

Texas-Okla. Turf Conference Sets New High in Interest

By JOHN R. HENRY

(Continued from last month)

W. L. Garman of Oklahoma A&M talked on the physical properties of soil as applied to turf management. He has worked with practically every soil type found in Oklahoma and surrounding states. The average composition of most soils found on greens in Oklahoma is 45% sand, 35% silt and 20% clay. He supplemented his talk with slides which showed poor root development of grasses growing in soils having poor physical characteristics. He stated that soils with too much clay would not let the roots develop; they became too compact after drying, and roots could not penetrate the impervious soil. The same is true of a soil having too much silt, and a soil composed entirely of sand does not have enough body or natural plant nutrients to grow grass. Mr. Garman's idea of the perfect soil for turf is composed of 70% sand, 20% silt, and 10% clay.

New Grasses for Fairways

Dr. Fred Grau talked on "What's New in Turf", and his work at Beltsville in which he is experimenting with all types of turf grasses. He expressed great faith in several new strains of Bermuda and blue grass. The Tifton 57 and the U-3 Bermudas may be the answer to a greenkeeper's prayer. Tifton 57 has a very fine leaf, small stem, and is highly insect and disease resistant, while the U-3 is an extremely aggressive strain that is easy to establish and spreads rapidly. Tifton 57 seems to be ideal for greens, as it is fine and does not become grainy ordinarily, and the U-3 should be used on the fairways and tees. B-27 bluegrass is showing promise in the northeastern states. It is a hardy strain having a good color and disease resistance. It grows close to the ground and requires less mowing. Zoysia japonica is rapidly coming to the front as a turf grass. It forms a thick, tough turf that is pleasing to walk on. It is relatively slow to establish, but once it is growing, it will take a lot of abuse.

Mr. Agar Brown, Secretary, National Greenkeeping Superintendents Assn. gave a talk on "The Objectives of the Greenkeeping Superintendents Association," namely: to develop better relations between greenkeeper and pro and between the greenkeeper and club officials.

Joe Dahlman, Pro, Mohawk GC., Tulsa, spoke on "Cooperative Backing of Turf Research by the Oklahoma Golf Assn., Oklahoma P.G.A., and Oklahoma Turf Assn". All three associations are receiving donations from golf courses, cemeteries, nurseries, and individuals interested in turf management, most of which is being sent to Oklahoma A&M where it is being used for turf research at their experiment station, under a staff of experienced agronomists.

Things Turf Men Should Know

The theme of the second day's talks was "Things Every Turf Man Should Know". Bob Ervine, Supt. Oaks CC., Tulsa, was chairman and introduced Prof. A. W. Crain of Texas A&M College. Crain called his colleague, Prof. Potts, also of Texas A&M, and they had a question and answer session "About Grasses" with Crain asking the questions and Potts answering. It was a novel way of presenting a lecture and aroused attention, because all the listeners found themselves trying to answer the questions before Potts could. A question typical of the ones asked was, "Why will grass survive mowing?" Professor Potts answered, "Because the growing points of grass are at the nodes and not at the tip of the stem." They also brought in the fact that when the grass turns yellow, it is not due to a lack of water necessarily but probably to a deficiency of iron, magnesium, or nitrogen.

"About Fertilizer" was Gordon Jones' topic, agronomist with Bob Dunning-Jones, Inc., Tulsa. His subject, well covered, mentioned the effects of the different fertilizer elements on soil and on plants. Nitrogen is responsible for a green color and leaf growth, while phosphorous develops the root system. The potash serves as a balancing influence to increase the vigor of the plant and make other elements more available. The main use of calcium is to raise the pH or make the soil more basic in reaction. Calcium also promotes granulation in acid soils. Chlorophyll is a pigment in the plant that gives it the green color. In order for the chlorophyll to be produced, iron and magnesium have to be present along with nitrogen. Jones cautioned that continuous use of acid fertil-

