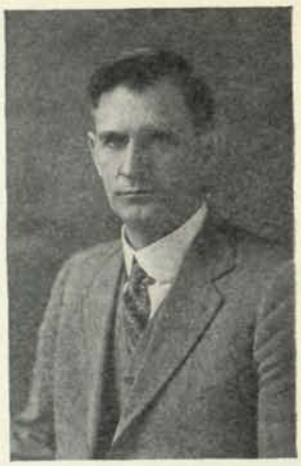
# *Golf Grasses*

## The Bluegrasses

*By* LYMAN CARRIER



*Lyman Carrier*

***Editor's Note:—Mr. Carrier was for many years connected with the U. S. Department of Agriculture, as agronomist in pasture and forage crop investigations. His work with the U. S. G. A. Green Section established the value of vegetative creeping bent for putting greens.***

THE bluegrasses known to botanists by the generic name of Poa, have been domesticated for a great many years. They are probably the oldest of our hay and pasture grasses. In England the Poas are called meadow-grasses. The species called Kentucky bluegrass in this country was introduced into New England by the colonists no doubt in the forage used to feed their animals on the voyage over. It was grown by the French at Montreal at an early date and taken by them to the Ohio Valley about 1700. There it made itself at home in the open woodlands and natural meadows. When the first English explorers reached that locality about fifty years later they found large areas of bluegrass and white clover. These two plants are most frequently found growing together. The term "bluegrass" seems to have been applied first to Canada bluegrass in Connecticut but it soon became attached to its more valuable cousin. Kentucky bluegrass is also called June grass in the north.

### Kentucky Bluegrass (Poa pratensis)

Kentucky bluegrass is a valuable sort for fine turf as well as agricultural purposes. It is easily identified once you become acquainted with it, by its rich green color, narrow leaves and the blunt boat-shaped tips to the blades. It is the most common of the volunteer grasses on rich lands in the northern half of the United States. Its range extends from coast to coast. It is successfully grown as far south as the northern counties of the Gulf States.

It is strictly a rich land grass. It does not make much difference what the type of soil is so long as it is fertile. The term fertile takes in everything which a plant needs for its growth, such as moisture, drainage and food. When growing at its best bluegrass is hard to beat for fairways on the northern golf courses. The leaves have strength to hold up the ball. Ordinary trampling does it no harm.

This grass has three faults or weaknesses. First, it is slow in forming a turf from seed. The seeds are slow in germinating and it take months, sometimes a year or two before the ground is entirely turfed over. To offset this fault it is customary to use some rapid growing grass along with it. Redtop is the one most commonly seeded with bluegrass. A mixture of four parts bluegrass and one part redtop gives good results. Cocoos creeping bent seed is now being used in the place of redtop with excellent results. Redtop usually disappears after a year or two while the bent is a permanent addition to the turf and being a creeping grass repairs injury to the sod in less time than it takes bluegrass alone. Wherever the soil is poor or sour it is advisable to include the bent in the seeding.

The second fault of bluegrass turf is its bunchy or cuppy condition in early spring. Much of the turf kills out in winter leaving little tufts of plants interspersed with bare places. When growing weather comes the bluegrass sends out little short root-stalks beneath the surface of the soil and soon new plants start up in the bare places. By the middle of May this cuppy condition has disappeared.

The third fault is the tendency of bluegrass to languish in mid-summer. Unless given plenty of water bluegrass stops growing in July and the turf becomes sparse and off-color. This is most troublesome on heavy clay soils. Many golf courses are now installing watering systems for their fairways as well as their greens, to remedy this condition.

### Canada Bluegrass (Poa compressa)

There is but one use for Canada bluegrass on a golf course and that is for rough. It differs quite noticeably from Kentucky bluegrass in habit of growth. Instead of making a uniform covering of turf the plants come up as individual stems. When cut to lawn length it leaves a stubble instead of a turf. The stems are wiry, growing in a sort of zig-zag fashion. Another noticeable characteristic of Canada bluegrass is its flattened stems. This taken with its pronounced bluish color makes it easily identified.

Canada bluegrass will grow on poorer soil than will the Kentucky bluegrass and once it gets established it keeps out other vegetation. Its sparse open sod which does not hide the ball, together with its wiry stems which offer about the right penalty to the player who gets into it makes it an ideal rough. Canada bluegrass does especially well in western New York and Pennsylvania and northern Ohio.

