

IMPROVEMENT OF POA ANNUA & POA SUPINA FOR GOLF TURF

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Replicated plantings of 8 advanced selections were established as sods and sent for evaluation by cooperators at the Universities of Massachusetts, Ohio State, Nebraska-Lincoln, Texas A&M - Dallas Station, and Washington State - Puyallup Station. In addition, the University of Nebraska was furnished enough material of selection #117 for 576 3-inch plugs for a long term golf course experiment.

Reports of evaluation of the 8 selections from the golf course planting across the country indicate that most of the 8 selections are performing well across all environments. Most reports indicated some outstanding performers.

Progeny testing continued for heritability of desirable characteristics. Several of the 8 selections exhibit excellent heritability and uniformity of progeny from seed. Initial seed production plantings were harvested and indicated that most of the 8 advanced selections produced seed heads between 8 and 12 inches tall. This is considered within the range for mechanical harvest.

Seventy-five new materials were added to the program from Georgia, Wisconsin, North Carolina, Minnesota, Montana, Washington, Virginia, Ohio, Kentucky, Florida, South Carolina, New York, Tennessee, New Jersey, California and Indiana. Research continues on developing improved breeding techniques and in executing crosses to combine desirable characteristics within Poa annua and Poa supina. For the first time, six interspecific crosses between the two species have been accomplished. Seeds are currently being germinated and will be closely observed for heritability of desirable characteristics. Cytological studies will also be conducted on the seedlings.

Fifty additional crosses were accomplished between Poa annua selections that exhibit superior traits. Research indicates that sucrose and water alone offer the best media for floral pic culture of excised flowers for crossing. Preliminary investigation reveals that flogging maturing flowers may offer an easy aid to techniques for emasculation of flowers. If this is successful, it could dramatically reduce that work involved in accomplishing controlled crosses.

A computerized record system was developed and installed to document pedigrees and keep track of all breeding data. The record system currently accommodates over 1300 individual accessions under field and greenhouse evaluation and 8500 seed accessions as well as on-going breeding efforts.

Research indicated that Poa annua seed can absorb moisture, start to germinate, and be dried without killing the seed. In addition, several cycles of wetting and drying results in synchronized germination of virtually all of the viable seed within a 24 hour period.

Work for 1989-90 will continue to focus on vegetative evaluations and seed production of the 8 advanced selections as well as breeding and collection efforts.