

Lawngress I.D. Check-up

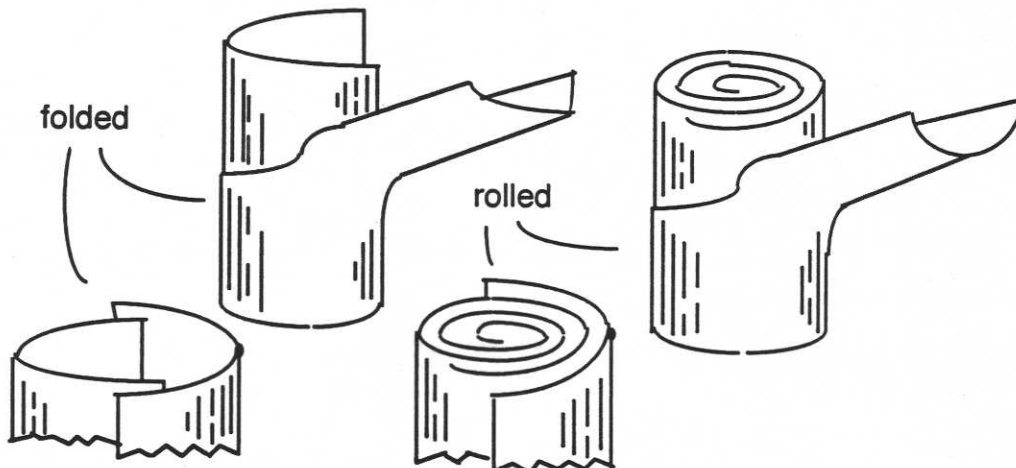
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Six hundred different species comprise the grass family, *Poaceae*, making it the third largest plant family. In area, it is the most commonly found throughout the world. However, only 30 species tolerate regular, close mowing, which is the definition of a turfgrass. While the grass family emerged some 70 million years ago, turfgrasses began to evolve over 50 million years ago as a response to the constant grazing pressure of herbivorous mammals, particularly the *Bovidae*. The cool-season turfgrasses originated in eastern Europe and western Asia. Of this group, four are common lawngresses in Michigan. The purpose of this stop on the 1994 Michigan Turfgrass Field Day is to learn, or in many cases refresh, how to identify these few turfgrasses, which are as follows: Kentucky bluegrass (*Poa pratensis*), turf-type tall fescue (*Festuca arundinacea*), perennial ryegrass (*Lolium perenne*), and fine fescue (*Festuca* sp.).

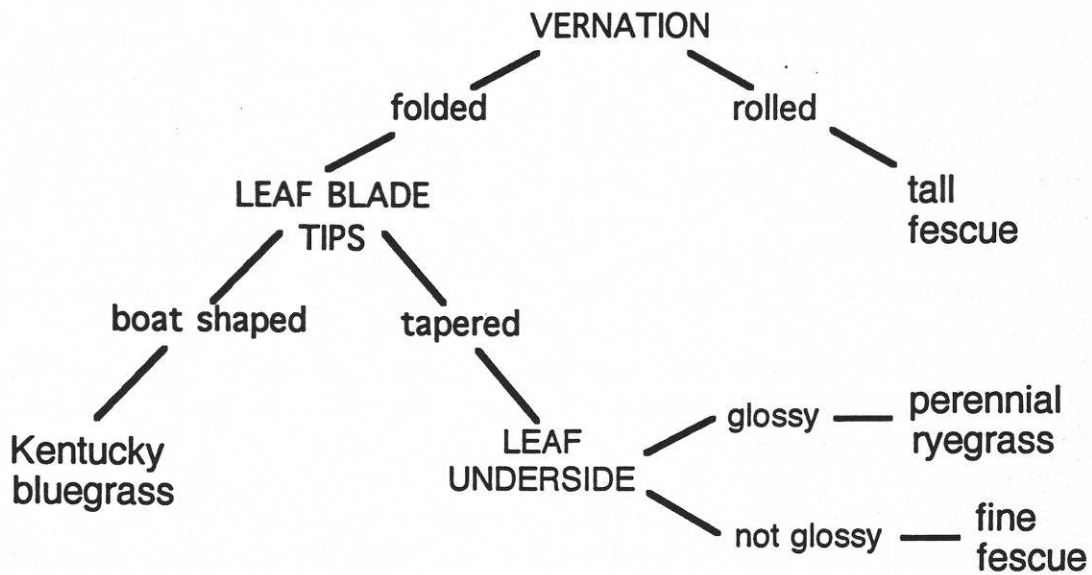
While a well-maintained lawn may appear to be a solid, uniform green mat, it is actually composed of thousands of individual plants. On each plant, there are morphological features, or structures, that aid us in identification. The key one that we will focus on today is the shoot. This term refers to the grass stem and its appendages, which include the leaves and inflorescences, or seedheads. Since you hopefully mow your turf regularly, seedheads are not normally present. Therefore we are aided by only stems and leaves.

Growing upward from the seed is the primary shoot. Growths originating from older leaves and stems are called lateral shoots. Lateral shoots are further broken down into two categories. Primary lateral shoots that originate in the axil of older leaves and grow erect are called tillers. The number of tillers increases with sound cultural practices, such as regular mowing, adequate fertilization, and timely weed control. In fact, tillers can grow within other tillers and they account for a tremendous shoot density. For instance, a stand of perennial ryegrasses will often have over 10,000 shoots per square foot, or 44 million per acre. Secondary lateral shoots also originate in the leaf axils but their growth is prostrate in nature. If they grow above ground, they are called stolons, and if they grow below ground they are termed rhizomes.



By looking down on a growing shoot, you can usually see a new leaf emerging. We use the term vernalion to describe the manner in which this occurs. Either the new leaf unfolds or unrolls (see diagram above).

If the vernalion is folded, then the turfgrass could be Kentucky bluegrass, perennial ryegrass, or one of the fine fescues. It could also be a weed such as annual bluegrass, roughstalk bluegrass, or crabgrass. If it is rolled then hopefully it is a turf-type tall fescue. Anything else having a rolled vernalion you should treat as a weed. These include bentgrasses, and forage-type tall fescues—all common in Michigan lawns. Tall-fescue leaf surfaces are ribbed in appearance and have no prominent mid-rib. However, the turf types have a much finer texture, meaning that they have narrower leaves. With folded vernalion, the next step is to examine the leaves beginning with the tips. You may have to look at several until you find a leaf whose end has not been mowed off. A boat-shaped tip indicates that it is Kentucky bluegrass, given that you are looking at one of the desirable lawngrasses. If the leaf tip tapers to a point, then you have either perennial ryegrass or one of the fine-leaf fescues. Perennial ryegrass leaves have a shiny underside, while the undersides of fine fescues leaves have a dull appearance. A dichotomous key summarizing this information is shown below.



Proper turfgrass identification is an essential tool in lawngrass management. Cultural practices such as recommended mowing height, irrigation, fertilization, and pest management differ greatly from one turfgrass type to the next. Improper identification can result in wasted energy and resources.