

# TIMELY TURF TOPICS

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**UNITED STATES GOLF ASSOCIATION GREEN SECTION**

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**ARLINGTON TURF MEETING:** Visitors to the annual Arlington Meeting of the United States Golf Association Green Section, September 22 and 23, had an opportunity to view the grass variety, disease, fertilizer, weed control, and soil texture plots of the Turf Garden for the last time in their original setting. The experimental plots conducted there since 1920 by the Green Section in collaboration with the Bureau of Plant Industry of the United States Department of Agriculture will soon be moved from the present site to make way for War Department activities.

Because of space, only brief mention of some of the exhibits will be mentioned in this issue of T.T.T. Included among the various plots were varieties of both creeping and velvet bents which had been regularly treated for the control of disease and duplicates which have not received such treatment during the five years they have been under observation. These latter plots were of special interest to visitors since many of them showed extreme damage from successive attacks of disease during the summer months. By way of contrast there were some varieties which showed practically no such damage from disease. It was apparent to all that the use of such resistant varieties instead of the more severely damaged strains would clearly reduce the cost of putting green maintenance.

Interest was shown in some Washington and Metropolitan bent plots, the oldest of their kind in existence. These showed little or no deterioration as compared with some of the more recent plantings of these same varieties.

There was a desire among the visitors to test a number of the old and newer varieties on their own courses. Accordingly, the Green Section has made shipments of stolons for late fall planting for further tests on golf courses in excess of 10,000 square feet during the first 15 days in October alone.

Three selected strains of Bermuda grass showing a number of qualities superior to the common Bermuda grass indicated the possibilities that may be expected from selection work similar to that which has been in progress for several years on bent grass.

Small plantings of the common southern turf grasses were exhibited, including carpet grass, centipede grass, St. Augustine grass, St. Lucie grass, Acapulco grass, kikuyu grass, Zoysia and others.

Seedlings of creeping bent and Kentucky bluegrass were shown beside their respective parents plants. Each group showed the great variation possible in the progenies of a single parent plant. This extreme variability on the part of some plants holds for the plant breeder the key to improved strains, but for the grower of single strains of bents in nurseries, it is a serious problem.

The value of applying the right kind and amount of fertilizer at the proper time of year was apparent to those who visited the fertilizer series of bent grasses, the fertilizer and weed control treatments on bluegrass turf, and the plots maintained in cooperation with the National Capital Parks. In the latter series, the most desirable seeding and fertilizing practices capable of giving the best and at the same time the least expensive turf on poor soil were demonstrated. In duplicate series, one planted in the spring and the other in the fall, the results showed clearly that the fall planting was distinctly superior to the spring planting.

**GOOD AIR CIRCULATION NECESSARY FOR HEALTHY TURF:** Some of the most destructive grass diseases are more prevalent and more injurious in low pocketed areas than in open areas on high ground. It is a well-established fact that one of the reasons for this is the poor circulation of air over these areas. Not infrequently, the overhanging limbs of nearby trees seriously interfere with adequate movement of air.

The offending branches should be cut off sometime this fall or winter when labor is not tied up with rush jobs so as to allow the prevailing winds to blow over the grass unobstructed and thus help it to resist the disease attacks better during the next growing season.

**MICE:** Working beneath the snow in winter, mice are apt to make long runways and numerous holes. A number of different methods are now being used to eradicate them. They are readily caught in strong snap-traps, this method being effective over an area not exceeding 1 to 2 acres when plenty of traps are used and regular attention is given to them. A bit of cotton on a twig is a convenient marker.

When using poison, it is desirable to destroy all mice at one application. Survivors become suspicious and are hard to dispose of later. Therefore, an ample supply of baits that will appeal strongly to their appetites is essential.

Mice will congregate under cement sacks or pieces of building paper. If these are placed in low, out of the way places and if poisoned bait is placed beneath them, many mice will be killed before they injure the turf. Such poison stations also have the advantages of keeping the bait dry and of protecting birds from the poisonous grain. A level teaspoonful of moisture-proofed poisoned bait should be placed in the hole in addition to that placed in the poison stations. Clear, quiet, warm days are preferred, the bait being set out early, since field mice are most active in the afternoon.

