

Better Turf for Better Golf

X

TIMELY TURF TOPICS



from the USGA Green Section

OBSERVATIONS ON TURF MAINTENANCE IN 1949

Putting Greens

It was a good season for Bermuda-grass greens, but bentgrass greens in many sections suffered from tropical weather and from diseases which were encouraged by the heat and humidity. Brownpatch was especially severe, particularly on greens that were saturated in an effort to keep them soft enough to hold a shot. Shallow-rooted turf is the natural consequence of overwatering, and in a weakened condition it is more susceptible to diseases. Tersan, mercury and hydrated lime were the three materials which kept brownpatch in check.

Pythium was severe on many bent greens, and little information was available to use in treating this disease. Tersan dusted on gave partial relief. Copper dusts were used cautiously in a few cases and this seemed to give some relief. Everyone is afraid of copper poisoning, and in spite of assurance from pathologists that occasional dustings of copper would not bring on copper toxicity, greenkeepers were hesitant to use it freely. It would seem that, since *Pythium* appears only for a short time during excessive heat and humidity, copper dusts should be tried. Certainly we need more information on this subject.

Copperspot was controlled easily by the cadmium fungicides and caused no real concern.

Greens which had been well aerified and which had a good, deep root system required much less water to keep them in excellent playing condition. It was significant that these greens suffer-

ed little from disease. As compaction is a continually recurring factor in sports turf, it seems the better part of wisdom to plan and execute a program of aerifying to maintain the desirable *oxygen* content of the soil. *Roots deprived of air can not absorb water!* That is why grass wilts even when the roots are bathed in water. The plant can't get enough water because it has too much water.

The value of *sand* in putting-green soils was demonstrated many times over this summer. It is easy enough to put plenty of sand in the top 12 inches of the green when it is being built, but too often the club tries to economize at this point and the sand content is reduced. The big problem is to incorporate the sand into an existing putting green without rebuilding or without interfering unduly with play. A number of clubs are doing this with one-inch spoons on the Aerifier. We shall watch the progress on these greens with great interest.

Many bent greens have poor turf because the grasses being used are poorly adapted. The colonial bents (Astoria, Highland and New Zealand) make poorer putting surfaces and become more weed-infested than do the improved creeping strains. Some greenkeepers have been misled into thinking that a colonial bent has given them good greens when actually the trace of seaside contained in the colonial as an impurity has served to develop a creeping-bent turf. The problem ahead is to introduce the better creeping strains into poor greens. Sprigging stolons into Aerifier holes is one method but progress is slow. Plug-

ging is faster because the plugs do not stop growing. Resodding is being practiced extensively where it is possible to build a nursery of putting-green sod. Strip-sodding is being practiced where specialized equipment is devised to cut and lay 2-inch strips without interfering with play.

Sod webworms were severe in many areas this summer. The damage was so similar to dollarspot that in some cases fungicides were used to treat the symptom. When Chlordane or DDT was used the trouble was stopped. It must be remembered that, where insect damage occurs, weeds are sure to invade. Grub-damaged areas on fairways invariably fill with crabgrass. Skunk and crow activity should be watched, but the skunks don't deserve to be shot. Check with your game warden because skunks are protected in many states. Kill the insects and you won't have to kill the skunk.

Goosegrass (silvercrab) was particularly troublesome this year. It is well known that this hard-to-kill weed grass can thrive on soils that are so dense and compact that ordinary turf grasses cannot exist. Aeration of the soil has been helpful in encouraging the turf grasses to compete with goosegrass. There are indications that sprays of 2,4-D and potassium cyanate may be useful in checking goosegrass. More data are needed but results are promising.

Collars, borders and approaches burned severely this summer. Thorough aerifying stood out as the best solution to this problem. Careless handling of power mowers on the turns contributed to the loss of turf. We need better grasses on these areas because perfect turf in the approach areas is as essential as is perfect turf on the greens.

Early morning hand watering paid dividends this year by reducing disease attacks. This practice was proven by USGA Green Section research and reported in the BULLETIN of the USGA Green Section for May, 1933. *Overwatering* continues to be the cardinal sin. Every effort should be made to learn how to keep good greens with the *least* amount of water.

Errors in resodding greens have been evident. Most sod is cut too thickly (more than one inch). When the sod is growing on heavy clay soil, a considerable layer of clay is moved with the sod, which quickly becomes compacted. The thinner the sod can be cut, the easier it will be to lay, the quicker it will take root and the less will be the danger of moving an undesirable layer of clay to give trouble in the future. Any area where sod is to be grown for lifting should be prepared with the same type of soil that is on the area where the sod is to be laid.

