

Special-purpose Turf Grasses Developed at Beltsville

Sixteen states and Scotland were represented by the 180 people attending the Second Annual National Turf Field Day, October 19, at the Plant Industry Station, Beltsville, Maryland, for the study and inspection of experiments and demonstrations in the development and the use of special-purpose turf grasses.

Dr. Grau, Director of the USGA Green Section, was general chairman and conducted the group to the various experiments and demonstrations.

Among the group were a number of students working in turf who were introduced to the crowd. They were:

William Daniels, Mich.; Richard Davis, Purdue; B. P. Robinson, Ga.; James Watson, Pa.; L. Neal Wright, Pa.; John Stanford, Pa.; Jack Harper, Pa.; Marvin Ferguson, Md.; Charles Wilson, Md.; Al Radko, Md. L. S. Dickinson, Amherst, Massachusetts, was in attendance.

Methods of planting zoysia and bermuda grass were demonstrated. They included plug planting, sprig planting, stripped planting, and seedling planting. Al Radko demonstrated how to start with one ounce of zoysia seed in the greenhouse in November and end up with enough seedling plants to plant 5 acres in the spring by setting the seedling plants on 2-foot centers. One of the methods demonstrated was the use of the mole-drain which cuts narrow furrows in established turf, permitting the sprigs and plants to be set easily, after which they are rolled down with the wheel of the tractor. In this way established turf may be replanted without any interruption of the use of the area.

Dr. Grau pointed out that this is an expensive method but it is exactly equivalent to the annual area planting of tobacco fields. Turf and tobacco both are high value crops. With turf, this method of planting is done only once and then you can expect permanence, especially with zoysia and bermuda. He further stated that improvements in planting methods will come about as the result of the thinking and planning of turf superintendents. The crowd was then shown demonstrations of plantings of bermuda and zoysia made during the past two years on established lawns on the Plant Industry Station. In each case the plantings have been successful and permanent.

Walter Armiger explained ureaform fertilizer trials on the Alta fescue lawn and brought out a number of pertinent points with respect to this material. The ureaform is a combination of urea and formaldehyde, which produces a white powder containing 38% of nitrogen which is non-burning on turf. It creates a slow, steady growth, and one application may be expected to be sufficient for an entire growing season in this area. Ureaform has been tested sufficiently so that steps are being taken to have it manufactured commercially. At present there is none available on the market.

Dr. W. E. Chappell explained the crabgrass control trials to the group and pointed out the merits of and objections to several of the materials now on the market. The unfavorable weather this season created a great deal of damage on the bluegrass turf and crabgrass was in abundance everywhere. The crowd learned about as much as to what not to do as to what to do. It was obvious that chemical control of crabgrass represents only one of the tools and that chemical control and biological control are equally important.

It was pointed out that the recently disturbed areas on the Plant Industry Station lawns have been seeded to a mixture of Alta fescue, B-27 bluegrass, and Chewings fescue. The last good rain was on September 23. Germination and establishment have been good in spite of the low rainfall and the extremely unfavorable soil in which these seeds were planted.

Praise U-3 Bermuda

After a good lunch at the Station Cafeteria the group assembled on the plots at the Turf Garden. First demonstration was by Eddie Tabor, of the West Shore Country Club, Harrisburg, Pa., a representative of the Professional Golfers' Association of America, who demonstrated shot making to the crowd on U-3 bermuda grass turf which had been cut continually for two years with the mowers set at $\frac{1}{2}$ -inch and with no artificial irrigation during those two years. The turf was solid and dense, of a pleasing green color. It was firm, and Tabor's comments praised the turf highly from the standpoint of playing good golf shots.

U-3 bermuda grass—a Green Section development, is noted for its fine dense



PUSH SOUTHERN CALIFORNIA TURF RESEARCH

Turf Research Advisory committee of cooperative work at University of California, Los Angeles. Lower row, (L to R): Colin C. Simpson, chmn.; William Bell, architect; William W. Stewart, supt., Hillcrest CC. Upper row, (L to R): Fred W. Roewekamp, LA Dept. Recreation and Parks; Verne Wickham, LA County Parks and Recreation dept.; Prof. V. T. Stoutemyer, div. of Ornamental Horticulture, UCLA; E. B. Marzolf, Northrup King & Co.; William Beresford, supt. LA CC and Pres., SC-Greenkeeping Supts. Assn. First annual fall field day was held at UCLA campus with 140 attending, representing clubs from San Diego to San Francisco. Grass nutrition, chemical weed killers, sod webworm, national cooperative turf fungicide trial program, grass strains suitable to California and soil conditioning were subjects of practical lectures, demonstrations and reports of research progress at the session. Edward Roach, graduate student of UCLA and now supt., Rio Hondo GC, reported on turf survey of 12 LA district courses, telling of indications that excellent turf may be grown on types of soil considered to be unfavorable. A spring field day is planned. Very satisfactory and promising results of the first year's program were evident.

texture, its deep-rooting, and drought-tolerant qualities, its freedom from disease and insects, and its ability to provide near-perfect turf throughout the growing season, with the minimum of irrigation. It is highly favored for golf course tees, athletic fields and other places where heavy wear is common and where rapid recovery and healing is of paramount importance. Japanese lawngress has all the qualities of U-3 bermuda grass except the rapid healing. It has one advantage, which is ability to produce seed. Its final place in the turf picture has not been completely determined but it appears as if it will be used on many turf areas where low-cost maintenance is required.

