

“Working” Bermudagrass Fairways

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FOR MOST COURSES across the country, the 1993 golf season has come to an end. However, for golf courses in Florida and the desert Southwest, the peak winter play season is just beginning to gear up. For these courses, what transpired during the previous summer growing season has a direct impact on the level of fairway quality that can be provided over the next several months. Thus, a discussion on bermudagrass fairway management at this time may be more relevant than you might believe. Also, a review of cultural management practices during the winter can be a useful exercise for facilities located across the Sunbelt region of the U.S. in planning for next year and the future.

Though some may disagree, bermudagrasses (*Cynodon dactylon*) can provide the best possible fairway turf conditions today. Golfers of all skill levels find the dense, upright shoot growth characteristic of the bermudas to their liking. For the better players, the “tight” lies that can be provided

make it possible to pick the ball off the turf surface and spin their shots onto the green. For higher-handicap players, it is also possible to “sweep” the ball off a dense bermudagrass fairway turf with both woods and irons. To provide the type of top-quality fairway conditioning demanded today, proper maintenance programs must be in place. This is true regardless of the particular bermudagrass cultivar being managed.

Mowing

It always is wise to start with the basics, and one of the most basic maintenance practices is routine mowing. During the summer months, when active growth is occurring, mowing frequency is extremely important in providing top-quality turf. The old rule of thumb still applies; take care not to remove more than $\frac{1}{3}$ to $\frac{1}{4}$ of the total leaf surface area with any single mowing to avoid placing excessive stress on the plant. To stay within this guideline, a minimum mowing frequency of three times per week

is required. However, daily mowing is essential if premium quality is desired. The lateral growth habit of the bermudas can result in a significant amount of grain development. Thus as with putting greens, the mowing pattern of the fairways needs to be varied on a continual basis. In addition to varying the starting point of the lengthwise mowing pattern, a cross-cutting or circle-cutting pattern should be used on a weekly basis.

A fast reel clip rate is needed to cleanly shear the rather tough leaf blades of the bermudagrasses. For optimum results, 10- or 11-bladed mowing reels should be used. Also, hydraulically driven mowing units work much better than ground-driven units. This is especially true if the fairways are routinely mowed during the early morning hours when the turf is still wet.

With the tremendous success of lightweight mowing of northern bentgrass fairways, more and more facilities in Florida and the Southeast are implementing similar programs. The use of lightweight mowers on

A properly managed hybrid bermudagrass fairway can provide one of the best playing surfaces possible for all levels of golfers.



bermudagrass fairways definitely has merit, but it needs to be stressed that a strong commitment to this mowing regime must be made. While a superior quality of cut can be achieved, the use of true lightweight mowers can be a problem from the standpoint of being able to keep up with a program of frequent mowing and increased equipment wear. Thatch accumulation also occurs at a faster rate because the lighter mowers tend to float over the turf surface. The use of triplex mowers and clipping removal is not a practical strategy with bermudagrass fairways. The use of "medium-weight" five-gang type mowers on bermudagrass fairways has proven to be the best equipment setup. It also needs to be stressed that reproducing striped or cross-hatched mowing patterns, as typically observed on televised golf events, is not really possible on bermudagrass fairways, no matter what type of mowing equipment is used.

As far as mowing heights are concerned, during periods of active growth a height of $\frac{1}{2}$ inch is ideal for maintaining a dense turf cover and a smooth surface. If a professional tournament or top amateur event is to be hosted, a mowing height of $\frac{3}{8}$ inch might be practiced for a short period of time. For general play and/or when managing common bermuda fairways, a slightly higher height of cut may be more appropriate. However, exceeding a mowing height of $\frac{3}{8}$ inch in the summer is not recommended in most cases. The practice of using higher heights actually results in more difficult playing conditions because the golf ball settles deeper into the turf.

As the growth rate of the turf slows in the fall, it is a good practice to slightly raise the mowing height of bermudagrass fairways. This allows increased carbohydrate storage to occur, which improves winter hardiness as well as wear tolerance. With Tifway fairways, a fall/winter/spring mowing height of $\frac{3}{4}$ inch is recommended, while slightly higher heights are needed with the common types. As soon as sustained shoot growth begins in the spring, the mowing height should be worked back down gradually.

