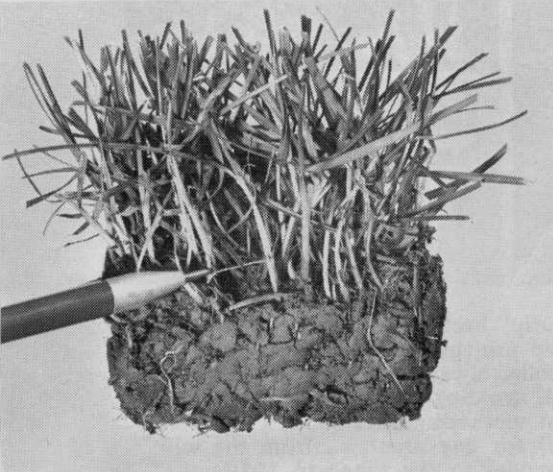


Kentucky Bluegrass:



One of the elite, dense varieties of Kentucky Bluegrass is Fylking. It's shown above mowed at 1½ inches. Note very little thatch where pencil points, an advantage with species spreading by rhizome rather than by stolons. This grass is three years from seed. (Lawn Institute photo)

By DR. ROBERT W. SCHERY,
Director of the Lawn Institute
Marysville, Ohio

IT HAS BEEN several years since Kentucky bluegrass, *Poa pratensis*, was reviewed in Weeds, Trees and Turf as the first grass in a series of turfgrass portraits. An updating is timely for this turf issue.

Kentucky bluegrass not only remains the prime favorite for lawn seeding and sod from border state latitudes northward, but interest in it has intensified both domestically and in Europe. Skillful breeding has given a host of new cultivars, some already available commercially, others still in the testing and developmental stages. Many new, elite varieties for specialized use have now joined traditional, carefree types (which have also been perfected as varieties, viz. Arboretum, Kenblue, Park, etc.). An exciting decade lies ahead for Kentucky bluegrass enthusiasts.

A Bit of History

Bluegrass appears to have received first recorded mention by the Greeks, in southeastern Europe before Christian times. Perhaps primitive "diploid" forms could still be found in the mountains there (as is the case with many cultivated plants)? Records from the Middle Ages show the plant (not to be named *Poa pratensis* until 1753) widespread throughout Europe, undoubtedly in many of its present polyploid forms. Most likely it spread to the New World with early European colonization, the seed probably a chance component of shipboard hay and cattle bedding. Before the American Revolution it was reliably identified on the North American east coast, and especially in the St. Lawrence valley.

Evidence suggests that the French missionaries carried *Poa pratensis* to the Great Lakes country, and so far south as the Ohio River valley, before 1700. It grew superlatively on the phosphatic soils of north central Kentucky, where it supported in the Lexington area the first "civilization" of the white man west of the mountains. Called "June grass" and many other common names during its early years in North America, Kentucky bluegrass became identified with the state of Kentucky sometime between about 1830 and 1850. Gradually "Kentucky bluegrass"

came to be accepted for the species, and the name has stuck ever since.

Today Kentucky bluegrass is still recognized as an excellent pasture species, but even more as the premier species for lawn, recreational, roadside, and industrial turfs, even so far south as the mountains of Arizona and Alabama-Georgia. In Europe, too, it is gaining favor for fine turf, even though the milder, rainier climate there and the custom of close-mowing has tended to favor other species. In North America more bluegrass plants grow on more high priced land than is likely the case with any agricultural crop from corn on down.

Bluegrass Traits

Kentucky bluegrass is noteworthy not only for its graceful foliage that mows exceedingly well, but for its ability to spread by underground stems called rhizomes. By this means a single bluegrass plant can eventually colonize many square feet of ground, and of course this constitutes a built-in system for thickening up turf that has thinned for any reason.

Kentucky bluegrass can withstand drought, cold and abuse well, reviving even after seeming to have been completely wiped out. Although it prefers fertile, friable soils, it is a reasonably tolerant species that requires little pampering. Many of the traditional varieties get along quite well with no attention other than mowing, if planted to reasonably good soil. Bluegrass withstands moderate shade well, and the usual pesticides. Some of the newer selections such as Fylking and Pennstar can be mowed so low as ½ inch (traditional varieties are best mowed 1½ inches or taller). The foliage texture is first-rate, its color deep and not at all garish.

Growth Pattern

Kentucky bluegrass responds excellently to coolish weather—temperatures such as are normal in northerly states during September and October. Judging from performance in the deserts of southern California, bluegrass can withstand fairly high daytime temperatures, too, if the nights cool down (as they do from ra-

Turfgrass Par Excellence

diation in the clear atmosphere of the desert). Kept for long periods at temperatures much above 80° F, most Kentucky bluegrass cultivars exhaust accumulated food reserves, thus weakening the plant. But between freezing and about 80° F bluegrass is strongly accumulative; it builds up carbohydrates quite markedly in autumn. Reserves are drawn down in spring in order to foster the exuberant flush of new growth occurring then.