izers such as sulphate of ammonia will cause soil to become acid

Understanding Soil Chemistry

Dr. T. C. Longnecker, soil scientist, Texas Research Foundation, Renner, talked "About Soil Chemistry," covering the different aspects of soil chemistry with pH as the main topic. He brought out that at 6.5-7.0 on the pH scale, more elements were available to plants than at any other pH. This explains the fact that sulphur need be added if the soil is basic and lime is needed if the soil is acid. The neutral point on the pH scale is 7.0. All above that is basic and all below is acid. Some plants, such as azaleas and camillias require an acid condition in order to thrive, while plants such as alfalfa and the sweet clovers need a neutral or slightly basic soil. Dr Longnecker also mentioned a buffered soil. This is a soil that resists a change in pH other than that offered by the soil solution itself. It is caused by the concentration of weak acids or weak bases in the soil. Although the significance of buffering is far-reaching, its main importance is the stabilization of soil pH. A marked change in pH will cause a radical modification in soil environment. If the pH is lowered one point on the scale, it will be 10 times more acid than before, and if the pH is lowered two points on the scale, it will be 100 times more acid. Higher plants and microorganisms might suffer seriously before they could make adjustments to these situations. The supply of certain minerals would suddenly be cut off, and others would be oversupplied. This would seriously upset the nutritional balance of the soil solution. In properly managed soils, buffering, by stabilizing soil pH, seems to be an effective guard against the difficulties described above.

Dr. Howard B. Sprague, 1949 President of the Texas Turf Assn. talked "About Watering", warning overwatering's ill effects. The correct time to water is early in the morning while the dew is still on the grass. It has been proven that many plant nutrients are lost by the evaporation of dew from the leaves. The moisture condenses on the leaves of the grass after rising out of the ground. The rising moisture brings with it certain chemical elements from the soil. Some of the more volatile elements are lost when the sun's rays evaporate this dew. When water is applied early in the morning, it washes the dew off the grass and returns the elements to the soil. Overwatering to such an extent that water stands in the low spots is extremely dangerous, because the roots become water-logged and can not obtain oxygen. A combination of efficient watering and fertilization is the main requisite of having good healthy grass.

Dr. O. J. Noer talked on "Turf Weeds",

using slides in color of turfed areas that were infested with weeds. He maintained that weeds would not invade a healthy, well-fertilized turf that had received proper care and proved it with his slides. The development of 2, 4-Dichlorophenoxyacetic acid (2,4-D) has helped turf growers tremendously in the past few years. The best cure is still preventative, because weeds can not infest a turf that is well fertilized and in a healthy, vigorous growing stage said Noer. The weeds will be found in grass that is deficient in the basic fertilizer elements and turf that has not been managed properly. Noer pointed out that 2,4-D was very important in killing weeds in sand traps as well as in turf, and it is not to be deprived of recognition; however, 2,4-D alone is not the answer to weed-free turf.

Dr. Fred Grau returned to talk about turf diseases, discussing brown patch, snow mold, damping off, dollar spot, and others. Different chemical companies have worked on these diseases earnestly in the past decade and have developed fungicides to cure these mentioned. The old standbys, Tersan, Special Semesan, Arasan, F-531, and Ceresan are still foremost in the family of fungicides. Tersan is a copper compound used as a preventative and a cure for brown patch, dollar spot, and snow mold. Special Semesan and F-531 have practically the same uses as Tersan, while Arasan and Ceresan are used mainly to treat seed before planting to kill any fungi that might be on them. His talk was appropriate for everyone at the meeting, because most of the people had been in contact with one or all of the diseases he mentioned.

Scale in Southwest Area

Prof. Charles H. Brett, Texas A&M gave a talk "About Turf Insects". The insects that have infested turf in the past are now relatively easy to control with D.D.T and chlordane. Chlordane is now being used on most types of insect pests such as cricket moles, ants, cut worms, and earth worms. Most of the scale insects are still being fought with nicotine sulphate and oil emulsions. A new scale has hit the Southwest and is known as the Rhodes grass scale (*Antonina graminis*, MASK). This scale attacks Rhodes, Bermuda, St. Augustine, and numerous other turf grasses. It was first discovered in the Rio Grande Valley of Texas on Rhodes grass thus accounting for its name. This scale has given serious trouble on Bermuda greens in the Valley and is moving north steadily. It was found in Houston this summer on five greens at the Houston CC. Very little is known about the insect, but three men from the U.S.D.A. are working full-time on it at the Weslaco Experiment

Station, and they should find out quite a bit about the scale before next spring. At the present, a 3% chlordane emulsion spray is recommended for its control in the crawling stage.