Coring/Slicing/Verticutting

With bermudagrass fairways, excessive thatch accumulation can be a problem. This inherent problem often is aggravated by over-fertilization and over-irrigation done to satisfy golfer demands for a lush, dark green turf. The bermudagrasses naturally exhibit a light to medium green color, and the best-conditioned fairways typically have a slight off-color cast. If we could only educate more golfers to the fact that color is not a primary indicator of quality, thatch and a few other management problems





(Opposite page, top) Lightweight mowing of bermuda fairways continues to grow in popularity because of the superior results produced. On the other hand, an increased rate of thatch accumulation has also been noted.

(Opposite page, bottom) Besides aiding in thatch control, annual verticutting of bermudagrass fairways is an extremely important practice for grooming a dense, upright shoot growth character.

(Above) Although thatch accumulation is an issue with hybrid bermudagrass fairways, core aeration and verticutting can keep it in check.

would not be as pronounced. Nevertheless, cultivation/grooming activities are still needed on bermudagrass-based fairways to produce and maintain healthy growth and top-quality playing conditioning.

A review of current research information reveals some debate in regard to the effectiveness of core aeration and verticutting for thatch control. However, based on my experiences over the years with courses throughout Florida and the Southeast, both of these operations are vital to managing thatch and producing a dense, properly conditioned fairway turf cover. At the Bonita Bay Club, on the lower southwest coast of Florida, superior quality fairways have been maintained on their Marsh Course since it was opened for play some nine years ago. One reason an extremely high standard of quality has been provided is the intensive cultural program conducted each summer.

The fairways are core aerified at least twice and usually three times annually.

Over the years the standard pull-behind aeration equipment with open-spoon or coring tines has done an adequate job. However, the newer punch-type fairway units provide significantly better results. The increased number of holes per unit area and the greater operating depth of these units brings more soil material to the surface and in essence provides a good top-dressing for the turf. There also are a few courses that have implemented deep-tine aeration programs on their fairways. Unfortunately, the slow operating speed of this type of equipment can be a limiting factor in its use. In locations where concentrated traffic occurs, supplemental aeration and fertilization are a good practice for maintaining a dense, healthy turf cover. Furthermore, slicing or spiking can be a

very beneficial practice. These units have a fast operating speed and do not cause as much surface disruption. Thus, it is easier to accomplish multiple replications. However, because slicing/spiking is not as effective for the control of thatch, it is best used as a supplemental practice to a basic coring program.

Annual verticutting of bermudagrass fairways should be viewed as a basic management practice. While verticutting is a time-consuming and disruptive practice, some type of annual program needs to be conducted to produce and maintain top-quality turf. It needs to be kept in mind that bermudagrass shoot growth occurs from the ends of the stems or stolons. Thus, cutting of the stems is needed to create new growth points and increase shoot density. Verticutting also aids in removing old leaf material and thatch, and acts as a grooming technique to produce a more upright growth habit. If annual verticutting is not feasible, it should be done on at least an every-other-year schedule.

The standard approach has been to conduct one or two severe verticutting replications during early to mid-summer. These severe treatments do cause significant surface disruption, golfer inconvenience, and a debris disposal problem. However, within two to three weeks, a full recovery occurs and optimum conditioning can be provided. It also has been found that a series of three to six lighter replications throughout the growing season produces similar results without as much course disruption. The verticutting reel set-ups that are now available for some of the standard fairway mowing units are ideally suited for this practice. One other equipment option that sometimes is used for verticutting of bermudagrass fairways is a flail mower setup with straight blades or knives.

In Florida, there are now several companies that have available contract verticutting services. Typically, these services arrive with two or even three heavy-duty verticutting units and a couple of sweepers. For an 18-hole facility, the fairways can be verticut and all the debris removed in one to two days. When equipment and/or manpower are limiting at a course, these contract services are a very good option for insuring that an adequate verticutting program is practiced.

The bermudagrass fairway management practices mentioned in this article are based on programs in place at a number of courses around the state of Florida. Each of these facilities has established a reputation of providing top-quality fairway turf and overall course quality. While slight variations occur from one course to the next, they all have a common denominator . . . they "work."