The Behavior of Rhode Island Bent Redtop Mixtures

By R. A. Oakley.

Ever since 1914 there has been more or less of a scarcity of all kinds of bent grass seed. This has brought golf clubs face to face with the problem of using the bent seed to the best advantage possible. It has been quite generally thought that the small supply of bent seed could be made to do greater duty by mixing with it a liberal proportion of redtop seed, but there have been very little critical data upon which to make authoritative statements regarding the behavior of bent-redtop turf mixtures. Therefore the arguments favoring the mixing of the two have not been very convincing. Furthermore, there is such a strong aversion to redtop on putting greens that even the dogmatic assurance that the redtop plants will soon disappear under putting green conditions has not resulted in making many converts to the practice of using a mixture of the two grasses. Of course many clubs have sown a mixture of bent and redtop seed, but in most cases they have done so unknowingly. Some dealers have not always been as careful as they should have been to protect their patrons against accidental or malicious mixtures of bent seed with redtop seed. Until Hillman of the Bureau of Plant Industry, United States Department of Agriculture, demonstrated the practicability of distinguishing between the seed of the bents and the seed of redtop, the purchasers of bent seed were not amply protected. But now it is very different. No member of the Green Section need be in doubt as to the trueness to kind of the bent seed he purchases. If he will send to the Executive Secretary of the Green Section a representative sample of the seed that has been offered to him, he will get a report on the purity and identity. It is desired that the name of the dealer offering the seed for sale be indicated on the packet. In this connection it should be explained, however, that the Green Section is not equipped to make germination tests. A simple method of making germination tests is described on page 83, of the March, 1923, number of The Bulletin. These tests moreover can be made by the clubs with a greater saving of time than if the Green Section should attempt to make them.

Although the different kinds of bent seed used on American golf courses have been described many times in The Bulletin, a brief statement would not seem to be out of place here. There are two kinds of bent seed at present on the market, namely, that known as German mixed bent and that known as Colonial or Rhode Island bent. German mixed bent seed on a chaff-free other-seed-free basis is composed of approximately 85 per cent of seed of the species commonly known as Rhode Island or Colonial bent and approximately 15 per cent of the one commonly known as velvet bent; in addition, it has a mere trace of seed of true creeping (or carpet) bent. Rhode Island bent and Colonial bent are identical as to species; seed of the former is that harvested in Rhode Island and seed of the latter in New Zealand. Redtop seed is very frequently found in commercial seed of all the bents. In parts of Germany where bent seed is harvested there is considerable redtop grown. It is also common in sections of New England where Rhode Island bent seed is harvested. But apparently the fields from which Colonial bent seed is harvested in New Zealand

are quite free from redtop. The seed of redtop and the seed of the bents appear to be identical to all but the most skillful of analysts. Therefore it is easy to account for the fact that bent seed as it appears on the market frequently has more or less redtop seed in it. Attempts have been made to justify the presence of redtop seed in the seed of the bents, on the ground that it does no harm there and on the perfectly absurd basis that there is no difference between the bents and redtop. Whether or not redtop seed does any harm in seed of the bents is beside the point so long as the mixture is offered at the price of bent seed and while the price of redtop seed is very decidedly lower than that of the bents. As for redtop and the bents being identical, only a grossly ignorant person or a fakir would make such a statement.

