

UNIVERSITY OF ARIZONA

Breeding and Development of Curly Mesquitegrass as a Desert Turf

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Curly mesquitegrass (*Hilaria belangeri*), similar in appearance to buffalograss, is being evaluated as a minimum input, low water requiring desert turfgrass. Thus far, the use of curly mesquitegrass as a seed established desert turfgrass appears promising. Research during 1990 identified substantial genetic variation in turf quality and reproductive traits, and continued to assess field performance of selected plant material to cultural practices. Other efforts concentrated on identifying additional superior turf type plants, establishing crossing blocks of these plants, and harvesting this seed to begin developing an improved 'turf-type' synthetic population.

The genetic components of turfgrass characters and seed production traits were determined in 1990. Most of the traits investigated can be considered as moderately to highly heritable. This indicates that rapid progress through recurrent selection can be made in improving turfgrass quality and seed production in this species.

The ongoing Cultural Practices Experiment reconfirmed the cutting requirement to maintain this species as a healthy turf. Poor color and overall quality of the uncut plots was evident throughout 1990. Mowing heights of 2 and 4 inches produced very dense turfs with complete ground cover.

In addition to the eight superior 'turf-type' selections made in 1989, 12 more selections were made in 1990. Selected plants from both years were increased and planted into eight crossing blocks for seed production. Eight harvests of seed occurred this season from August to October, and one more final harvest is anticipated. Multiple harvests of seed is a key feature in maximizing seed production of this species.