



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 IV—The Poa Family of Golf Grasses

This remarkable and exclusive series of articles on grass seed is creating nation-wide comment. It is the first time that knowledge of the seed business has been broadcasted. Previous installments cover Rhode Island bent, velvet bent and seaside bent. Next month, the fescue grasses.

THE genus poa contains over 100 species but there are only six of interest to the golf world. The following are the six species:

- Poa pratensis*—Kentucky Bluegrass
- Poa compressa*—Canada Bluegrass
- Poa trivialis*—Rough Stalk Meadowgrass
- Poa nemoralis*—Wood Meadowgrass
- Poa annua*—Annual Meadowgrass
- Poa bulbosa* (no established common name).

Kentucky Bluegrass (*Poa pratensis*)



Poa pratensis

Kentucky Bluegrass is of course the most important of the six enumerated above. It is indigenous in the North and West of the U. S. Some years ago the major

producing section of Kentucky Bluegrass seed was the state of Kentucky from which it got its name, but during the last few years Missouri has been giving Kentucky a race for the supremacy. During the last two years the quality of Kentucky Bluegrass seed raised in Missouri has been far superior to that raised in Kentucky.

Kentucky Bluegrass is by far the most popular grass for fairways and lawns. It also has its use as a pasture grass, but this use will not be discussed in this article.

For both fairways and lawns, the seed is usually combined with seed of other grasses, principally Redtop. A favorite fairway mixture for the territory East of the Mississippi and north of the Ohio river is as follows:

40% Kentucky Bluegrass, 30% Fancy Redtop, 30% Red Fescue. A mixture such as this should be sown at the following rate per acre—150 pounds minimum, 250 pounds maximum.

The weight per bushel of the standard commercial quality is 19 pounds, but heavier seed is recommended for golf purposes. The following table will show the approximate purity and germination of the various per bushel weight seed:

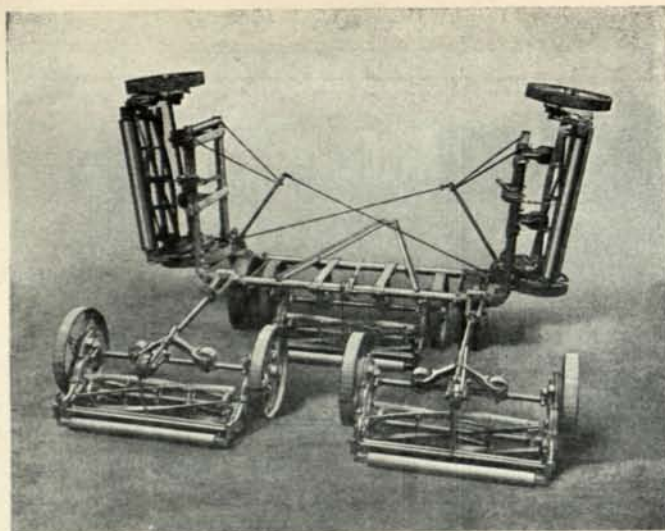
Weight	Purity	Germination
19 pound seed	75%	75%
21 pound seed	85%	85%
24 pound seed	90%	85%
27 pound seed	95%	90%

During the last year the wholesale price of 21 pound Kentucky Bluegrass averaged \$19.00 per 100 pounds but the coming price for the new crop will be very much higher due to the fact that the yield this year both in Kentucky and Missouri will be approximately only one-fourth as large as last year. It would not be surprising if the average wholesale price of 21 pound Kentucky Bluegrass would be in the neighborhood of 35 cents per pound.

Kentucky Bluegrass thrives best in limestone soil and is not adapted at all to acid soils. A trained and efficient analyst has no difficulty in distinguishing the different species of Poa even though a great many of them look exactly alike to the untrained eye.

The seed of Kentucky Bluegrass is dark, golden, brown in color, being much darker at the base. The glume is distinctly nerved, and the general form of the seed is boat-shape. It is easily confused with *Poa trivialis* (Rough Stalk Meadowgrass), but can be distinguished under the microscope by an examination of the hairs of the palea. The hairs on *Poa pratensis* (Kentucky Bluegrass) are coarse, while the hairs on *Poa trivialis* (Rough Stalk Meadowgrass) are fine.

The United States is a large exporter of the seeds of Kentucky Bluegrass to United Kingdom and Germany.



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Canada Bluegrass

(*Poa compressa*)



Poa compressa

As the common name implies, the principal source of this seed is Canada. There is some little seed raised in the state of New York, but the amount is not appreciable, and

the quality quite inferior to the seed of Canadian origin. This grass compares in no way with our Kentucky Bluegrass, especially on the limestone soils, but in parts of our country where it is too humid for Kentucky Bluegrass to thrive, Canada Bluegrass serves as the best substitute.

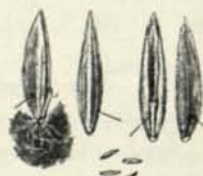
Canada Bluegrass seed is usually much cheaper than Kentucky Bluegrass, and in the days before seed analysis and seed laws, it was a common thing to find Kentucky Bluegrass heavily adulterated with Canada Bluegrass. Nowadays this adulteration is not practiced, in fact the only case of adulteration which we have seen in recent years was one that was entirely unintentional.

