

# *Production, Maintenance, and Evaluation of Triploid Interspecific Bermudagrass Hybrids for QTL Analysis*

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## Objectives:

1. Increase the size of the T574 x T89 mapping population by 100 or more triploid interspecific hybrids.
2. Evaluate the hybrids for characteristics important in turf improvement and provide the information to Dr. Paterson for association to the molecular map.

**Start Date:** 1999

**Project Duration:** ongoing

**Total Funding:** \$90,000

Hand pollinations of the *Cynodon transvaalensis*-T574 x *C. dactylon*-T89 cross were made in the spring of 2006. Crosses were harvested and the products of this cross were planted in the greenhouse in the spring of 2007. Progeny were transplanted to 5-cm pots, and then single plants were established in 2m x 2m plots (methyl bromide-fumigated soil) in the field in 2007.

It appears that we were able to produce about 20 new hybrids (these will be confirmed with flow cytometry in the fall of 2007. Plant samples will be provided to A. Paterson for the molecular study.

Two replications of the present 94 hybrids used for the molecular map, spaced on 1-meter centers, were established in 2005 and mowed at 9 mm in 2007.



The products of the cross between *C. transvaalensis*-T574 and *C. dactylon*-T89 are being propagated and established in field plots on 2-meter by 2-meter centers at the University of Georgia research facilities.



The interspecific triploid hybrids ranged in color from 1 to 3 ( $LSD_{0.05}=1.5$ ), in turf quality from 4 to 8.5 ( $LSD_{0.05}=1.8$ )

Each hybrid was rated on February 3, 2007 for color (5=red and 1=green) due to cold temperature and on August 24, 2007 for seedhead formation (9=most) and turf quality (9=best). The hybrids ranged in color from 1 to 3 ( $LSD_{0.05}=1.5$ ), in turf quality from 4 to 8.5 ( $LSD_{0.05}=1.8$ ), and seedheads 1 to 6 ( $LSD_{0.05}=1.2$ ).

## Summary Points

- Data on turf quality, plant color, and seedhead formation were collected on the first 94 hybrids used to develop a molecular map. All data collected on these hybrids up to this point have been forwarded to Dr. Andrew Paterson.
- New hybrids have been developed to add to the population for use in the genetic map.