

## Native Grasses Help Save Water

Lonnie Poole Golf Course at North Carolina State University  
Brian Green, superintendent

Raleigh, N.C. 27606

### Issue

Protecting and conserving natural resources is one of the most significant challenges facing the game of golf. With that in mind, the Lonnie Poole Golf Course at North Carolina State University was designed to fit into the natural environment and be a sustainable component of the campus. Warm- and cool-season native grass plantings were included in the design to help save water, demonstrate environmental responsibility, and act as important golf course features.

### Action

Fine fescues, little bluestem and broomsedge were established in 45 acres of naturalized and native areas. These particular plant species were chosen because they are adapted to the North Carolina environment and have low water requirements after establishment. These plant species also provide a dramatic contrast to the maintained turf areas without overly penalizing errant shots.



*Native grasses occupy 45 acres of rough at Lonnie Pool Golf Course, significantly reducing the amount of water and fertilizer required to maintain the golf course.*

The naturalized and native areas were planted using a combination of seeding, hydro-seeding and sodding. Irrigation was used to establish the plants, but was discontinued once establishment was complete. Irrigation stations located near the naturalized areas were adjusted to ensure that they only watered maintained turf, and stations located within the naturalized areas were turned off.

Erosion caused by heavy rainfall proved to be quite challenging during the initial establishment of the naturalized and native areas because of the steep slopes found throughout the golf course. To address this issue, fescue sod was used to stabilize steep areas and prevent erosion around catch basins. Another challenge was balancing fertility levels in the naturalized and native areas. Some fertility is needed to create adequate turf coverage, but too much fertility can result in overly-thick turf and playability issues.

## **Results**

Establishing naturalized and native areas has helped Lonnie Poole Golf Course save more than 10 million gallons of water per year. Reduced fertility inputs have saved over \$7,000 per year – equivalent to \$156 per acre per year. Naturalized and native areas also create an appealing visual contrast and a natural aesthetic. They contribute to a unique golfing experience and have helped establish Lonnie Poole Golf Course as a leader in environmental stewardship.

During the initial grassing, many bunker islands and tongues were also planted with fine fescue, little bluestem and broomsedge. After several years, many of these areas were worn and bare from foot traffic or were overrun by invasive weeds. Erosion from bare areas contributed to bunker sand contamination and diminished bunker sand performance. Invasive weeds in bunker islands and tongues were thicker and less playable than the desired turf, creating pace-of-play issues and increased maintenance. During a recent bunker renovation, many of those bunker islands and tongues were converted to Zeon zoysiagrass because of its traffic and drought tolerance, low maintenance requirements and improved playability under low-maintenance conditions.