



When Poa Annua and cool season grasses fail in intense heat, bermudagrass is at its best, as evidenced by the trial strips in this fairway in the Transition Zone.

Bermudagrasses in the Transition Zone

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Problems? You bet we have them in the transition zone, probably better known as the "crabgrass belt."

We have one asset which in some cases might be a liability. We can grow most of the cool-season and most of the warm-season grasses (advantage), but none of them are well adapted to the area (disadvantage). Perhaps our greatest problem is that we spend too much time trying to grow all of them, when we should be concentrating on a select few.

The purpose of this article is not to promote bermudagrasses for fairways and tees, but rather to point out some of the advantages and disadvantages of using them.

First, the advantages.

When managed properly, bermudas are vigorous, fast-growing, deep-rooted grasses. They provide a dense, uniform, non-clumping turf that recovers quickly from injuries such as traffic, divots, etc. Even when dormant they provide a good playing surface.

Bermudas have their best growth during the hot summer months when most other fairway grasses are easily damaged. They can be cut

close—down to $\frac{1}{2}$ inch—which delights the golfers. During their growing season they are extremely tough competitors with weeds, and usually keep them under good control.

Bermudas respond well to good management, especially fertilization, and provide a beautiful playing surface throughout the late spring, summer and early fall months. Bermudas in this zone usually have few insect and disease problems. They are also very heat- and drought-tolerant. During dry periods they remain lush and green long after most other grasses have turned brown.

Two disadvantages weigh quite heavily against the bermudas: winter dormancy and winterkill. Along the northern limits for bermudas, this grass may be dormant, or partially so, for six or seven months of the year. Many golfers object to playing on brown turf, although most of those who have objected agree quite readily that the playing surface was perfectly satisfactory except for color.

Secondly, probably the most severe drawback for bermudas is the problem of winterkill. All varieties which are commercially avail-

able now lack sufficient winter hardiness to make them completely dependable. About once every five to ten years we have a very severe winter that takes out most of the bermudas. All of the winterkill problems cannot be attributed to lack of inherent winter hardiness, however. I am suspicious that after three or four successful years we become lax in managing these grasses.

We have known for many years now that a lush, tender grass is much more susceptible to winter injury than the same grass when it has had a chance to harden off before winter. Late fall fertilization with nitrogen, especially when there is an imbalance of nitrogen with phosphorus and potash, increases the likelihood of winter injury. We get by with it for two or three years and keep on using more nitrogen late in the year. Then we have a bad winter and lose the bermuda. Our natural reaction then is to blame it on the grasses.

The bermudagrasses available today are not as winter-hardy as we would like to have them, but a lot can be done through good management to reduce the risk of winterkill. As indicated earlier, the fertilization program can easily be altered if necessary. Many golf course superintendents in the transition zone apparently fail to realize the drastically different type of management programs that are

needed for the bermudas and for the cool-season grasses. Summer fertilization and thatch removal are two good examples.

One other problem that threatens bermudas is the "spring deadspot" disease. The real impact of this problem is difficult to evaluate in the transition zone because of the ups and downs in use of bermudas.

Another indirect threat, too, is the elaborate irrigation systems now available for golf courses. This, coupled with the development and use of sophisticated herbicides which control or prevent weed invasion, makes it easier to grow Kentucky bluegrasses on fairways.

Several new bermuda and Kentucky bluegrass selections are currently being evaluated which might help overcome some of the problems in the transition zone. Most of them need more study before we will know how much of a solution they will provide. If new Kentucky bluegrasses can be found which will tolerate close mowing ($\frac{3}{4}$ to 1 inch) and summer heat, they will likely receive the nod over bermudagrasses for most fairways in this zone because of their longer "green" season. Progress is being made with the winterhardiness problem in bermudas, but the one of long winter dormancy periods will likely be with us for a long time.

Bermudagrass spreads quickly to cover from stolons and rhizomes.