Tees

Good turf on the tees of one-shot holes is still to be achieved on most courses. Bermudagrass is unquestionably the best grass for the purpose wherever it can be grown. Golf courses in St. Louis, Chicago, Cleveland, Philadelphia and northward are giving the USGA Green Section's U-3 Bermudagrass a good trial. Success with Bermudagrass depends upon: (1) heavy nitrogen feeding during the growing season, (2) closer (one-half inch) frequent mowing and (3) keeping the soil on the dry side, i.e., using just enough water to maintain color and growth. On northern courses the only Bermudagrass recommended for trial is the winter-hardy fine-bladed U-3. *Poa annua* is a natural winter companion to Bermudagrass. B-27 bluegrass shows great promise as a cool-season companion grass. Every golf course which has a tee problem should make at least an effort to see if the problem can be solved by using Bermuda. Two-inch plugs, cup-cutter plugs or divot-shaped plugs seem ideal for introducing Bermuda sod into tees in play. Strip-sodding offers interesting possibilities.

Fairways

The two most significant new tools for the improvement of fairway turf have been the Aerifier and the Flexi-comb. Aeration of the soil long has been overdue. Aerifying fairways has reduced the need for irrigation, increased the efficiency of fertilizers, reduced rainfall runoff, given golfers a more resilient turf and has improved the efficiency of mowing equipment by smoothing bumpy fairways.

Combing the turf keeps crabgrass under control, prevents matting and fluffiness, and produces a firmer turf.

Research at Penn State under the USGA Green Section fellowship on irrigation and compaction of fairway turf will be reported soon. Overwatering of fairway turf is still serious and widespread. The right grasses need very little supplemental irrigation to produce good fairway turf. The interest in zoysia-grasses and Bermudagrass for better fairway turf is growing on a national scale. A number of research projects at co-operating experiment stations are beamed toward tee and fairway turf improvement.

B-27 bluegrass has been superior to common bluegrass in most of the co-operative tests that are in progress at golf clubs and experiment stations. A statement on this valuable new grass is contained on page 32 of this issue of the USGA JOURNAL.

Roughs

Considerable attention is being given to the roughs in some areas. Alta fescue is on trial, and to date it is performing satisfactorily. Common zoysia (Japanese lawngrass) is marked for increase and further study for roughs. In combination with Alta fescue, the common zoysia looks extremely promising for freedom from weeds, drought tolerance and year-round good color.

Weed Control

Heavy emphasis on chemical weed control is being given by many experiment stations. Some new materials have great promise. Full reports on 1949 tests will be published later.

Weed control must be approached from all angles: (1) better grasses, (2) improved management practices, (3) mechanical control and (4) assistance from chemicals.

General

Greenkeepers should be encouraged to conduct more trials of new grasses and new developments. It is true that routine maintenance requires so much of the greenkeeper's time that he has little time to devote to trials of new things. Green committee chairmen can be helpful in this respect by encourag-

COMING EVENTS

Nov. 28-30 — Oklahoma - Texas Turf Conference. Tulsa, Okla. Alex A. Repin, 1401 West Edison, Tulsa. Robert C. Dunning, Box 4082, Tulsa, Okla.

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Jan. 2 — Ten-Week Winter School of Turf Management, University of Massachusetts, Amherst, Mass. Geoffrey Cornish.

Jan. 3-5 — Fourth Annual Northeastern Weed Control Conference. Hotel New Yorker, New York, N. Y.

Jan. 12-13 — Annual Turf Conference, Mid-Atlantic Association of Greenkeepers, Lord Baltimore Hotel, Baltimore, Md. Ernest N. Cory, University of Maryland, College Park, Md.

Jan. 30 - Feb. 3 — Nineteenth Annual One-Week Turf Short Course. Rutgers University, New Brunswick, N. J. Ralph E. Engel.

Feb. 6-10 — Twenty-first Annual Turf Conference and Show, National Greenkeeping Superintendents' Association, Boston, Mass. A. M. Brown, Box 106, St. Charles, Ill.

Feb. 27-Mar. 2 — Nineteenth Annual Turf Conference. Pennsylvania State College, State College, Pa. H. B. Musser.

Mar. 6-8 — Midwest Regional Turf Conference. Purdue University, West Lafayette, Ind. G. O. Mott.

Mar. 10-11 — Annual Turf Conference, University of Massachusetts, Amherst, Mass. Geoffrey Cornish.

