ASSESSING THE IMPACT OF GENE FLOW: EXTENSIVE RISK ASSESSMENTS DEMONSTRATE THAT GLYPHOSATE TOLERANT BENTGRASS GENE FLOW WILL HAVE NO SIGNIFICANT IMPACT. Eric K. Nelson, Douglas Cattani, Robert Harriman, Kevin Turner. The Scotts Company, 14111 Scottslawn Rd., Marysville, OH 43041

Creeping bentgrass (*Agrostis stolonifera*) and its relatives have been propagated and distributed in the US by seed and vegetative means for over 200 years due to their functional value for erosion control, wildlife habitat and forage, and more recently for recreation. Glyphosate tolerant bentgrasses (GTB) have been developed for golf course use and are currently being considered for deregulation by the USDA. The *cp4 epsps* transgene used to develop GTB is the same technology incorporated in deregulated Roundup Ready™ crops including alfalfa, canola, corn, cotton and soybeans planted on over 100 million acres in the US during 2005. Potential benefits and environmental impacts of GTB deregulation are being thoroughly examined. Once deregulated, GTB could provide many benefits to seed growers, golf course superintendents, golfers, and the environment. For example, GTB will simplify weed control and will provide for a dramatic reduction in application of other herbicides and fumigants used in attempts to control *Poa annua* (annual bluegrass, AB) and other weeds. Input reductions are expected in other turf maintenance chemistries (fungicides, nematicides, insecticides, growth regulators) and water necessary to sustain AB once it dominates a bentgrass turf and the manager can no longer afford to lose the AB due to pests and environmental stresses. Risk assessment research demonstrates that GTB (event ASR368) is not significantly different from existing bentgrass in its biological and adaptive characteristics throughout its life cycle. Therefore, creeping bentgrass gene flow by seed, vegetation and pollen will not be altered from their current status. Bentgrass is seldom a target for weed control in managed or unmanaged environments except in grass seed production areas. Whereas the Roundup Pro™ formulation of glyphosate currently promises only partial control of non-transgenic bentgrass and GTB is tolerant to glyphosate, GTB will not significantly impact bentgrass occurrence or current land management programs. Herbicide tolerance is considered an ecologically neutral trait with respect to persistence. If necessary, several glyphosate alternatives for bentgrass control in both upland and riparian environments are on lists approved by federal, state and non-profit organizations and efficacy of these alternatives has been verified by field and greenhouse research. Given the history and current state of bentgrass occurrence and use in North America, the knowledge gained through risk assessment research on GTB and the potential input reduction benefits of GTB, GTB should be deregulated for use by the turfgrass industry. Gene flow in *Agrostis* is a low frequency occurrence of a low impact event and plants can be controlled if desired. GTB's will not significantly impact potential *Agrostis* gene flow or plant control practices.