

Park and Cemetery Turf

By PROFESSOR LAWRENCE S. DICKINSON

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GOOD turf is as much essential to a park as it is to a golf course, and because of its diversified use requires careful management for each area. Park superintendents should not use the same cultural methods for their park turf as the greenkeepers do for their golf courses, and if a park has a golf course, the necessity for separate maintenance is most essential. Many parks have turf that is in poorer condition than it should be, because the superintendent has tried golf course methods on his lawns.

The greenswards of a park are for unorganized play, lounging, and picnicking, and particularly to add to the general landscape beauty of the park. To clip them as closely and frequently as fairways are clipped is wrong. No "brassies lie" is required, rather, a thick and somewhat long grass is needed to give comfort to the lounge and picnicker, and a short-clipped greensward certainly does not harmonize with the natural beauty of the park. The minimum height of cut in lawn-mowing park greenswards can well be three-quarters or one inch higher than on fairways. A mixture of six parts Kentucky blue grass seed and four parts of Rhode Island or Colonial bent and three parts of Italian Rye grass should make a good park greensward.

In much used sections of a park, and particularly in the shaded areas, the health of the turf does not depend so much upon the soil and fertilizer as it does upon the amount of air in the soil. Constant tramping by the visitors so thoroughly packs the soil that the air is driven out, and the surface rendered impervious to water. A turf in such condition must be aerated by spiking, discing or lifting before much benefit can be obtained from fertilizers.



PROF. LAWRENCE S. DICKINSON

*Massachusetts State College
who is recognized internationally as an expert on turf
culture. We are greatly privileged to publish excerpts
from his wonderful book.*

LIFT THE TURF WITH A SPADING FORK

LIFTING the turf is accomplished by pushing a spading fork deeply into the soil and gently pressing down on the handle. The fork should enter at an angle of about forty-five degrees and deeply enough to be well below the grass roots. Air should be allowed to circulate through the soil for twenty-four hours, after which fertilizer should be applied and the area well soaked. Two liftings a season, one in the spring and again in the late summer will keep a reason-

ably good turf on a much trampled area.

Where the turf is subjected to considerable tramping heavy tractors should not be used to draw the mowers, or if they are, they should be provided with extra wide wheel tires.

No turf can grow about stationary settees, drinking fountains, waste cans or any similar place, and a good park superintendent provides fine gravel or stone chips as a substitute.

Bowling greens and croquet courts require very close and frequent clipping to maintain a good playing surface. They must be fertilized frequently with a high nitrogen fertilizer and at least twice annually with an organic fertilizer.

Croquet courts if built of heavy loam will become very hard unless treated with charcoal (150 lbs. per 1000 square feet) or a similar substance each spring and fall. The bents are the grasses best adapted to bowling greens and croquet courts.

Sport fields require a still different treatment, and here again the turf must not be permitted to become hard and impervious. Football, soccer and cricket fields can be permitted to grow rather long,

but a baseball diamond must be cut closely (one inch). A mixture of four parts Chewings fescue, one part Rhode Island or Colonial bent and one part red top is well adapted for play fields situated on acid or neutral soil.

The "distant," "vista" or "meadow" turf should consist of such grasses as meadow fescue, and meadow foxtail, if the soil is very wet, and red top and meadow fescue on other areas. These grasses if mowed three times a season with a hay mower will give a very pleasing meadowland appearance.

Canadian blue grass can be used in parks to a good advantage on the areas that are hard and clayey. It should not be used alone but with fescue or Kentucky blue grass.

CEMETERY TURF

A CEMETERY turf is the least worked of any public or semi-public turf. With the exception of Memorial Day, traffic is very light, and is never violent. Few divots are taken and it is seldom disturbed except for a new interment. Yet with so little use cemetery turf is not as a rule good, and, like the park turf, the main reason for failure is too close clipping and too little fertilizer or wrong fertilization.

The old-time cemeteries and those of the 90's present a real problem because they are usually situated on thin, worn-out, sandy soil, overlying a gravel subsoil, and exposed to wind and the sun rays. In addition many have the lots raised from eight inches to a foot above the drives and paths, and are maintained with small endowments or smaller municipal appropriations.

The sites for the more modern cemeteries were chosen because of their landscape beauty and appropriateness for the dignified and religious atmosphere. These cemeteries have reasonably good soil, trees to break the drying winds and are void of raised lots or graves. The endowments are sufficient for a good standard of maintenance.

It is necessary that the above statements of facts should be fully understood and appreciated. Also, that the following general rules for cemetery turf culture should be followed with modifications to suit the immediate problem, when one prescribes cultural treatment for cemetery turf.

Turf is very necessary to the cemetery, every one

will agree, and the greener and healthier it is the better.

COVER CROPS FOR UNDEVELOPED AREAS

THE most neglected portion of a cemetery is the undeveloped area, usually grown to weeds, poverty grass or brush. Such areas should be plowed and kept in cover crop until needed for lots. The cost of two cover crops each year with a small amount of fertilizer will pay large dividends later in fine turf and low maintenance cost. Cover crops such as cowpeas, soy-beans, or buckwheat may be grown in the summer and rye during the winter. Such a rotation of crops if grown for a few years will improve the soil, look better than a neglected field and prevent the growth of weeds which might scatter seed on the cemetery turf.

