

Breeding and Evaluation of Kentucky Bluegrass, Tall Fescue,
and Perennial Ryegrass For Golf Turf Use

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Executive Summary

We are continuing an extensive program to collect, evaluate, enhance, and preserve turfgrass germplasm and to develop turfgrass cultivars with improved stress tolerance, greater pest resistance, increased persistence, better turf forming properties, and reduced maintenance requirements. Much of this work involves cooperation with scientists in other disciplines, continued contact with people throughout the turfgrass industry, and increasing cooperation with breeders and management specialists in the major seed producing regions. It includes numerous contributions by students and technicians. Training of students is an important part of our program.

NOT FOR PUBLICATION

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1. Germplasm collections were made from old turfs in Utah, New Jersey, Pennsylvania, and Michigan.
2. The first certified seed crops were harvested from Assure and Seville perennial ryegrasses; Winchester, Phoenix, Amigo, and Rebel, Jr. tall fescues; Alpine Kentucky bluegrass; Longfellow Chewings fescue; and SR 3000 hard fescue. Plans have been made to initiate limited commercial production of Shenandoah, Normarc 25, Hubbard 87, Montauk and Duke tall fescues; and Gettysburg and SR 4200 perennial ryegrasses. Promising experimental entries under consideration for possible seed increase include 2WDR, PJC, SMT, LDRF, and LDRD perennial ryegrasses; Southport, Belmont, and SR-5000 Chewings fescue; and Salem strong creeping red fescue. Germplasm obtained from the New Jersey Agricultural Experiment Station was used in the development of these turfgrasses.
3. Over 4,000 new turf evaluation plots of tall fescue and perennial ryegrass were established in turf trials at Adelphia, New Jersey. This makes a total of over 50,000 turf plots currently being evaluated in the turfgrass improvement program at Rutgers.
4. Nearly 200 entries of colonial bentgrass from New Zealand were established in turf tests at North Brunswick in addition to the "fairway" and "greens" tests received from the National Turfgrass Evaluation Program. The colonial bentgrasses came from Dr. William Rumball and are the result of the USGA turfgrass improvement program.
5. Buffalograsses received from the USGA program at the University of Nebraska were established in turf trials adjacent to collections made from old turfs in New Jersey.
6. We are expanding our programs to study a number of patch diseases causing damage to hard fescue, blue fescue, Chewings fescue, strong creeping red fescue, slender creeping red fescue, and Kentucky bluegrass.

7. Studies have been initiated to determine species relationships and germplasm resources available in the hard, blue, and sheeps fescues.

8. We continue to train students in the fields of turfgrass science and plant breeding. These students will be more capable and undoubtedly make greater contributions to science and to humankind than their professors.