Tissue Culture and Transformation of TifSport and TifEagle Hybrid Bermudagrass. (C05-goldman114255-Poster)

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Abstract:

Tissue culture and biolistic based genetic transformation experiments were evaluated using two hybrid bermudagrass cultivars, TifEagle and TifSport, both triploid and male/female sterile. TifEagle is a greens type variety that provides a fast high quality putting surface. TifSport is a more versatile hybrid, used on fairways, athletic fields and lawns. Embryogenic tissue cultures were initiated from the node and immature inflorescence of TifEagle and TifSport, respectfully. In preliminary tissue culture experiments, plants regenerated from TifSport were true to type, whereas some plants regenerated from TifEagle contained somatic variation. A single bombardment using the BAR gene was successful at recovering 32 herbicide resistant plants. The target tissue was a composite of TifEagle and TifSport callus. All plants were derived from TifEagle tissue based on an AFLP analysis. Transformed plants were completely resistant to 500 mg/L AI Liberty which killed non-transformed control plants. A field trial is currently underway to evaluate stability, quality, and herbicide resistance, under practical mowing and management conditions.

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