

HOW TO GET GOOD GREENS

By THE EDITOR.

The study of Agrostology in relation to golf courses, and more especially the putting greens, is an exceedingly interesting one. Unfortunately, comparatively little is known by members of Green Committees generally on the subject, and there is probably not one man in a hundred who can distinguish between a Fescue (of which there are at least a dozen different varieties) and the more common Red Top. Even so-called experts are woefully ignorant, the study of grasses having been for the most part almost entirely confined to their adaptability for pasturage or haymaking—and as every golfer knows, a hayfield, or even a good lawn, does not make a good putting surface.

Lacking this essential knowledge an unfortunate mistake was committed in the first instance in the preparation of putting greens, the seeding of which was entrusted for the most part to landscape gardeners, who were more familiar with the formation of lawns, or to the ordinary professional, who, it must be confessed, knows very little indeed about the business, the result being that the wrong kind of grass seed was used, and as a consequence grasses of a coarse growth, utterly unsuitable for the purpose, are mostly in evidence. *Dwarf grasses only should be used.* There are at least a dozen suitable varieties adaptable to all sorts of climatic and soil conditions. It is commonly supposed that good greens, really first-class greens, are impossible on an inland course—that only the finer grasses will thrive near the sea-board. This is a fallacy. I have seen in various

parts of the country some of the very finest greens on clay soils.

There is no reason why the greens around Chicago, or for that matter anywhere between the Atlantic seaboard and the Mississippi, should not be the equal of the finest in the world. This is evidenced by the experience in originally laying out the Chicago Golf course. The work of seeding the greens was entrusted to a landscape gardener, a Scotchman, who happened to possess some knowledge of suitable dwarf grasses, and who laid down the greens accordingly.

It is a peculiarity of dwarf grasses that they are very slow in arriving at maturity, in contra-distinction to the ordinary grasses used in the formation of a lawn. In the former case isolated sprouts only appear at the outset, unless seeded very profusely, and it takes at least a couple of years before they spread sufficiently to cover the surface. Grass seeds used for lawns on the other hand give almost immediate results.

Despairing of ever getting good greens the work at the Chicago course was taken out of the hands of the Scotchman, and ordinary "barn-yard" lawn grass seeds were used. In one or two instances, however, notably on the fourth and fourteenth greens, the ordinary dwarf grasses so spread as to crowd out to quite an appreciable extent the coarser varieties subsequently sown, thus demonstrating that these dwarf grasses will thrive on such soils as at Wheaton. And on all the courses around Chicago, through the fairway, there is ample evidence that certain of these same dwarf grasses are quite at

home. In all wan mixtures there is a certain proportion of the finer dwarf seeds. Everywhere these grasses have caught hold and have eventually crowded out the others. Continual seeding year after year of the finer grasses will eventually crowd out the coarser kinds. In the meantime, in order to fine down the latter, which are mostly in evidence, it is essential that fine, sharp, white sand, preferably sea-sand, should be freely used during the fall and winter—never, however, in warm weather.

At Glen View in a great many cases the greens show every evidence of the ground being sour, notably on the ninth and twelfth greens. The remedy is the use of slacked lime so as to sweeten the soil. This should be applied during September or October, or in the early spring months, and freely washed in artificially.

The next step is the *removal of weeds*, of which there are a great many present. This can very easily be done by the use of vitriol (sulphuric acid) and a sharp pointed awl, injecting the latter into the bottle and allowing a drop to remain on the instrument and puncturing the heart of the offending weed to the depth of an inch or so. This will effectively dispose of the weeds without in any way injuring the grass. After this is done each green should be thoroughly gone over with a seeding machine.

One has lately been put on the market which does the work very well indeed. This machine is supposed to be adapted for one man, but it is too heavy for one man to get the best results. The better way is to attach a rope to the forward part of the machine and have one man pull and the other guide the machine, having it weighted down with some heavy material.

The greens should be thoroughly gone over the first time say from east to west, then transversely north and south and diagonally in both directions. After this is done a top dressing should be applied consisting of screened loam (sweetened with lime), with which grass seed should be plentifully mixed and the whole green covered to a depth of about one-eighth of an inch—not more—then firmly rolled. This will not interfere in any way with the play. The best time for doing this work is in September, after the ground has become softened by the usual September rains. Seed sown at this time of the year will give much quicker results than in the spring, as the soil is warm and germination quickly follows. If there is a lack of natural moisture in the shape of rainfall, water artificially. Water is very essential during the early stages so as to get the young grass well started. The best seeds for the purpose are Red (or Creeping) Fescue, Fine-leaved Sheep's Fescue, Sheep's Fescue and Fancy Re-Cleaned Red Top, in equal parts. Except in isolated cases, where the ground is low-lying and naturally moist throughout the summer, Creeping Bent, Rhode Island Bent and Kentucky Blue Grass will *not* thrive. A close examination of the various courses I have played on around Chicago shows that Fescues thrive splendidly and I therefore have no hesitation in unqualifiedly recommending the above mixture. It is of the most vital importance that the seed should be obtained from a reliable source. Do not get the seed from a local dealer. Information regarding the best sources of supply will be furnished on application.