Strychnine has been considered the best poison for mice. However, experience shows it is most effective in killing prairie and western mice. Eastern mice seem to be too sophisticated, since only a 25 percent kill has been reported. At the first signs of discomfort, a high percentage of the latter stop feeding and therefore do not get a large enough dose to kill them. A satisfactory preparation may be prepared as follows. One ounce of strychnine, 1 ounce of baking soda, and 8 quarts of rolled oats are mixed with thoroughly warmed mineral oil for moisture-proofing.

A new poison has been developed which deserves a trial if past failures have been experienced. Zinc phosphide, said to be effective for field mice, is a development from the Predator and Rodent Control Research Laboratory of the Department of the Interior. It is most effective when dusted onto moisture-proofed rolled oats and placed in runways and holes. It has the advantage of deteriorating rapidly, leaving the remaining bait palatable and harmless to suspicious mice. Such prefeeding aids in their eventual elimination if followed up with poison. This bait will remain effective outside for only 3 or 4 days. The zinc phosphide moisture-proofed bait may be had at cost, together with detailed information regarding its application, from the Department of the Interior by addressing Mr. George B. Lay, 1140 Park Square Building, Boston, Massachusetts.

**MOLE CRICKET CONTROL:** It is reported that turf in some sections of Georgia and Florida has just experienced the worst infestation of mole crickets in a number of years. Attempts to eradicate them from turf by the use of well-known poison bait methods as well as by treatments with arsenate of lead, ground tobacco stems, and castor meal have not been successful in several localities this fall.

From an Entomologist of the United States Department of Agriculture, at Plant City, Florida, there comes the statement that his recent investigations have shown the presence on turf of two kinds of mole crickets. He makes the suggestion that preliminary results indicate that the ordinary methods of control may be effective against one of these kinds of crickets and not against the other. Therefore, it would seem that the degree of control obtained depends upon whether or not the damage to turf in one locality is predominantly due to the species that can be eradicated effectively by present methods. The offending species will have to be determined for each locality. Because of the specific differences in the behavior of these two crickets, new control measures will have to be devised and applied before success can be achieved in all localities.

**WEATHER - TOO DRY IN THE EAST, TOO WET IN THE INTERIOR:** A record-breaking drought during September in addition to the driest spring in the history of the Weather Bureau has prevailed over the eastern portion of the country. It has so completely depleted the subsoil moisture that in spite of a summer's respite and some recent rains in certain sections, the turf in the entire Atlantic area still continues to suffer.

This moisture deficiency is wide spread, including some states in the Ohio and Tennessee river valleys, in addition to North Carolina, South Carolina, Virginia, Pennsylvania, and Kentucky. In New Jersey the September rainfall was only 0.30 inch or 8 percent of normal, representing the driest September on record, while Maryland, Delaware, and the District of Columbia have each had only 14 percent of normal, the minimum since 1884. On the Atlantic seaboard, Florida alone has had ample rainfall for her turf requirements.

It was the wettest October on record in Illinois, Kansas, Michigan, Oklahoma, Utah, and Missouri. Several southwestern states have had precipitation from 150 to 200 percent above normal as an average for the past 10 months.

The unusual nature of the distribution of rainfall this year can be obtained by comparing the situation in a normally humid state like Virginia, which has about 50 percent more rainfall on the average than has a relatively dry state like Kansas. For the 10 months from January to October, Virginia has an accumulated deficit of 10.1 inches representing an actual water shortage of 36,663 cubic feet or 274,255 gallons for every acre of land. Kansas, on the other hand, has had 34 percent more rainfall than Virginia or an excess above normal of 10.3 inches, representing 37,389 cubic feet or 279,686 gallons of water per acre more than normally is received.

**EQUIPMENT:** With the lessening of fall work on turf maintenance the need to acquire new parts for mowers, tractors, sprinklers, and other equipment takes on added significance this year because of mounting costs and the shortage of materials and labor. An immediate examination of all equipment, listing such parts as are needed and immediately placing all such orders, may relieve a number of serious inconveniences later on.

**WINTER FEEDING OF WILD LIFE:** The value of bird life to turf betterment has been demonstrated over and over again. The bird population is being reduced faster than it is being replenished. Winter feeding is one of the most practical measures that can be taken to assure their continued existence. Contrary to popular notions, most starvation of birds is cumulative, the result of short rations over an extended period rather than for a few days only. This fact should be fully appreciated in planning for a winter feeding program. While intermittent feeding does some good systematic feeding will be more helpful.