Bluegrass begins to green as soon as the weather warms in spring. During hot, dry weather of summer, growth slows and a degree of dormancy often sets in (which can be counteracted to a great degree by irrigation and fertilization). With onset of cooler weather in early autumn growth is rampant again, but in response to declining day lengths it is of a short, consolidative nature, with many stocky, tight tillers.

Maintenance

Both high-maintenance and low-maintenance groups of bluegrass varieties now seem shaping up. Most of the new selections have followed Merion's lead, and are bred for select, high-quality turf that is fertilized regularly and watered during drought. Fylking, Merion, Pennstar and most of the new hybrids profit from at least 4 pounds of elemental nitrogen (N) annually per thousand square feet (M), and are sometimes provided as much as 12. In cool weather bluegrass can withstand heavy feedings, but ordinarily it is well not to apply more than 1 lb. N/M at a time, and only about a half pound in warm weather.

As noted, mowing of the traditional varieties should be relatively tall, but newer varieties have been selected for low growth and withstand quite low clipping. With any turfgrass it is best not to scalp the lawn by mowing short suddenly; never remove more than half to one-third of the green leaf at a single mowing.

Although bluegrass is tolerant of a wide range of soils and pH, it performs best on well-drained land that is not compacted. Fertilization should match the soil.

Irrigation is increasingly practiced

on fine turf, with both favorable and unfavorable effects. Judicious watering keeps a bluegrass lawn green when it might turn brown from drought, but in hot weather it may confer greater benefit to certain weeds than to the bluegrass (especially if excessively done). When bluegrass sod is not let dry out almost to the wilting point occasionally, such difficult weeds as annual bluegrass, crabgrass and nutsedge often become troublesome.

Fortunately, bluegrass is very tolerant of conventional lawn herbicides applied at recommended rate.

Propagation

Tenacity of bluegrass, and its ability to spread by rhizomes, permits it propagation by plugs (biscuits of sod), or as sod itself. But seeding is simpler, more economical.

Nearly 40 million pounds of Kentucky bluegrass is marketed annually, each pound of which contains about two million seeds, potentially 80 trillion plants.

Sophisticated turfmen and many sod growers plant but a single type of bluegrass. However, experience has shown that blending several bluegrasses, or bluegrass varieties with fine fescues, creates a more widely adapted turf less likely to suffer serious decimation.

Kentucky bluegrass is highly apomictic, meaning that the seed mostly comes true to the parent type and is not affected by sexual crossing.

Bluegrass Varieties

The list of bluegrass varieties is increasing almost daily; it is difficult to keep track of the names alone, much less have experience with the cultivars over a range of conditions.

Table I lists those varieties which are commercially procurable as this is written, or promised soon: they are categorized as elite, especially attractive varieties for highly maintained lawns; as self-reliant varieties for less-tended turf and acreage sowings; and as an "intermediate" group which doesn't fit neatly into either category.

Kenblue is especially interesting as an "old-fashioned," genetically

mixed line tracing back to the first bluegrass in Kentucky mentioned in the section on history. Of course any of these bluegrasses can provide a first-rate turf if given suitable growing conditions. By-and-large those in the elite category should be more closely mowed, more heavily fertilized, and be provided supplementary attentions such as occasional removal of thatch; the self-reliant types should be mowed tall, and though responding well to fertilization survive without much (and may actually resent feeding in hot weather).

Table II lists some of the additional bluegrass varieties under test, not all of which will necessarily reach the market-place. A number of these are of European origin. Still others under test privately have not received a varietal name, and are known only by code number.

If one were to hazard a guess, many of the favorite bluegrasses for the 1970s will arise from this pool of coded selections.

Table I. Proved Kentucky bluegrass varieties, commercially available or pending.

ELITE CULTIVARS for well-tended lawns: Fylking, Merion, Pennstar, Warren vegetative selections.

SELF-RELIANT TYPES for acreage and turf receiving only moderate attention: Arboretum, Delta, Kenblue, Natural common, Park.

INTERMEDIATE VARIETIES: Cougar, Newport, Prato, Primo, Sodco, Windsor.

Table II. Examples of less familiar Kentucky bluegrass cultivars not included in Table I, and varieties under test but not yet available.

Adorno, Arista, Atlas, Baron, *Belturf, Campus, Captan, Delft, Fjord, Fusa, *Geary, Golf, Nike, *Nudwarf, *Nugget, *Palouse, *Silverblue, Skandia, Sydspout, Southport, *Troy, Zwartberg, diverse selections known by code designations only.

* signifies domestic selections.