After the seed has sprouted, say in the early part of October, apply a very thin top dressing, scattered

broadcast, of pulverized sheep's manure. This will act as a stimulant and mild fertilizer and also provide the necessary humus, going a great way toward offsetting any liability of the grass being injured or burnt out during the hot summer months. So much for getting a green into good shape.

Now it is one thing to get a good green, and it is quite another to keep it in good condition. Of the two the latter is perhaps the more important. In the first place it is absolutely necessary that *the green should be entirely free of worms*. There is one preparation I know of which does this work more effectively than any other. The worm eradicator should be applied in the spring and again in the fall when the worms are active.

So far as my observation goes all the Chicago courses, or at all events the large majority of them, do not use the right kind of lawn-mower. Those ordinarily employed do not cut sufficiently close. There are only one or two makes on the market that I know of that are suitable for putting greens.

It is important to bear in mind that *a green cannot be kept too closely cut*. Grasses suitable for putting greens will not give the best results unless kept closely mown. The fear has been freely expressed that if they are kept shaved they will burn out during the hot summer months. No apprehension whatever need be felt on this score. The closer they are cut the better for the roots, and no green is worthy of being called a green unless a good root-bed is established.

Grass catchers should never be used on mowers. The cut grass not only provides a certain amount of nutriment, but it is more especially valuable in furnishing humus, lacking

which no green can be kept in good shape. The cut grass acts as a sort of mulch and protects the roots near the surface during hot weather.

Hand in hand with close cutting, *daily rolling* with a light wooden roller should be resorted to, whether the greens apparently need it or not, and they *should also be cut daily*. Remember that the finer dwarf grasses will not thrive in a loose soil. A firm compact bed is necessary and nothing helps a green so much as daily rolling, joined to daily cutting.

In cutting a green the workmen should be instructed to cut north and south to-day, east and west to-morrow, diagonally the next day, and so on. Never cut a green twice the same way in succession; and the same is true of the rolling. And remember that a roller should never be pushed; it should always be pulled.

As a general thing *too much water* is used on the greens around Chicago. And the water being of too low a temperature, and in some cases "hard" has the effect of materially injuring the finer grasses. My experience goes to show that it is far, far better to use water very sparingly during the summer months. Let the grass become brown before artificially watering. It won't hurt the grass a bit. Rather it will have a helpful effect as the roots will keep on working boring downward in search of moisture. A green that is kept watered, as in the case of those at Exmoor, where water is unduly applied, so much so that the greens are extremely spongy, has a distinct tendency to keep the roots from working for their living. They become in a measure atrophied and rely on the moisture from above rather than go boring down in a natural way. Greens pampered and coddled in this way would quickly perish if the artifi-

cial supply were cut off and they become so very tender that they are less liable to withstand the severities of a rigorous winter. When, however, it becomes necessary to water a green it should be *thoroughly saturated*. Once or twice a week is quite sufficient. Never make the mistake of merely sprinkling a green. This causes the roots to cuddle up close to the surface.

The varieties of dwarf grass seeds as recommended will not be prejudicially affected to any serious extent by drought, unless excessively prolonged, or by hard winters.

Except in the early spring, when the frost is just out of the ground and a heavy roller is necessary to true up the surface, only a light roller should be used. If a heavy roller is used, especially when the ground is soft, it has the direct effect of causing the grass to become root-bound.

Despite the utmost care some few worms will always remain in a green. Worms may be good, probably are, from an agricultural standpoint, but they are a ruination to a green; therefore make every effort to get rid of them, entirely. This, however, seems impossible. Wherever there are any worms in a green, the "casts" should be removed with a bamboo pole before any cutting or rolling is done, otherwise the mower or roller will flatten them down and kill the grass underneath.

Along in the early part of May or June it would be well to repeat the

top dressing already recommended, supplemented with a thin broadcasting of pulverized sheep's manure. On exposed parts (mounds) a solution of nitrate of soda is advisable. This has a wonderfully stimulating effect on the grass. Its use, however, is not recommended for greens generally. It is well to remember that where coarse grasses exist on a green any fertilizer that is applied will have the effect of making the coarse grass coarser. As a general thing our greens are so comparatively new that they need very little in the way of fertilizers. There are, of course, isolated exceptions due to natural thinness or poverty of the soil but these should be treated on their merits.

Where the finer grasses only are in evidence fertilizers will not have any prejudicial effect in making the grass coarser, the turf merely being thickened.

In the case of Tees, the same treatment suggested for greens is recommended, the only difference being that the following mixture of grass seeds—some of the coarser and more durable varieties—may be advantageously used, viz.:

Hard Fescue, Meadow Fescue, Sheep's Fescue and Commercial Red Top, in equal parts.

Nitrate of soda may be applied with beneficial results to Tees, but only after the grass is firmly established—never in its early stages of growth.

