

Bent Seed Situation

WE have heard a lot about Creeping Bent, Velvet Bent, Colonial Bent, Rhode Island Bent and several other varieties of *Agrostis* for the past season and quite a demand for the seed has been created.

Let us briefly outline the present situation and state some facts concerning available seed supplies.

From a commercial standpoint Creeping Bent, correctly speaking, is South German Mixed Bent, representing several species of the Genus *Agrostis* including Rhode Island Bent (*A. Tenuis*), Velvet Bent (*A. Canina*), Carpet Bent (probably *A. Stolonifera*), and Red Top (*A. Alba*). The Red Top varies in quantity from a mere trace to about 25% of the actual bulk of the seed. This variety cannot be eliminated by any cleaning process, in fact none of the *Agrostis* seeds can be separated from each other.

The total annual crop of Mixed Bent in the South of Germany does not represent, as far as we know, more than 30 or 40 tons of seed, although perhaps in some seasons a crop might yield 50 tons. The seed is very difficult to clean on account of its lightness and the growers do not generally get it better than 50 to 65% purity. The seed is then shipped to Holland, Belgium, England or America and the various importers frequently try to improve the purity of the seed by recleaning.

The Seed Importation Act of 1912 which was amended in 1916 and given a new interpretation in May, 1921, prohibits the entry of any mixture of grass seed that does not test 65% pure live seed. In the case of Bents the seed is considered a mixture when containing over 10% Red Top, in which case the seed is subject to the act. Unless it can be recleaned so that it will test 65% pure live seed it either has to be destroyed or shipped out of the country. This means that the importer must reclean the seed up to 80% purity if the germination is 82% in order to get a test of 65% pure live seed and in the majority of cases this is quite impossible to accomplish without losing a big percentage of the seed

itself, which of course runs up the cost of the seed to a prohibitive figure. The result will be that comparatively little of this seed can enter the United States in the future, in fact not enough to supply more than a very limited number of clubs.

It is a good thing that the U. S. Department of Agriculture is shutting out the rubbish that has in the past been shipped into the country as Creeping Bent, because the seed has always been very unsatisfactory to handle. The uncertainty and disappointment connected with the use of this variety has resulted partly from the use of Red Top as an adulterant or a substitute for the Bent seed and partly from the difficulty in recleaning it and identifying different species.

There is no objection to purchasing Bent seed with an analysis of only 65% purity because the chaff is not objectionable since the percentage of weeds contained is usually not over $\frac{1}{2}$ of 1%, but of course when a large percentage of the seed represents Red Top, that is another matter.

The amount of Bent seed procurable having less than 10% of Red Top included will be very limited, in fact it will represent a very few tons altogether.

The crop of Rhode Island Bent seed harvested in Rhode Island is very unsatisfactory. It is hardly worth considering at any time on account of the impurities contained and the exorbitant price that is asked.

The crop of Colonial Bent from New Zealand is also very limited and while it is generally cleaner than the German grown variety, it contains a large percentage of Red Top.

The vegetative propagation of Bent grass is still in the experimental stage and while considerable success has already been attained in one or two districts the method cannot be used to a commercial advantage as yet. Greens produced in this way seem to suffer particularly from fungus and "brown patch" disease and it is not at all certain that Bent grasses form the best

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ers of sulphur applied when the grass is wet may also be recommended for bad outbreaks of the red mould, etc. Excepting in cases where soil is sour, solutions of Kainit (one ounce per gallon) are useful in helping the grass to resist mild attacks of rust, etc. Ground charcoal is particularly useful in most cases. Note—Several weak applications of Bordeaux mixture applied with a hand pump and spray will check most all of the common grass diseases.

All dressings are best applied in the evening, as it is during the night that mildew spreads most rapidly. On soils liable to repeated attacks of various grass mildews, the excessive use of nitrogenous and crude acid manures should be avoided, and where it is necessary to hasten the growth without unduly forcing the grass, phosphatic dressings should be used. Bone meal must be blamed for causing a large amount of fungoid growth as well as encouraging clover; whilst leaf mould, especially that from ash and sycamore leaves, also sets up mildews, though the advantages of the leaf mould may possibly outweigh the disadvantages. It is quite possible that the use of mushroom soil for top dressing greens causes a fungus growth under certain conditions.

Most of the diseases referred to are noticeable when they are in the form of white, gray or orange-colored moulds, this generally being the spore-bearing stage. It is then that precautions to prevent the disease from spreading should be taken. Rough grasses in hedgerows, reeds, and rushes are nearly always infected with rust and other diseases, so these should be kept cut down as much as possible. Cigarette ends and bits of rag lying in the turf are frequently the starting place of the white grass mildew. Leaving cut rye grass on the turf is also particularly bad, as a poisonous ferment is set up by the rye grass leaves that rots the finer grasses.

There is, however, a brighter side to this gloomy article, for parasitic fungi are not always injurious to the plants on which they live, and in some cases

plants when infested with a particular parasite often grow more robust and vigorous than the non-infested plants. This condition, known as *symbiosis*, is noticeable in the case of rye grass. Even if grasses have their parasitic enemies, all plants are affected in the same manner, and, like "the fleas that have lesser fleas upon their backs to bite 'em," so these different mildews and fungi have other moulds that live upon them, which keeps the balance of Nature and prevents every blade of grass in the country from being destroyed. The *Yellow Rattle* is also punished for its greedy disposition of living on the grass roots by suffering in its turn from a parasitic fungus that causes gouty swellings on its roots.

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enough seed to supply one-hundredth part of the clubs which would naturally use it if they followed the advice of the bent agitators. Obviously since there is not enough to go round, their advice is not practical.

There is, however, no denying that bent grass is the most desirable species in the finest putting green turf with the possible exception of New Zealand Fescue. Unfortunately it is not at present commercially available. The time may come when the importation of true German bent seed, of sufficiently good quality to satisfy the demands of our Government and of reasonable price, will be possible. When and if it does, let us use it, not alone but in combination with reliable fescue and when occasion demands one or two other varieties to suit local conditions.

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all-around turf for putting greens in many sections of the country. In some districts the Bent varieties are natural grasses in the soil and should by all means be encouraged.