The plant is smaller than that of Kentucky Bluegrass, and the seed is of an entirely different color and texture. Canada Bluegrass seed is light straw colored, and when it is not possible to make a determination on the color and shape (the seeds are usually quite flaring) a determination can be made by microscopically examining the hairs of the palea. These hairs on Canada Bluegrass are quite fine and extend to the tip. On account of the color the seed of Canada Bluegrass is more easily confused with *Poa nemoralis* (Wood Meadowgrass), but as the rachilla of Canada Bluegrass is naked and the rachilla of Wood Meadowgrass exceedingly pubescent, a determination is easy.

The average purity of Canada Bluegrass is 90% and the average germination 90%. If Canada Bluegrass is adulterated at all it is usually adulterated with Timothy. The average wholesale price of Canada Bluegrass during the past year was 15 cents; the coming price will be higher principally because of the higher price of Kentucky Bluegrass.

Rough Stalk Meadowgrass

(*Poa trivialis*)



Poa trivialis

All the seed of Rough Stalk Meadowgrass used in this country is imported. The principal producing country is Denmark. It is used principally as a

shade and tee grass. The reason for using it on tees is

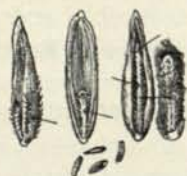
Say you saw the ad in *The National Greenkeeper*

because it is considered much tougher than its sister—Kentucky Bluegrass. There is a greater use for it in England than there is in this country, due to the fact that England has no native grass such as our Kentucky Bluegrass.

The plant is not quite as large as the plant of Kentucky Bluegrass, but is larger than that of Canada Bluegrass. The seeds are strongly nerved, and as remarked above are very much like the seeds of Kentucky Bluegrass. Rough Stalk Meadowgrass is more metallic looking, having a distinct glistening appearance.

Both the purity and germination of Rough Stalk Meadowgrass is usually above 90%. The average wholesale price during the past season was around 30 cents, but the price will be much higher during the coming season.

Wood Meadowgrass (*Poa nemoralis*)



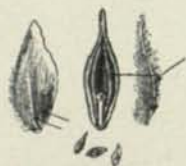
Poa nemoralis

This is considered the finest shade grass we have. The principal producing section is in Southern Germany. The golf world uses very little of this seed, most of the

imports finding their way into the commercial "Shady Lawn" grass mixtures. It would be well, however, if the courses having unsightly bare spots under and around trees, would take to using both Rough Stalk Meadowgrass and Wood Meadowgrass, to correct this unsightliness.

The plant is somewhat smaller than Rough Stalk Meadowgrass. We have already spoken of the seed characteristics. The average purity is 85%, the average germination 80%. The wholesale price during the last season was in the neighborhood of 40 cents, but like all the rest of the grasses the coming price will be much higher.

Annual Meadowgrass (*Poa annua*)



Poa annua

The golf world has heard much of Annual Meadowgrass during the last two years, in fact so much enthusiasm has been worked up that there is now an

actual demand for seeds of this species. The writer is not at all in sympathy with this demand, and looks upon Annual Meadowgrass as a troublesome weed. While *Poa annua* is very common in this country, what little seed there has been on the market has been imported. Most of it is a by-product from the reconditioning of Ryegrass, and for this reason it usually contains a rather high percentage of Ryegrass.

Last year one of the golf courses considered them-



for Fall Fertilizing

Every season's play on a golf course removes a certain percentage of the elements essential to plant growth. Thus it becomes necessary to replace such elements if satisfactory turf is to be expected the following year.

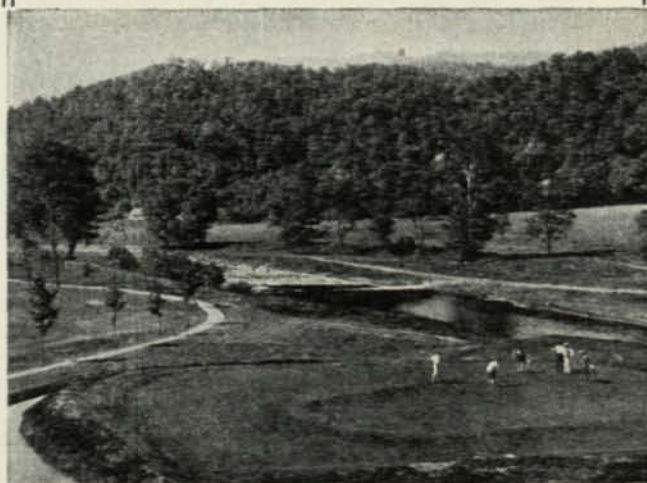
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selves exceedingly fortunate in having obtained some seed of Annual Meadowgrass which they immediately used for the planting of their green. This seed was totally unfit for such purposes as it contained beside 15% Ryegrass, 5% weeds, many of which were most harmful.

Annual Meadowgrass makes a very good showing in the Spring, but later on bare spots develop due to its dying out. The plant is easily distinguishable. It is a low-spreading, tufted annual with soft, light green foliage. The panicles resemble Kentucky Bluegrass, but the seed is easily distinguished. The seed is shorter, fatter, and very pubescent.

Poa Bulbosa



Poa bulbosa

We have left the discussion of Poa bulbosa to the last because it plays a very minor part. There are some seedmen making a specialty of these seedheads, so that

they can be obtained if the purchaser is willing to pay the price. It is thought that this species will play an important part in the South and the most conspicuous example of Poa bulbosa turf is in the Capitol grounds at Richmond, Virginia.

Our next article will be on the Genus Fescue.

Your Grass Seed

Much of the Grass Seed that is sold today is supplied to the final, retail trade by large wholesalers. There are comparatively few houses that make their own importations, and of these few firms, Peter Henderson & Co. are an outstanding example.

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