The small, winter, ground-loving birds can be fed by providing food for the game birds, but the tree-inhabiting kinds, including the downy woodpeckers, nuthatches, and creepers can be attracted near dwellings and into groves by placing suet and other foods on and among the trees. The seed from ripened flower blossoms will attract certain birds onto the edge of the lawn, if the dried stems are left standing in the flower border. Certain trees and shrubs including privet, snowberry, juniper, American elder, bayberry, honeysuckle, and barberry will greatly benefit bird life.

A growth consisting of buckwheat, wheat milo, kafir, sunflower, and soybean if allowed to stand unharvested over winter in a food-patch reservation will furnish excellent food and shelter for a variety of birds, rabbits, squirrels, and other wild life.

**ARSENICALS FOR WEED CONTROL:** Reports of good results from the use of arsenicals for weed control continue to come in from all over the country. The season for weed control is over so far as a great many turf weeds are concerned. There are a few weeds, however, such as chick-weed and some of the other mat-forming weeds, which can be dealt a severe blow even in late fall and early winter. Best results with least injury to grass can be obtained by using a lighter rate of application than is ordinarily recommended. (See T.T.T. - Sept., 1940)

**ZOYSIA:** For several years visitors have been much interested in the plantings of Zoysia at the Arlington Turf Garden. There are three species of Zoysia now known to be growing in the United States, all three having been introduced from the Orient. All three grasses are low-growing and form dense turf.

Zoysia japonica, commonly referred to as Korean lawngrass or Japanese lawngrass, is the coarsest of these species. Some strains are winter-hardy and one planting in Boston, Mass., has survived several severe winters.

Zoysia matrella, Manila grass, has a narrow leaf and produces a finer textured turf than does Zoysia japonica. It apparently is not as winter-hardy as is Zoysia japonica, although it has been able to survive southern New England winters.

Zoysia tenuifolia, Mascarene grass or sometimes called Korean velvet grass or Japanese velvet grass, is a dwarf grass which produces an extremely fine textured turf. It has been grown for a number of years in lawns in Florida and California. It has the objectionable tendency to "buckle up" in turf and is easily invaded by weeds.

The Korean lawngrass and Manila grass are at present attracting most attention. Both of these grasses are still in the experimental stage but have demonstrated some interesting possibilities for turf purposes. The entire season's growth is only a few inches high and therefore for many situations they need no mowing. They can however be cut close without damage. Like Bermuda grass, however, they turn brown in the winter time, which is a serious objection in many situations. They are slow in becoming established but when once they form a thick turf they compete successfully with weeds. Commercial supplies of seed are not available at present but they propagate readily by the vegetative method. The turf of both of these species will stand heavy wear and rather prolonged droughts. These grasses appear to be most promising for the region between our common northern and southern grasses.

**SNOWMOLD TREATMENTS:** With winter at hand, precautionary measures against snowmold injury have been carried out in many places. The present price of mercury has caused many greenkeepers to hesitate before applying mercury compounds for snowmold prevention this winter. Mercury compounds when applied too far in advance of the disease may be washed or leached from the soil.

In some sections of the country where snowmold is prevalent, considerable risk would be incurred by withholding mercury until after the first snows have fallen. On the other hand, in sections where snowmold occurs periodically, a substantial saving may be expected by watching the conditions as they develop on the turf, making it unnecessary to apply mercury in every case. (See T.T.T., October 1940, p.1) It is in these latter regions that the turf injury due to disease organisms and other causes should be carefully differentiated.

**WATER IN ONE INCH OF RAINFALL:** It may be helpful in calculating the amount of water necessary to supplement natural rainfall on turf to have available the following figures showing the volume of water equivalent to one inch of rainfall. For an area of 1,000 square feet, approximately 80 cubic feet or 600 gallons of water are necessary to equal one inch of rainfall for one acre, 3,630 cubic feet, or its equivalent 27,154 gallons.

It has been reliably estimated that an acre of grass takes up water equivalent to at least 5 to 7 inches of rainfall in a growing season. Allowing that this is a third of the average total precipitation from May to October the amount of water which should be applied to supplement the natural rainfall during the course of any particular season can be estimated from the daily rainfall records together with a knowledge of the rate of delivery of the sprinkling system. A sprinkler delivering 20 gallons of water each minute to an average sized putting green of 5,000 square feet would have to run 2 hours and 30 minutes to deliver 3,000 gallons of water, or the equivalent of 1 inch of rainfall.