

## Weeds in Putting Greens

BY LEONARD MACOMBER

WITH the advent of Spring and the warm weather every good greenkeeper has to be on the lookout for all alien growths in his putting greens and eliminate them as fast as they appear.

Every Monday morning there should be a close inspection of every green and any foreign plants found should be immediately scratched out or removed with a special tool and the hole or scar filled in, seeded, and topdressed. If a pile of rich, clean compost, mixed with grass seed, is taken along and handfully applied to all weak spots, the job is soon done, provided the greens were thoroughly cleaned and renovated at the start of the season.

If once a good thick strong turf is produced and maintained, there is no room for weeds, but if they are allowed to multiply during the season, the greens soon get in a hopeless condition.

Weeds are often a sign of poverty of the soil or neglect. Very frequently freshly dug land and imported soil will produce a strong crop of weeds, both annual and perennial. How the weed seeds get into the soil and how long they will retain their germinating power is a debatable matter. Darwin tells us that seeds which germinated freely have been found in the little chamber at the end of a worm hole at a depth of eight feet. In his opinion, these seeds were taken down by the worms with the object of lining the little chamber in which they winter in a dormant condition—so as to prevent their skins, through which they breathe, from coming in contact with the cold damp soil.

There are a multitude of different ways in which weed seeds get into the ground, and the only way in making a golf course or a lawn upon foul ground is to allow it to lay fallow and clean it by frequently disturbing the surface with a hoe for a small plot and a harrow for a large area.

Then, after a turf is produced, keep it clean and top-dress only with rich, clean soil or rotted composts. No matter how careful a greenkeeper may be in preparing his dressings, some weeds are sure to make their appearance in spite of all the care taken to prevent them, but to a very appreciable extent they can be prevented by keeping the turf strong, thick, and healthy throughout the season.

There are upwards of fifty different kinds of weeds found in putting greens in the Eastern States. The definition of weed is the general name of any plant that is useless or noxious, so we have some grasses classified in some instances as weeds. For instance, *Poa Annuua* or Annual Blue Grass, when in the minority, is often objectionable and is considered a weed. Then there is a weed—a sort of mossy water grass, Pearl Wort or *Sagina Procumbens*. I have seen putting greens in France entirely composed of this variety, and although they played a little slow, they were very fine indeed.

Overwatering or bad drainage quite often produces patches of this weed, and it is very difficult to get it out of a turf, although a sulphate of iron solution sometimes is an effective remedy and sometimes a dressing of slaked lime.

The annual weeds appearing in the Spring we do not have to worry much about, because they are extirpated by the mowing machine. The perennial weeds are divided into three classes, as follows:

- (1) Chick weed and other fleshy, shallow-rooted weeds.
- (2) Plantains and other weeds with roots not exceeding four inches in length.
- (3) Dandelions and other weeds with long tap-roots.

The best method to eradicate all these weeds is to remove them by hand, with special chisel tools, or lift the patches of weeds, sometimes using large hole

cutters for the purpose, and fill in with good clean turf taken from the turf nursery.

Clover is the most troublesome and difficult plant to get rid of. On newly sown greens the seedlings should be taken out by hand, but on established greens where it is intermingled with the grass plants, the only remedy is to apply highly nitrogenous fertilizer so as to help strengthen the grasses and have them get the best of the clover in time.

### Long Holes

AS a rule, a championship course possesses several three-shot holes, and the bunkering of such a hole is the great consideration, for hazards must be placed to make it impossible for the green to be reached with any sort of a third after either the drive or the second shot has been badly hit. These three-shot holes are necessary to provide variety, but there seems no reason for the building of a hole of over 550 yards in length.

To be sure, a hole is just as long as it plays, and unusual turf conditions must be considered, but in considering the length of holes generally, and analyzing them, we must assume that the conditions are normal.

A glance over the plans of the seven championship courses of Great Britain reveals the fact that not one of them possesses a single hole which measures 550 yards, the longest being the seventeenth at Westward Ho! which is 542 yards. St. Andrews' possesses two holes of over 500 yards—the fifth of 553 yards and the fourteenth of 516 yards. The twelfth at Prestwick measures 508 yards, and the sixteenth at Holylake 510 yards. There is not a single hole which measures 500 yards at either Muirfield or Deal.

As a word of warning to constructors of courses, let one suggest that in building their three-shotters they do not figure on length alone, but rather have always in mind the lay of the land and

thoughts of bunkering schemes, which will give the shots their true values.

### The Importance of Good Seed

THE suspension of field operations will provide an opportunity for looking closely into the question of the seed supply. Prominence has been given lately to the labor problem and the supply of manures, but little has been said about seed. Efficient labor and the use of suitable fertilizers will avail only so far as they are supported by a wise selection of seed. Unless this be pure, robust, and fertile, it does not matter much how much money is spent in labor and manures.

In the February *Journal* of the Board of Agriculture, Professor Biffen, of Cambridge, gives the results of a three years' inquiry into grass, clover, and mangold seed, but the principles apply to all kinds of seeds. The verdict on 676 samples examined was that "though seeds of the highest quality can be purchased, much of the seed offered for sale is of indifferent quality, while some of it is excessively bad." If the facts presented are typical, there is no need to look beyond the seed supply for an explanation of the poor returns yielded by large areas of both arable and grass land, and judging from the facts disclosed by Professor Biffen the supply of cheap seed is unlikely to diminish so long as farmers put price before merit.

The great defect of the seed trade is the method of distribution. Seed is sold in every market town in the country by tradesmen who have no special knowledge of the business and who probably know little concerning the origin or character of the seed they retail. The growing, harvesting and dressing of seed are skilled operations of the first importance; but if the buyer is to avail himself of the advantages offered by the exercise of such skill, he must procure his seed from trustworthy sources and have some sort of guarantee that the ar-