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KENTUCKY BLUEGRASS (*Poa pratensis* L.).

Kentucky bluegrass is the most important cultivated pasture grass in the United States. This is due not only to the fact that it is palatable and nutritious, but also because it produces an abundant pasture and can be grown over a large region. In general, it is the cultivated pasturage grass of the area north of Tennessee and east of the one hundredth meridian. It is also important in parts of Tennessee and the Piedmont sections of North Carolina, Alabama, and Georgia. In other States it is found to some extent, either under cultivation or in a natural condition. It does especially well on limestone soils, notably in parts of Kentucky and Missouri. Aside from being a valuable pasture grass, bluegrass is without equal as a lawn grass in the regions to which it is adapted.

Description.—Kentucky bluegrass is generally known as "bluegrass," and also sometimes called "June grass." It is a very hardy perennial grass, producing an abundance of running rootstocks, by which it propagates readily. It also produces an abundance of basal leaves dark green or bluish green in color, and fine, smooth culms, or stems, upon which the seed is borne in an open panicle, or head. Bluegrass is in general a low-growing grass, rarely exceeding two feet in height. It forms a thick sod, and while the length of life of an individual plant is not known it is undoubtedly greater than any of the common cultivated grasses.

Bluegrass as a pasture grass.—Bluegrass has become so well distributed throughout the United States that it is now found growing abundantly in the regions above described without cultivation. It grows so readily without cultivation that it is not seeded to the extent of other cultivated grasses, or, in fact, to the extent that it should be, except where it is used for lawns. When sown, it is commonly sown in the fall, either alone or with timothy and red clover. If sown alone, three or four bushels of seed are generally used; if with timothy and clover, one-half to one bushel. In sections where this grass grows readily it is commonly considered more profitable to sow alone and heavily than with timothy and clover. This practice of course applies only in cases where a pasture of bluegrass alone is ultimately desired. The seed can also be sown in the spring, and in the North and West seeding at this time gives best results in many cases. It can be used to good advantage for pasture in mixtures with such grasses as orchard grass, tall meadow oat-grass, meadow fescue, and others. From 4 to 8 pounds of good seed per acre is recommended where it is used in mixtures. The seed is of low vitality, owing largely to the manner in which it is cured. Bluegrass is an excellent pasture grass for all kinds of stock, and is especially valuable from the fact that it starts early in the spring and furnishes good grazing until late in the fall, even after heavy frosts have occurred. During the hot months of summer it dries up and produces a comparatively small amount of grazing, and for this reason, if for no others, mixture with other grasses is in many cases desirable.

Lawns.—Bluegrass is almost a perfect lawn grass where conditions are favorable. It produces a good sod which, when properly treated, results in a turf which can not be excelled. Its beautiful bluish color adds greatly to its value for this purpose. On clay soils not well supplied with lime, or on soils other than limestone, redtop, with a small amount of white clover, can be used to advantage in a mixture with bluegrass for lawns. A mixture in the following proportions is commonly used: Bluegrass, 16 pounds; redtop, 3 pounds; white clover, 1 pound.

Thorough preparation of the soil before seeding is essential to the securing of a good lawn. Such preparation consists in deep plowing or spading and thorough settling and fining of the surface. Seed should be sown at the rate of 50 to 75 pounds per acre, depending on its purity and vitality. It should not be covered deeply, since deep covering interferes seriously with its germination.

Unfortunately bluegrass will not make a very satisfactory lawn in dense shade, but by the proper use of fertilizers, which in most cases will need to be determined by experiments, and by careful and thorough watering, the evil effects of shade may be overcome to a large extent, especially where it is not too dense. A dressing of well-rotted barnyard manure applied late in the fall and raked off early in the spring is very beneficial. Nitrate of soda, applied preferably in solution, at the rate of 150 to 200 pounds per acre when the grass starts growing in the spring, is also beneficial. Bleached wood ashes, bone meal, and lime, when properly applied, are valuable fertilizers.

Seed.—The principal area in the United States where Kentucky bluegrass seed is produced is a limited section comprising only about three or four counties in northern Kentucky. This section in general surrounds the towns of Winchester, Paris, and Lexington, and the important counties are Bourbon, Clarke, and Montgomery. They are virtually the source of the world's supply of bluegrass seed. There are also considerable quantities of seed harvested in Missouri and Iowa, but not to the extent that it is in the above portions of Kentucky. Aside from these there are other sections where bluegrass seed could be produced successfully, but they are usually too limited to make the growing of seed an important industry, especially since the cost of installing thrashing and cleaning plants is considerable.

In Kentucky the seed is stripped by a machine, which in general appearance is not unlike the wheel scraper, having on the front edge of the platform a comb by which means the heads, together with a portion of the culms, are pulled from the grass. The teeth of the comb are about fourteen inches long and the points are open about an inch for a short distance in front, coming close together for the remainder of their length. Two men are required for each stripper, one to drive the horse, the other to cut back the stripped seed from the comb. After stripping, the seed is piled in long ricks, either under cover or in the open, and allowed to cure. It usually takes from one to two weeks to cure thoroughly, and constant stirring is very necessary to prevent heating. In Missouri and in some other States strippers with rotary cylinders are used almost exclusively. On account of the peculiar characters of the seed, especially the web of hairs at its base, thrashing and cleaning is rather a difficult operation. It requires a specially constructed plant to do this work, and on account of the cost there are comparatively few in existence. It is not possible for a farmer to get the seed in a marketable condition.

The yield of bluegrass seed per acre is exceedingly variable, and the average can hardly be estimated. It ranges from 5 to 20 bushels per acre, and on account of the unevenness of the fields that are stripped, a closer average can hardly be obtained. It is, however, a reasonably sure crop and yields a sufficient quantity to insure a profit to the farmer above the expense of stripping and the value of the land.

It is a deplorable fact that commercial bluegrass seed is very low in vitality and contains a high percentage of inert matter, making it very unreliable and causing much difficulty in obtaining a satisfactory stand when seeded. The low vitality is due, in a large measure, to the manner in which the seed is cured. Insufficient care is taken to prevent heating while curing is taking place. In many cases also the seed is stripped before becoming properly mature. The high percentage of inert matter is the result of improper cleaning and is the fault of the seedsmen. The use of better machines for stripping is badly needed, as they would assist materially in raising both the purity and viability of the seed. The amount of inert matter can undoubtedly be reduced to 10 or 12 per cent with practically no loss of good seed. The legal weight per bushel is 14 pounds, while good seed, such as should be placed on the market, should weigh from 21 to 22 pounds. An improvement in the quality of seed, both in regard to purity and viability, would greatly stimulate the demand for this grass.

Kentucky bluegrass seed, on account of its high price, is commonly adulterated with Canada bluegrass seed. The commercial seed of these two grasses are very much alike and can not be distinguished without critical examination. Under conditions where Kentucky bluegrass can be grown successfully, Canada bluegrass is decidedly inferior. The practice of adulterating Kentucky bluegrass with Canada bluegrass is fraudulent and detrimental to both the trade and the purchaser.

The price of seed is extremely variable. In the past ten years it has ranged from 6 to 15 cents per pound. Ten cents might be fairly considered an average price.

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