

## Seeding Fairways in the Northern States

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Much more attention should be given to the planning and care of fairways than they sometimes receive. On many holes the play between the tee and the green is the most interesting part of the game. In the discussion which follows it should be understood that the recommendations for improving the turf are intended mainly for those parts of the fairway where correctly-played shots should come to rest. A perfect sward for the entire length of the hole is not necessary and indeed may not be wholly desirable. With such a fairway, Mr. Dubb is encouraged to trundle his ball along like an animated tumblebug; but the player who makes a correct shot should have the satisfaction of finding his ball lying where it can be played with any club that is needed to cover the distance of the next shot properly. Too often this is not the case. A ball at the bottom of a depression in the middle of a fairway may offer a player as much trouble as is experienced by his opponent who has landed in the rough.

### IMPROVING OLD TURF

The sins committed in seeding fairways are visited on the succeeding greenkeepers to the fourth generation. Rough, pitted seed beds, the use of seed of non-turf-forming grasses, and uneven distribution of the seed, are the causes of most of the troubles which make the greenkeeper's job anything but a sinecure. It is surprising, however, what a multitude of these faults can be corrected with a little top-dressing and fertilizer. The top-dressing need not be expensive—hand-made compost compounded after some definite formula. Mr. Connellan has described a method for making fairway top-dressing efficiently and at little expense.\* A thin covering of ordinary top soil, if nothing better is to be had, will help fill up the holes and give new vigor to the grass. An old farming practice which was in vogue before the days of commercial fertilizers, was to top-dress with anything that differed from the soil of the field. Sandy substances were used on clays, and clay or silt on the lighter soils. This old method might well be revived in the care of fairways. With grasses which have the ability to spread, such as bluegrass and the bents, an occasional top-dressing and an annual application of bone-meal, and perhaps some quick-acting nitrogenous fertilizer such as nitrate of soda or ammonium sulfate, is all that is needed to keep the turf in a healthy condition.

But what is one going to do with the fescue abominations which have been so freely seeded in the last few years? The writer recently has been on several fescue fairways which were anything but fair. The grass was in little tufts surrounding depressed bare spots of ground. No matter how accurately the ball is played it always comes to rest in one of these cuppy places. Fertilizing such grass makes the tufts grow taller and thus accentuates the trouble. While as a rule the common practice of scattering seed on old stands of grass gives little if any beneficial results, in the case of cuppy fescue turf it seems to offer the only solution short of complete reseeded. If seeding is to be done on old fairways it should be done early in the fall just before applying a coating of top-dressing.

\* The Bulletin, Vol. I, page 57. See also Vol. I, page 51, and Vol. II, pages 20 and 155.

## SEEDING NEW FAIRWAYS

*Preparing the Seed Bed*

The advice is constantly given that the seed bed for grasses should be well prepared. Apparently some men who have charge of seeding fairways do not know what a well-prepared seed bed is, or else do not know the successive operations necessary to produce such a condition of the soil.

An ideal seed bed is one which has a fine granular surface over a firm, compact subsoil. There should be no large clods or lumps. The nearer the grains of soil can be brought to the size of wheat kernels, the better; if the soil has been mistreated in the past, for example, plowed when too wet or too dry, it may be difficult to attain this ideal condition, but nevertheless the above is the state of perfection which should be sought. The ground should be worked until it is sufficiently firm so that a weeder or light smoothing harrow will obliterate the footprints of horses or tractor marks. No one should be led astray by the bunk on "aeration of the substructure," which is being so freely dispensed these days. If there is not sufficient time to allow the ground to be worked down firmly it is better not to plow the land at all but to prepare the seed bed with a disk harrow.

Excessive application of stable manure on fairways is not advisable, but 20 to 30 cubic yards of manure per acre well worked into the soil and given at least a month or six weeks to rot will help the grass, and should always be used if the soil is poor. Bone-meal can also be applied before seeding, without danger of losing any of its fertilizing value.

The successive steps in the preparation of a fairway for seeding may be summarized as follows:

1. *Plowing*.—This should never be done on clay soils if they are very wet or very dry.
2. *Disk-harrowing*.—Disking will not be necessary on light, sandy soils.
3. *Rolling with a Culti-packer or pulverizer*.—This is one of the best implements ever devised for crushing clods and making the soil firm. It is an excellent implement for all kinds of land.
4. *Harrowing with a smoothing harrow such as the spike-toothed drag, Meeker, or Acme harrows*.—If the land is still cloddy the Culti-packer and smoothing harrow should be used alternately until the soil is in the proper tilth. If the land is very heavy or cloddy, a second or third disking may be advisable. The disk harrow is also a good implement to use when the plowed land is compacted by heavy rains or where the weeds have made considerable growth.

*Kinds of Seed to Use*

The prevailing idea that any kind of grass seed will do for the fairways is all wrong. It is true that weeds and clover do not cause as many heartaches on a fairway as they do on a putting green, but there is slight chance to get good turf in a reasonable length of time unless turf grass seed is used at the start. Under practically all conditions in the North, blue-grass gives about the best results of all the grasses which have been tried

for fairways. Its chief faults are that it is slow, very slow in germinating and forming a turf from seed; that it becomes sparse and tufted during the winter and early spring; and that unless watered it has a tendency to languish during the hot, dry weather of July and August. But in spite of these drawbacks it is about the most satisfactory fairway grass we have unless one is willing to go to the expense of seeding bent. At the present time bent seed of good quality is available on the market, and it would be a very good plan to use a small amount of this—say 5 to 10 pounds per acre—in the fairway mixture. Eventually the bent will spread and add a great deal to the quality of the turf. In order to give a good playing surface soon after seeding, it is always advisable to combine redtop with the bluegrass. After two or three years most of the redtop will disappear, but it will not be missed, as the bluegrass will by that time have become well established.

A mixture for fairways which has been often recommended in THE BULLETIN is 4 parts of bluegrass to 1 part of redtop. The rate to seed this mixture varies with the character of the soil and the preparation of the seed bed. The richer the soil and the better the seed bed is prepared, the less seed is needed. A good average rate of seed for moderately rich well-prepared soil is 100 pounds per acre. For poor soils 150 pounds of seed per acre is advisable. But the writer has never seen a good stand of grass on poorly prepared land no matter how much seed has been used, while under first-rate conditions 50 pounds of seed per acre has frequently given an excellent stand. It is more economical to fit the ground right before seeding than to try to overcome the bad effects of a poor seed bed by using a large amount of seed.

#### *Sowing the Seed*

New seeding of grass frequently comes up in rows, which is very objectionable. If the land is rich the rows will usually close together in a year or two, but on poor soils they may persist for several seasons. These rows are caused sometimes by using the so-called cut-in or disk drills, but more frequently by the seed collecting in the furrows made by the smoothing harrow. To avoid these rows and to be sure to have an even distribution of the seed, it is advisable to scatter half the seed one way of the fairway and the other half at right angles to the first. Rolling and a light harrowing between these two seedings will usually give a thoroughly uniform stand. Some scatter the seed in four different directions as an additional safeguard against bare spots and rows. Unless there is a rolling and a harrowing between the separate seedings little is gained by going over the ground more than twice.

Grass seed should not be covered deeply. One-eighth of an inch of soil over the seed is ample. The last seeding may be followed by rolling and then scratching over the surface with a weeder or a spike-toothed harrow, with the teeth set slanting backwards at an angle of about 45 degrees. The principal purpose of this last harrowing is to fill up the hoofprints made by the horses.