968. Dr. Ferguson was the editor of the Turf Management Section of the USGA Journal and later became the editor of the Green Section Record. He was a member of the Editorial Board of Turfgrass Management, a book which is used as a reference by many people in the turf-

grass industry. Marvin was instrumental in preparing the program for most of the education conferences of the Green Section of USGA. Marv strongly supported the research methods of putting green construction which today are standard specifications used by the USGA. Many of you may recall that Marvin also directed the studies of shoe spike injury to golf course putting greens.

Dr. Ferguson leaves USGA Green Section to become President of Agri-Systems of Texas, Incorporated. This corporation will provide a variety of services to turf and to agriculture in general, which will include golf course design and construction supervision, irrigation systems, design and installation, laboratory services for physical analyses of soils, sod production and sales, and consultation services for the turf grass industry and agriculture. He will be working with a permanent staff of highly qualified turfgrass specialists, and this staff will be supplemented with consultants who are specialists in specific phases of plant science, soil science, and agricultural engineering.

From all of us who have known you for these many years, Marvin, we wish you the best of success in private industry.

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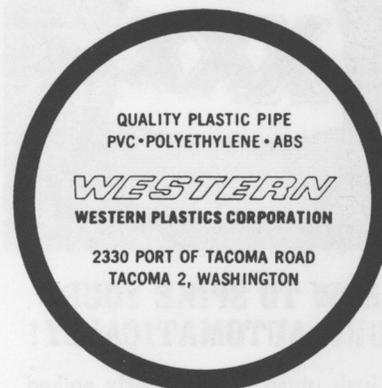
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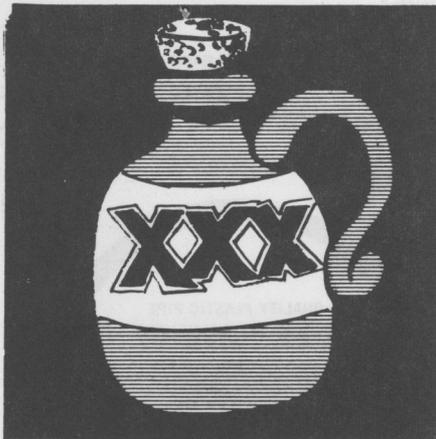
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Communications concerning **content** of this paper should be directed to Dr. Roy Goss, Editor, Western Washington Experiment Station, Puyallup, Washington.