



The Author in Her Laboratory

Seeds For Golf Courses

An expert's analysis of grass seeds which produce fine golf course turf. Origin and characteristics of the several varieties most generally sold by seed merchants

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Article III—*Agrostis Canina*—Velvet Bent and *Agrostis Maritima*—Seaside Bent

SOME years ago it was more or less the common practice to call Rhode Island bent, *Agrostis canina*. Due to the combined work of Hitchcock on the plant, and Hillman on the seed, everyone should now know that Velvet bent is *Agrostis canina*. Both the plant and seed are easily distinguished from those of the other species of *Agrostis*.

Velvet bent to many is the most interesting of all the bents although it plays the smallest role in the commercial field. This is due to the fact that the supply of seed is exceptionally limited. Until a few years ago even the smallest quantity of true Velvet bent seed could not be obtained on the market.

Velvet Bent Seed From Canada

DURING the last two years some exceptionally beautiful, as well as true Velvet bent seed has been obtained from two sources in Canada. We understand that there are one or two private parties in the United States who are producing Velvet bent seed, but these laboratories have never had the privilege of seeing either the plant or the seed.

Most of the Velvet bent found on our American courses is the result of planting South German Mixed bent seed which almost always contains a percentage of Velvet. Sometimes its presence is as low at 1%, sometimes as high as 18%. The average Velvet bent content in South German Mixed bent is about 5%.

Plant of Velvet Bent Very Delicate

THE plant of Velvet bent is more delicate than that of any of the other bents. In our opinion,



Agrostis Alba (Redtop) *Agrostis Vulgaris* (Rhode Island Bent) *Agrostis Canina* (Velvet Bent)

These drawings made by and published through the courtesy of Professor F. H. Hillman, Associate Botanist, U. S. Department of Agriculture

it is the very best bent for putting greens. Unfortunately the supply is limited and the price so high, that very few clubs can obtain seed. A fair degree of success has been obtained from planting Velvet vegetatively, but this method is also expensive and tedious.

The seed microscopically is entirely different from the seed of other bent. The lemma is decidedly ribbed and of a dull, sugary appearance. The palea is wanting. These distinguishing characteristics are plainly illustrated by the accompanying drawing.

Agrostis maritima—Seaside bent

THIS bent has only recently made its debut in the commercial field. In 1924 Mr. Lyman Carrier, formerly of the U. S. Department of Agriculture, harvested the first seed crop in Coos County, Oregon, and has since marketed it under the registered name of Coos Bent. Since then, several other parties have gone in for bent seed production and excellent seed from this and other areas in Oregon and Washington have appeared on the market.

Besides seaside bent, these two north-western states produce what is supposed to be a form of Rhode Island Bent (mentioned in the second article of this series). A great deal of this seed produced around Astoria, Oregon, has been marketed under the registered name Golfalawn. There is still some uncertainty as to its correct, botanical name. Professor Hillman is at present calling it *Agrostis vulgaris var stolonifera*, which means a creeping form of Rhode Island bent.

Due to commercial rivalry there have been made some extravagant claims and some silly statements which have harmed rather than helped Pacific Coast Bent. Partly because of this there has been a lot of work done by official parties in an effort to give the truth to the ultimate consumer and Professor Hyslop's article in the "Seed World" of February 10, 1928 is worth repeating here. Space does not permit us to quote the entire article, so only the most interesting paragraphs will be given.

What Professor Hyslop Says

"SEASIDE Bent is the stronger creeper of the two Oregon Bents. It is one of the most vigorous stoloniferous creepers I have seen. The New Astoria Bent is also a vigorous stoloniferous creeper but does not creep so rapidly. It also spreads underground by root stalks or rhizomes, making a deep, reinforced sod. The leaves of this Bent in a dense sod are somewhat upright and I have observed no tendency for runners to come out on top of the turf.

"Both grasses are fine Bents. Seaside Bent is slightly wider leaved and the internodes on rapidly creeping isolated plants are longer than those of the New Astoria Bent. This difference is much less pronounced where stands are tense as in lawn or green. The statement in your August 26 issue that Seaside Bent 'is the coarsest of all Bents—nearly as coarse as Redtop' is just as wrong as the other partisan statement in the October 21 issue that 'it is the finest of all the Bents grown in this state.'

"Both Bents are fine Bents with the Astoria Bent somewhat the finer of the two.

"Color—Both are a beautiful green color with the Astoria Bent a somewhat darker shade."

Seaside Bent Seed Very Pure

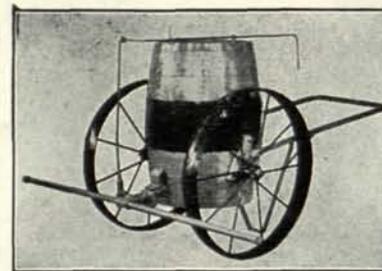
SEED Quality—Both lots are harvested from native stands. Seaside Bent is remarkably pure because it is harvested from wet overflow lands where other Bents fail to survive. In fact high parts of some fields for certification have to be cut out for hay because of mixture there. The low parts are practically pure. Knowing of the prevailing overflow and general distribution of Seaside Bent grass in Coos county, I have no faith in the talk about strains of Seaside Bent being harvested as such, and consider such statements as pure bunk. Keeping strains pure as such, under Coos county overflow conditions, isn't in the cards. Pure Seaside Bent is general but special strains under those conditions are amusing. Growers who certify have fields with less than one per cent of other Bents. Several have cleaned seed weighing over 32 pounds a bushel and over 98 per cent pure seed.

The "Astoria Bent" seems to get its remarkable freedom from mixture because of its resistance to wet, cold, sour soil conditions on uplands and to its ability to crowd out and outlive other grasses. It equals the Seaside Bent in purity and probably exceeds it in test weight. Down in low, wet sloughs in the Astoria section we cannot certify except as American mixed Bent because of the presence of Seaside Bent with the "Astoria Bent."

Hardiness—Both Bents seem hardy and suited to sour soil conditions. Both grow on a wide range of soils.

To summarize, both make excellent lawns and greens, parks, playing fields. "Astoria Bent" has a slight edge

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in texture and color, and Seaside Bent has some advantage as a creeper."

Seaside Bent Resembles Red Top

THE plant of Seaside bent resembles Redtop, and some authorities consider it as a variety of Redtop instead of a separate and distinct species. Most of it is coarser than any of the other Bents. It is quite common (native) along the entire North Atlantic Coast of America and Europe and on the Pacific Coast from Central California to British Columbia.

To distinguish the seed of Seaside bent from those of Redtop is perhaps the hardest task any seed analyst is asked to perform. The seed of Seaside bent is usually lighter in color and not so glazed as Redtop.

Seaside bent is also produced in New Zealand, and we have received one or two importations from that source. We also find an occasional trace of Seaside in the Rhode Island Bent from Prince Edward Island.

Seaside Bent Popular on Pacific Coast

SEASIDE bent has been used with great success on the Pacific coast for putting greens as well as fairways, but on the Eastern seaboard (except for strictly seaside course) there apparently is a preference for seed of South German Mixed bent and Rhode Island Bent

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for putting greens. Perhaps the higher price is one of the reasons why Seaside bent has not been generally used in the East.

The Western growers and merchants are very aggressive in their desire to spread their product, and we now hear rumors that every effort will be used to raise the present duty of 2 cents per pound to one as high as 50 cents per pound. Naturally any material advance of duty will put the Canadian and the German bent out of the running and leave the field clear for our domestic seed.

This article concludes the series on Bent. The next articles will deal with the various species of Poa among which we find that very useful grass—Kentucky Bluegrass.

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