### Annual Bluegrass (Poa annua)

There is much difference in opinion as to the value of this species but whether we like it or not we have it

to contend with. "Po' Hanna," as one well known greenkeeper calls it, is about the first plant to start growing in the spring. It can be identified by its seed heads which form right at the surface of the ground if closely cut. This ability to form seed even on a closely cut putting green is one of the chief drawbacks to this grass as it gives the turf a frayed, unsightly appearance. It also has a light green color which is not so attractive as the color of several other turf grasses.

Annual bluegrass is generally considered a short lived annual, that is, it must come from seed each year. Under most conditions there are several crops a year. It does not take this grass but a few weeks to grow from a seedling to a mature stage. In some instances I have known tufts of it to live over winter and I have also found short rootstalks under ground which is one of the characteristics of a perennial grass.

There is no commercial supply of this seed that I know anything about. It seeds abundantly but so near the ground there is no economical or efficient way of harvesting the seed.

At Washington, D. C., we used to consider Poa annua as an asset to the golf courses. It came on earlier than the bents and gave a good putting surface for two or three weeks before the greens would have been in shape for play without it. As hot weather came the bents, mostly Rhode Island bent, started growing. The poa annua gradually gave way and the bents made up the turf, the change being so gradual it was scarcely noticeable.

In the Metropolitan District, however, this grass is one of the worst pests the greenkeepers have to contend with. It comes early and stays throughout the summer. It has invaded the creeping bent greens which have been planted by the vegetative method and ruined many of them. The old Washington strain is the only one that has been able to withstand the encroachment of this weed and with this strain it takes considerable vigilance on the part of the greenkeeper to keep it out.

### Rough-Stalked Bluegrass (Poa trivialis)

This grass has increased in popularity quite rapidly since I called it to our seedsmen's attention some ten years ago. It is well known in Europe being the chief constituent in the famous lawns and pastures in England. The seed is harvested in Central Europe. For some reason it had never been exploited in the United States. No one seemed to distinguish it from Kentucky bluegrass although the habit of growth of the two sorts is quite different. I found it growing in the lawns on the north sides of the public buildings at Washington but as it did not form seed heads very freely it was not recognized as anything out of the ordinary.

Poa trivialis spreads by stolons in the same manner as does creeping bent. Patches of the turf are often mistaken for creeping bent. It can be identified by a distinct glisten which the grass shows in bright sunlight. This comes from a glossy undersurface to the leaves. It is fine in texture and makes a beautiful turf. In color it is a lighter shade of green than that of Kentucky bluegrass. It is frequently found on putting greens seeded with German mixed bent and appears in distinct patches sometimes a foot or two in diameter.

Taken alone Poa trivialis is too tender and soft to make a good putting green turf. But mixed with creeping bent with which it blends fairly well it gives excellent results. It will grow under denser shade than any other fine turf grass unless it is red fescue. It makes its best growth in the West on lands which are alkaline or where alkali water is used for irrigation. Several clubs in Colorado are using a 50-50 mixture of Cocoos and Poa trivialis with excellent results on their putting greens. This mixture was suggested by a green on the Calumet Golf Course at Chicago. An inspection of this particular green, which had been sodded with turf from a green on the old Calumet Course, showed it was a fairly uniform mixture of Poa trivialis and strains of creeping bent. The original seeding had probably been German mixed bent with some of the Poa trivialis seed in as an ingredient. Or it may have been seeded with one of the putting green mixtures of the early days which might contain anything from velvet bent to orchard grass.

There are many different strains of Poa trivialis and some are much more valuable for fine turf than others. It would be well worth while for some one to make selections of first class varieties of this grass and develop a seed supply from these selections. At the present time all of the seed is imported from Europe.

### Woods Meadow Grass (Poa nemoralis)

This grass is mentioned because it has been in the past so universally recommended for shady lawns. It has about the same habit of growth as Canada bluegrass and is of no value in this country for turf purposes. Nevertheless there have been many tons of the seed imported into this country and sold either alone or in shady-nook mixtures. I would not know where to find a single foot of the sod of this grass at the present time. I once found a small patch of it along a gorge at Ithaca, New York and harvested enough seed by hand to plant a plat at Washington, D. C. It grew all right at first and lived over winter but died out in the middle of the following summer. The only reason I can give why this grass has been so persistently recommended for shady lawns is that there must have been some seed of Poa trivialis mixed with it when it was first introduced into this country. If the money spent for Woods Meadowgrass had been used to buy Poa trivialis seed there would be many more nice lawns in this country than we have at the present time.

(*To be continued*)