

Cool Season to Warm Season Turfgrasses

by M. S. BECKLEY, Former Farm Advisor, University of California Extension Service

To keep the golf course in play and change the turfgrass cover on fairways at the same time is a challenge. We did it at Almaden Country Club.

Almaden is located on the west side of the Santa Clara valley near San Jose, Calif. Most people believe cool temperatures prevail everywhere in the San Francisco bay area and, therefore, cool-season grasses should thrive. This is not the case. In fact, our climatic conditions straddle the temperatures of both warm- and cool-season grasses. In many of our small valleys, July, August, and September temperatures hover between 85 and 95 degrees or more, and they last for weeks at a time. Night temperatures follow the same relative curve.

Many golf courses in these foothill areas have experienced the loss of fairway blue-grasses, fescues, and bents each summer. They are rapidly replaced by *Poa annua* and other weeds. Heavy traffic (over 200 rounds a day) and questionable maintenance practices added to our problem. In addition, alluvial fine clay soil is native to the area and is easily compacted. Our golfers were fed up with poor, almost unplayable fairways from July through October. Club management sought a better answer.

By northerners, bermudagrass is perhaps the most maligned of all turfgrasses. In spite of its proven ability to resist heavy traffic and still provide excellent year-round golfing turf, most

"northern golfers" (especially those owning homes adjacent to the golf course) resist and resent its loss of color in winter. But bermudagrass was the choice, the only logical choice for better fairways at Almaden. A successful information program was instituted for the membership at the club, and before long the fairway renovation program was approved. There was one stipulation. All 18 holes must remain open for play throughout the project.

This was a tremendous restriction from an agronomic point of view, but economics and the responsibilities of club management made it imperative. A cooperative spirit soon developed between the golfer and those striving to give him better playing conditions. Neither were without some inconvenience.

Although I had tested hybrid bermudagrass varieties on the course for several years, it was decided to plant the fairways with common hulled bermudagrass at 80 pounds per acre. In our area, seeding is much easier to accomplish than sprigging. We would start our program in May and continue it through August.

The use of sodium arsenite is restricted in California. We were not able to use it as a knockdown herbicide. Instead, in order to eliminate as much competition as possible for bermudagrass seedling turf, a pre-emergence crabgrass control program was instituted in late

Top-dressing our newly seeded areas with fine sawdust.



January, 1968, using 25 pounds (50-W) DCPA (Dacthal) per acre. An attack on the broad-leaf weeds was made with 2, 4, 5-TP.

The final plans were developed by B. R. Gillis, project manager for the Del E. Webb Corporation; Edward Hardy, Club Manager; Bill Bengeyfield, USGA Green Section, and the author. The program was divided into seven distinct steps:

- 1) Where the turf was thin and severe soil compaction existed, the area was heavily aerified with large aeration spoons.
- 2) Using an old gang fairway mowing unit, the area was mowed vigorously to break up the plugs.
- 3) A four-foot wide dethatching machine attached to the power takeoff of our tractor was then employed. The vertical blades were set two inches apart and the area was crossed a minimum of two times at right angles. The vertical blades cut into the soil to approximately a 1/2-inch depth.
- 4) Where excessive trash accumulated following the vertical mowing treatment, hand or vacuum units were used for its removal.
- 5) Hulled bermudagrass was sown at the rate of 80 pounds per acre.
- 6) With a top-dressing machine, a 1/4-inch layer of fine sawdust was laid over the seeded area.
- 7) Once seeded, the areas were watered by hand at least four times a day and continued for 10 days.

The irrigation phase of the work was extremely important. One man was charged with the responsibility for watering all the seeded areas, and at no time was the water application

to exceed 15 minutes. This practice avoided overwatering fairways and interference with play.

Those areas that would normally receive heavy compaction from channeled traffic were roped off and given some degree of protection. The golfers respected these areas and carefully removed their golf balls from them. This assured better germination and bermudagrass development. Ten days following the seeding, all areas were fertilized with a complete fertilizer at the proper rate. Fertilization was repeated each month for three months.

Germination of the bermudagrass seeds took place within five to seven days. The plants emerged from the vertically mowed furrows and developed runners that closed the area between the cuts. Within 30 days the area was well covered with bermudagrass turf.

The cost of the entire summer project was \$9,000 for labor (in excess of the permanent staff) and \$4,000 for materials. During May, June, July, and August we were able to renovate and seed 15 fairways.

The club is very pleased with the results, and we intend to continue our fairway renovation program in the future. We have proven to ourselves that the best results are obtained when any competition to the seedling turf is greatly reduced or eliminated.

I believe there are six prime factors involved in the success of our fairway renovation program at Almaden Country Club. They include (1) adequate financing, (2) development of a sound master plan, (3) the choice of common hulled bermudagrass seed for the fairways, (4) proper seedbed preparation in addition to adequate nutrients, moisture and soil for good germination, (5) proper timing of seeding, i.e., May through August, and (6) the cooperation of members and staff in making the program work.

Bermudagrass Fairways in the Southeast

by **JAMES W. DUDLEY**

As a background to the establishment of our bermudagrass fairways, I think it is significant to note that our golf course was designed by

Donald Ross and built during the late 1920s. Consequently, we were never able to spend the money for labor and equipment that is used in