In September, 1921, a series of plots was started at Arlington Experimental Farm in which seed of Rhode Island bent and redtop was sown in the following proportions: ¼ redtop and ¾ bent; ½ redtop and ½ bent; ¾ redtop and ¼ bent. To make the series complete, a plot was sown with pure redtop seed at one end of the series and a plot with pure bent seed at the other end. An excellent stand of grass resulted on all the plots, and the proportions of plants of the two species in the plots sown with mixed seed were essentially the same as the proportions of seed of the species in the mixtures. The plots were mowed once or twice late in the fall of 1921. Since the spring of 1922 they have been cut, rolled, top-dressed, fertilized occasionally with ammonium sulfate, watered, and in general treated as are putting greens. From the spring until the fall of 1922 the differences between the various plots were quite marked. The plot of pure redtop took on the characteristic redtop appearance as the season advanced and the plants passed from the seedling stage, and consequently the contrast between it and the plot of pure bent increased proportionately. The different proportions of redtop in the plots containing the mixtures remained much the same throughout the entire season. The plot sown with ¾ bent and ¼ redtop produced very satisfactory putting turf from the first, not quite as fine as the pure bent turf, but the percentage of redtop in it was really not objectionable. This scarcely could be said of the plot sown with ½ redtop and ½ bent seed, although the turf on this plot was very good. But the plot sown with ¾ redtop and ¼ bent seed plainly had too much redtop in it to make satisfactory putting turf.

At this date (August 1, 1923) the turf on all the plots sown with mixtures of bent and redtop is really very good indeed, although there is still some redtop in all of them. None of these plots is as good as the plot sown with pure Rhode Island bent seed; and the one sown with ¾ redtop and ¼ bent seed has more redtop now than a good putting green should have.

From the behavior of the series of plots at the Arlington Experimental Farm it seems reasonable to draw the following conclusions.

1. When bent seed is scarce or there is need for strict immediate economy, redtop seed may be mixed with bent seed for sowing putting greens. This will make the bent seed go farther and effect an immediate economy of funds.

2. A mixture of ¾ Rhode Island bent and ¼ redtop seed sown as to produce a good stand of grass makes very satisfactory putting turf.

3. A mixture containing ½ Rhode Island bent seed and ½ redtop seed may be counted upon to make very good turf but the redtop plants are likely to be more abundant in it than they should be for good putting quality.

4. A mixture of ¼ Rhode Island bent seed and ¾ redtop seed results in too many redtop plants. Even two-year-old turf from this mixture is likely to have a superabundance of redtop plants.

5. In plots sown with seed of Rhode Island bent and redtop, the number of redtop plants is very appreciably reduced the second year if the turf is kept in putting condition, but even at the end of the second year there are still a good many redtop plants in evidence.

It is thought that the results at Arlington will be applicable in general elsewhere. If seed of German mixed bent had been used in the experiment instead of seed of Rhode Island bent the percentage of redtop plants in the resultant turf might have been reduced more quickly.

Nothing in this article should be taken to justify the careless, accidental, or fraudulent mixing of redtop seed with the seed of any of the bents, and anyone buying bent seed should see to it that bent seed is delivered to him. If for any reason he wishes to mix redtop seed with bent seed he should buy the two separately and pay only the market price for each. If mixtures of bent and redtop seed are offered for sale they should be offered at a price determined by the relative proportions of the constituents.

Seeding Fairways and Rough

By Lyman Carrier.

Much of the fairway seeding which was done last fall on newly-constructed courses in the northeastern quarter of the United States turned out badly. It is advisable to study the causes of these failures and guard against having a repetition of the heartaches and disappointments with the new seedings this year. Several courses with almost perfect greens were delayed for months in opening because the fairways were unplayable.

Time to Seed.—One cause of failure was the lateness of the season when the seeding was done. There is no question but that late summer or early fall seeding is safer and more satisfactory in the northern parts of the country than seeding in the spring. This does not mean that the seeding can be delayed until frosts and freezing weather have come and expect the young seedling grasses to survive the winter. Farmers have learned that the latter half of August is the safest time to seed grass if a crop of hay is expected the following year. It is true that much grass seeding is done later in the fall with wheat; but the farmer does not expect a hay crop in that case until a year after the wheat is harvested. Fairway seeding from Virginia and Kentucky northward should be done between August 15 and September 10. It is not necessary to wait for a rain before seeding grass if the seed bed is in proper condition. Farmers have a saying which golfers should adopt as a guide—"it is better to dust in seed than to mud it in." If the ground is dry the seed will not germinate,