Injurious Effects of Salts

"Saline soils and water problems in West Texas and Oklahoma" was discussed by Mr. C. Wallace Miller, Agronomist, C.A.A., Ft. Worth, Texas. The western part of Texas and Oklahoma are in a low rainfall belt. When for any reason the drainage of an arid-region soil is impeded, conditions become such as to favor the accumulation of soluble salts at or near the surface. This phenomenon is due to evaporation accompanied by an upward capillary adjustment of the soil water, which gradually carries the excess salts to the surface. Such a concentration or accumulation is called alkali. This renders the soil practically useless for agricultural purposes, and brings forth a problem to be solved before these soils are made productive. During periods of rainfall, the salts move downward through leaching, and these areas may be productive, but in dry years, they are often quite sterile, because the salts have moved upward into the root region of the plants. A saline condition may be handled in three general ways to avoid the injurious effects of salts. The first of these is eradication; the second is a conversion of some of the salts to less injurious forms; while the third may be designated as control.

Eradication is used in three ways; (1) Leaching with underdrainage, (2) Scraping, and (3) Flushing. Of these, flooding after tile drains have been installed is the most thorough and satisfactory. When this method is used in an irrigated region, heavy and repeated applications of water can be made and the alkali leached from the soil and drained off through the tile.

Conversion: Gypsum and sulfur are used to advantage to convert the harmful salts to sulphates, thus reducing the harmful effects of the soluble salts. These chemicals are applied to the soil, and they chemically combine with the soluble salts and convert them to sulphates, which are mostly insoluble.

Control: The retardation of evaporation is, of course, an important feature of alkali control. The intensive use of a soil mulch is advantageous, especially on irrigated areas where saline soils are often found. An organic mulch, such as peat moss, would be ideal.

Officers Elected

In the evening an informal get-together was held in the Topaz Room at the Tulsa Hotel courtesy of Goldthwaite's Co. of Texas and Bob Dunning-Jones, Inc. of

Tulsa. Immediately following the get-together was the banquet with Charles Hamm, Tulsa, officiating as master of ceremonies. The menu included ham, peas, salad, and ice cream for dessert. Short speeches were made by Agar Brown, Scotty McLaren, Toro Manufacturing Corp., Minneapolis, Perry Maxwell, Golf Course Architect, Tulsa, and Dr. Fred Grau. Enthusiasm was high, and everyone lauded the success of the conference. Scotty McLaren stated that the greens maintenance men should not be called greenkeepers but should bear the title of superintendents, because they have to be master mechanics, chemists, agronomists, good-will men, scientists, and "astrologists". They are specialists in their field and have a profession instead of a job. After these talks, the group was dismissed, and the two turf associations had their respective business meetings, in which they made plans for the following year and elected officers.

The following officers were elected by the Texas Turf Association: Pres., Frank Goldthwaite, Ft. Worth; VP, James Stewart, Ex.-Sec. of the Southwest Athletic Conference, Dallas, Texas; Sec.-Treas., R. C. Potts, Texas A&M.

The Oklahoma Turf Association elected John Price, Southern Hills CC, Tulsa, Pres.; Ben G. Owens, VP, Intramural Athletics, Oklahoma University; Harrell Butler, 2nd VP, Oklahoma CG&CC; Alex Repin, Treas., Tulsa CC; Bob Dunning, Sec., Tulsa, and Bob Ervine, Honorary Pres., Oaks CC, Tulsa.

Arizona Supts. to Form Maintenance Assn.

Superintendents of Arizona courses met Jan. 20 at Phoenix, Ariz., as guests of Alva and Glenn Shaw and discussed formation of an Arizona greenkeepers' association. Present were Dick Ginch, Arizona Biltmore, Phoenix; Phil Hanson, Phoenix CC; Joe Sanders, Wickenburg; Mike Perow, Mesa; Jay Woodward, Arizona CC; Preston Childers, Encanto CC, Phoenix; Cecil Watkins, Litchfield Park; Peter Narvette, San Marcos.

Wives of the superintendents were guests of Mmes. Alva and Glenn Shaw while the husbands considered formation of their sectional organization and exchanged ideas on how to develop and maintain fine golf turf on reclaimed desert where the temperature ranges from below freezing to 120° F. Achievements of these men in producing first class playing conditions shows amazing results of brains, blisters and sweat.