Mar. 13-15 — 1950 Greenkeepers' Conference. Iowa State College, Ames, Iowa. H. L. Lantz,

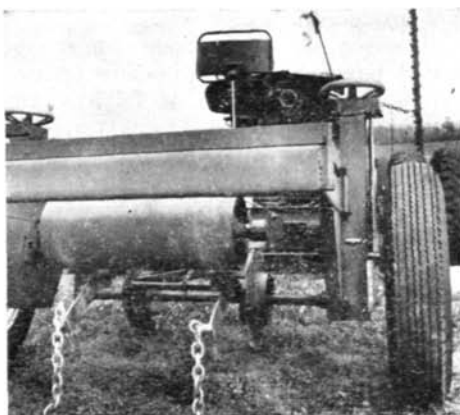
Mar. 14-16 — Third Cornell Turf Conference, Ithaca, N. Y. John F. Cornman.

ing this development. Funds and personnel of the USGA Green Section and of the experiment stations are too limited

Planting U-3 Bermudagrass into Established Turf



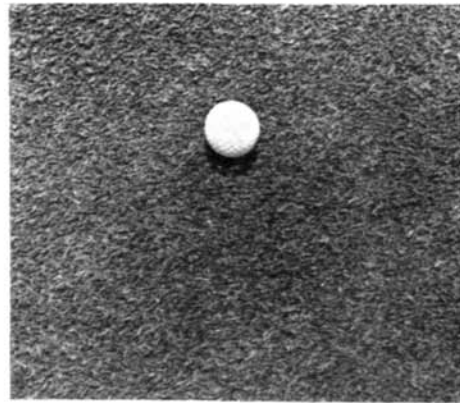
Mowing U-3 Bermudagrass hay for vegetative planting. The fresh hay is good planting material, although the rhizomes and crowns are better. These photos by Bureau of Plant Industry simply show one way to plant U-3 Bermudagrass into established turf without interfering with the use of the area.



Mole-drain makes narrow cuts in turf, 18 inches apart and any desired depth to 10 inches. Chains are attached to the bullets which leave continuous drainage channel below surface. Bullets are part of cutting blades which open furrow. Rolling coulters slice turf first to avoid undue tearing.



Fresh-cut Bermuda hay is dropped along furrow and pushed down until three-fourths or more of the material is buried. An edging tool could be used to force cut grass into furrows. Operation is completed by rolling furrows with wheels of tractor, followed by watering to insure catch.



Turf grown from U-3 Bermudagrass at Beltsville, Md., for two years without supplemental irrigation. It is mowed regularly at one-quarter inch, rates fair to good as a putting surface and is green from April to November. Rating would be higher with more topdressing, brushing and daily mowing.

to permit the establishment of many trial gardens on golf courses.

Too many clubs make the serious error of laying off their best help early in the fall, just at the time when the turf on the courses should be prepared for the

season ahead. Every effort should be made to retain a full force until all preparations for winter have been completed. Key men, experienced men, should be given *year-round* employment. Nothing is so discouraging nor so costly

as to break in a green crew every spring. Experienced *water men* paid handsome dividends this year.

It is encouraging to see the number of clubs which are discontinuing the

practice of changing the green committee chairman every year.

The level of golf-course maintenance is being raised each year. Adequate compensation for excellent supervision still lags behind.

SECOND ANNUAL NATIONAL TURF FIELD DAY

The USGA Green Section and the Bureau of Plant Industry, Soils and Agricultural Engineering, Division of Forage Crops and Diseases, co-operated in holding their second annual National Turf Field Day at Beltsville, Md., on October 19.

Dr. Salter, Chief of the Bureau; and Dr. Myers, Head of Forage Crops, welcomed the group and both stressed the importance of turf work as a vital part of agricultural research. They cited the long co-operation of the Bureau and the USGA Green Section. Dr. Grau, Director of the USGA Green Section, was general chairman and conducted the group to the various experiments and demonstrations.

Alta Fescue Lawn

Alta fescue lawn seeded September, 1947; it was explained that Alta fescue is not the perfect turf grass, but it has proven itself for large lawns, roadsides, athletic fields, airports and other turf areas where close-knit turf and fine texture are not of paramount importance. It is generally used in combination with other grasses and has largely replaced redtop and ryegrass because it is not so competitive to the other grasses. It is a good cool-season companion to Japanese lawngrass. It is very deep-rooted and drought tolerant.

Methods of planting zoysia and Bermudagrass were demonstrated. They included plug planting, sprig planting, strip-sod 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 five 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 fur-

rows 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.

Ureaform Fertilizer

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 33 per cent 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