Breeding bentgrasses for improvement of disease and herbicide resistance

S.S. Bughrara, .G. Vergara, Y. Wang and H. Zhao
Department of Crop and Soil Sciences

Controlled screening procedures against gray snow mold were developed to search for a resistant genotype from creeping bentgrass populations and plant introductions of *Agrostis*. We selected 20 creeping bentgrass genotypes from 890 samples taken from old Northern Michigan golf courses and identified 3 accessions of colonial bentgrasses from 40 plant introductions with potentially useful resistance to *T. incarnata.* The selected clones are currently genetically analyzed through DNA fingerprinting (AFLP analysis) to identify parents with wide genetic distance for hybridization. Future interest is to pyramid the resistance genes from different genetic background.

Interspecific hybridization between transgenic creeping bentgrasses and other bentgrasses are currently being investigated by assessing pollen viability and analyses of chromosome pairing in pollen mother cells during meiosis. The results are important for risk assessment and for breeding for herbicide resistance.