Gunter, L. E., A. S. Black, S. Ratnayeke, G. A. Tuskan, and S. D. Wullschleger. 2003. Assessment of genetic similarity among ‘Alamo’ switchgrass seed lots using RAPD markers. Seed Sci. & Technol. 31:681–689.

Abstract:
An assessment of the genetic similarity represented in seed lots from alternate propagation sources of the bioenergy crop switchgrass (*Panicum virgatum* L.) is a valuable preliminary step in gaining an understanding of the factors influencing phenotypic variation that may occur at different planting sites. In this study, 38 molecular markers amplified by four RAPD primers were used to assess the genetic similarity of 383 genotypes representing eight commercially available sources of ‘Alamo’ switchgrass. Overall, there is >95% genetic similarity among all of the ‘Alamo’ sources surveyed with the 38 markers. Neighbor-joining analysis suggests that five of the sources share >98% of the markers and that some differentiation of genotypes may be related to geographical origin of seed production. Seed from two sources (‘Alamo’ A and S) obtained from a grower in the lower Midwest exhibited a slightly lower than average genetic similarity compared to Texas sources surveyed (96% vs. 98%). Our findings suggest that, in general, ‘Alamo’ seed lots from alternate sources are genetically similar. This does not exclude the potential for large phenotypic affects in traits associated with growth and yield of harvestable biomass.

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