If the sunken walks and drives are filled to a level of lots the drying of the turf will be lessened and the general appearance of the cemetery improved.

Frequent and close clipping of cemetery turf causes it to become open and to lose much soil moisture by evaporation, especially if the turf is growing over gravel or sand. Too close clipping is a common error.

A grass seed mixture that is suitable for the soil should be adopted for the cemetery and no other used. Such a rule will assure uniform texture to the turf and one that can be fertilized the same throughout. Chewings fescue, Kentucky blue grass and Rhode Island or Colonial bent are basic grasses adapted to cemeteries. German and creeping bent are of doubtful value because of the dry soil conditions that usually prevail. They could be used in some of the modern cemeteries that have good soil.

CHOOSE FERTILIZER TO FIT BASIC GRASS

A FERTILIZER program favoring the basic grass that is the healthiest should be adopted and strictly followed. For cemeteries on sandy soil a 6-12-4 fertilizer applied in the spring and fall should give good results.

All leaves and humus should be composted and not burned, for top-dressings of loam or compost are very beneficial to turf on sandy soils. A large compost pile, if it is used, will greatly improve the physical texture of the soil.

No cemetery should be without a large turf nursery to provide turf for patching and the sodding of graves. The nursery should be well kept at

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I have a position open for an all-around man, experienced in upkeep of an 18-hole sand green course. Must be A-1 with mowing equipment and machinery. Only one who takes interest in his work and sees that the job is done will be considered. Address all inquiries to Box 10, The National Greenkeeper and Turf Culture, Caxton Building, Cleveland, Ohio.

POSITIONS WANTED

Experienced greenkeeper with splendid references desires position in the Chicago district. Understands thoroughly soil and climatic conditions. Good man for any club. Address inquiries to Box A, The National Greenkeeper and Turf Culture, Caxton Bldg., Cleveland, Ohio.

Nationally-known greenkeeper with many years' experience in the construction and maintenance of several well-known golf courses, such as Oakmont in Pittsburgh and Plum Hollow in Detroit. Has a son who will act as assistant and is an expert mechanic. This combination should appeal to any golf organization desiring efficient and economical management. The best of references will be furnished upon request. Address inquiries to Box B, The National Greenkeeper and Turf Culture, Caxton Bldg., Cleveland, Ohio.

Greenkeeper with best of recommendations and thorough experience in maintenance and construction. References furnished upon request. Address inquiries to Box D, The National Greenkeeper and Turf Culture, Caxton Bldg., Cleveland, Ohio.

Pro-greenkeeper with many years' experience, seeks position as professional, pro-greenkeeper or greenkeeper. Grand-nephew of the late "Old" Tom Morris of St. Andrews, Scotland. References, John Ball, eight times British Amateur champion, and Jimmie Johnson, ex-American Amateur champion. Previous connections, Town and Country Club, Saint Paul; Midlothian C. C., Chicago; Louisville C. C.; Country Club of Harrisburg, Pa. Address Tom Morris, 1548 E. 64th Street, Chicago, Illinois.

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all times, and located on soil that will not crumble away when the sod is lifted.

If a wild grass that makes good turf creeps into the lots, tame it and encourage it to grow. Turf is what is wanted and not a particular species of grass. Rhode Island bent and many bent species very often volunteer in turf. The use of acid-reacting fertilizers is much more likely to encourage desirable native grasses to grow than fertilizers that give an alkaline reaction.

Iron Sulphate

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dition which is often observed (in England) when sulphate of ammonia is used alone.

In conclusion, it should be remembered, that the results obtained in England from the use of iron sulphate, have been ob-

tained under cultural conditions that differ in many respects from those of the United States. It would be interesting to observe the results of similar experiments conducted under our cultural conditions.

Draining Polo Fields

By G. D. JONES, Agricultural Engineer

IN THE management of polo fields, golf courses, estates, cemeteries and aviation fields, unusual drainage problems of more than ordinary difficulty are frequently encountered. A typical case was that of the Hunting Valley polo field, located just outside of Cleveland, Ohio, in the Chagrin Valley.

This field had been under-drained with tile at the time it was made. Due, however, to constant rolling and hard use from regular play, the ground had become so compacted that surface water was unable to get through to the tile, and the latter, therefore, had lost its efficiency in maintaining good drainage. As a result, much loss from winter killing was experienced and the field was frequently unplayable at the time games were scheduled.

The problem was obviously the adoption of some method which would break through the top soil without injuring the turf or the playing qualities of the field, and at the same time would permit the surface water to drain through to the tile, where it could be carried away. The agricultural engineering department of the Cleveland Tractor company was consulted and a treatment recommended with results that have been unusually satisfactory.

In the fall of 1932 a Cletrac Model 25 crawler tractor was used to pull a No. 20 Killifer chisel over this field to a depth of approximately 20 inches. A special sweep-shaped tool was used at the bottom of the chisel to increase the fracture of the compacted soil at the bottom of the chisel cut. The cuts were run across the field at intervals of approximately 30 inches at right angles to the direction in which the tiles were laid. This treatment loosened the compacted top soil and permitted the easy passage of water to the lower levels, where it was carried away by the tile. No injury to the turf was experienced.

The effectiveness of the job was well illustrated one morning early in March, 1933. After a very heavy rain on this particular morning, all the fields in the



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