B-27 Bluegrass Tests Favorable

One of the more striking demonstrations was the performance of B-27 bluegrass in comparison with commercial bluegrass. The B-27 bluegrass stands out

as superior in both spring seedings and fall seedings. B-27 bluegrass has thrived under continual mowing with the mowers set at $\frac{1}{2}$ -inch without supplemental irrigation. It is much more resistant to weed-invasion than commercial bluegrass. It looks as if this new bluegrass will give golf courses and home owners, fairway and lawn turf which can be cut closely and still have a good turf. One of the features of B-27 bluegrass is its ability to grow and persist in combination with bermuda grass and Japanese lawngress, giving the turf excellent fall, winter and spring color when these summer-growing grasses are dormant and brown. This study of combinations of warm-season grasses to resist crabgrass and cool-season grasses to give color to the turf has been one of the outstanding contributions of the Green Section to turf throughout the crabgrass belt.

During the past several years the Green Section has collected bentgrass selections from all over the country and has tested them at Beltsville under a system of no irrigation, using no fungicides or insecticides and mowing them at ¼-inch and ½-inch. Out of more than 150 strains only 3 or 4 have survived and prospered sufficiently to warrant further work with them. One comes from Ohio, one comes from Washington, D. C., one comes from Atlantic City, and one comes from Virginia. Several selections from Oklahoma show promise. This is the most brutal treatment that can be accorded bentgrasses, which popularly are supposed to require a great deal of attention. These have had the minimum of care and have thrived in spite of it.

There was a great deal of interest in the zoysia breeding and testing project which is being developed between the USGA Green Section and the Division of Forage Crops and Diseases, Bureau of Plant Industry. Hundreds of new strains of zoysia have been developed through breeding. Many new strains are being tested under various heights of mowing, alone and in combination with various cool-season grasses. In the trials thus far the top performing cool-season grasses are B-27 bluegrass, Alta fescue, and Penn State Chewings fescue.

It was interesting to note that it was difficult to get the crowd away from a demonstration of cutting plugs from Z-52 turf with specially designed plug-cutters fitted to the F. G. Aerifier. It appears that this may be a rapid, low-cost method of taking plugs from a nursery bed and inserting them into fairways in play without interfering in any way with the play.

Most of the greenkeepers were surprised to find that U-3 bermuda grass which invaded the bentgrasses maintained at putting green height did not materially affect putting quality or appearance.

Many of the visitors went home with 2-inch plugs of Z-52 zoysia in their pockets and a bag of U-3 bermuda grass under their arm. Since seed of B-27 bluegrass is practically non-existent at the present time, creeping grasses which can be planted vegetatively represent the greatest interest at the present time. It should be pointed out that most of the 1949 production of B-27 bluegrass is being used to plant additional acreage for seed production. Even though seed is not available at the present time steps are being taken to insure ample supplies in the future. A great deal of criticism was voiced because B-27 bluegrass looks so good and yet there is no seed. It must be understood that whenever anything superior is finally proven there always will

be a lag or gap between the demand and the available supply. It is inevitable and unavoidable.

Some of the work which was not shown to the group include a cooperative testing program of the new fescue strains developed by breeding and selection at the Pennsylvania Experiment Station. Another was the testing of some 50 strains of bermuda grass in bluegrass turf. Studies of nurse grasses and renovation trials made recently received little attention because the turf had not as yet matured. Also there were demonstrations of establishing turf from seed of different zoysiagrasses.

The Third Annual National Turf Field Day will be held on October 16 and 17, 1950. One day will be devoted to the inspection of local golf courses where new grasses and practices are being used under heavy play. One day will be devoted to inspection of the plots at the Beltsville Turf Gardens and discussions of the various points of interest. Another student get-together will be planned, probably for Sunday night, October 15.

Golf Writer Fred Proctor Dies

Fred W. Proctor, for 40 years one of golf's most devoted workers, died November 28, in Chicago at the age of 74 following lengthy illness. A veteran Chicago golf writer, most of the more recent of his 40 years as a newspaper reporter were spent with the Chicago Herald-American from which he was pensioned in 1946. Fred Proctor's service to the game began when there were less than 500 golf courses in the country; today there are 5,000, with the number in the greater Chicago district increasing almost 10 fold during the period he so enthusiastically worked to generate interest in the game. He is survived by his widow, Louise, two sisters, two step-daughters and a stepson. Three of the Walsh brothers of golf fame, Tom, Frank and Marty, Fred Snite, Chick Evans and Frank Mate served as pallbearers.

Midwestern Shade Tree Conference

The fifth annual meeting of the Midwestern Chapter of the National Shade Tree Conference will be held February 15-16-17, 1950, at the LaSalle Hotel, Chicago, Illinois. The two-and-a-half day meeting is open to all persons interested in trees, and it is anticipated that more than 300 members of the Conference and guests will attend. A short discussion period will follow the presentation of each paper, and additional opportunity for questions and discussion will be provided in the Plant Forum session. Problems of concern to arborists, particularly to those located in the midwestern region, will be discussed by able speakers.