

# Fairway Row Planting of Tifton 419 Bermuda

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**T**he 36-hole Biltmore Country Club of Coral Gables, Fla., was opened for play in the fall of 1926. In 1930, 18 holes were left virtually unattended until 1946 when they were re-established as Riviera Country Club.

During the years the course lay unattended, the original fairways were contaminated with numerous natural selections of undesirable bermuda grasses. Mixed throughout the fairways and roughs, most of these grasses were weak and of poor quality. This made it impossible to carry on a proper weed and fertilization program. An inadequate manual water system further hampered our progress.

The Riviera Country Club embarked on a two-year program to replant the fairways and improve the roughs. The first step was to install a completely automatic sprinkler system, which was completed by the late summer of 1973. Next, plans were made for the actual row planting. I had successfully used a three-row tobacco planter for grass planting about eight years ago. Later, I observed the automatic row-planter of Southern Turf Nurseries in operation, and felt that this method of planting would be the best to establish Tifton 419 bermudagrass stolons in existing fairways. The two types of planters under consideration were much the same, except that one machine planted two rows and the other planted four rows simultaneously.

A row-planter, for those unfamiliar with this machine, is one with a large hopper and drawn by a tractor. The overall length is approximately ten feet and the height eight feet. An operator is necessary to release the grass stolons

from the hopper. The stolons fall onto two conveyer belts that carry the grass into two back chutes. Here the planting mechanism consists of an eight-inch turf-cutting disc, followed by a toe plow which opens a furrow. The chutes release the grass stolons into the furrows and a pressure disc pushes the stolons to an adjustable depth. Four arms close the furrow and the soil is then flattened and firmed by two rollers.

The row planting at Riviera Country Club was planned for the second week of May to take advantage of the seasonal rains. Two weeks prior to this date, a slow release 3-1-2 fertilizer mixture was applied to the fairways. Thirty-six hours before the planting of each fairway, it was sprayed with paraquat, using one gallon per acre. The actual planting was begun by using rows 10 to 12 inches apart and adjusting the planting depth for the stolons from 1 to 1½ inches. This depth was considered best for the course, because the soil is a shallow covering over coral rock. Approximately 340 bushels of grass stolons were used per acre. (This exceeded the amount originally planned.)

It proved best to begin planting around the slopes of the greens and then begin the straight furrows for the fairways. Otherwise, furrows around the greens are criss-crossed at the end of the fairway rows, leaving a rougher surface than necessary. A smoother surface was further achieved by following the row-planting machine with a tractor-drawn fairway roller over all areas being planted.

The first half-hour after planting is a critical time for the young grass stolons. Water was

*The row planting process is underway.*



*Row planter in operation.*





*Curved plantin on bank near a green.*



*Completed fairway after row planting.*

*A fairway two weeks after planting.*



applied within this time and continually as planting proceeds. In seven to 10 days after planting, the old fairway grass began turning green again. In areas that were overly wet or heavily thatched at the time of planting, the Tifton 419 stolons were restricted and growth was slower. However, in previously bare areas and where older types of grass grew, the newly planted stolons sent out runners as far as six inches within a few weeks.

Two weeks after the row-planting had been completed, each fairway was fertilized with an 8-8-8 mixture. The planting operation was finished in 22 days with little interruption for golfers. Each day it was only necessary to have two holes closed and out of play.

Six weeks after planting, a light spiking proved beneficial. Three additional applications of ammonia sulphate were applied at the rate of 100 pounds per acre at three-week intervals.

There had been some concern about the ability of a row planting machine doing a successful job on steep slopes. There was no damage to the contours at Riviera Country Club, and I was pleased with the results.

Soil moisture is particularly significant for the operation of a row planting machine. If the soil is too wet the plow will open the furrow too wide and a smooth surface is more difficult to achieve. On the other hand, if the soil is too dry, the plow powders and scatters the existing sod, resulting also in a rough surface.

The only frustrating problem to me connected with this method of planting, was the rapid and extensive weed regrowth and a wait of four weeks before safely beginning a weed program.

If it is necessary for me to use this row-planting method again, in addition to the procedures followed I would use an application of MH 30 or a similar type of growth retardant. This would be applied two to three weeks before using paraquat. Instead of using one gallon of paraquat to the acre, I would reduce the amount to one quart per acre. This light application would just burn the exposed blades while the growth retardant would slow the greening of the old fairway grasses, consequently allowing the Tifton 419 to establish itself without excess competition.

Not only have we incorporated a new grass with row-planting, but have also aerified each fairway.

The fairways have now been planted for a period of two months. With the exception of a few small areas, the growth of the Tifton 419 combined with the old fairway grass have given us superior fairway quality. A complete coverage of Tifton 419 should be established in approximately two years.