# Utilization of SSR Markers to Determine Genetic Similarity and Heterotic Association in Helianthus Annuus. (C07-hu095529-Poster)

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## Abstract:

Ninety-six commercially important sunflower inbred lines representative of lines from Argentina, France and the United States were evaluated with 166 SSR loci. This pool of markers had an average marker heterozygosity of 42%, with a standard deviation of 23%. The minimum percent heterozygosity was 2% while the maximum was 85%. 768 alleles were identified for characterization of inbred lines. All lines but three had at least one heterozygous SSR. Genetic similarities were calculated using the Dice Similarity Coefficient, and ranged from a minimum of 0.41 to a maximum of 0.94. Both the unweighted pair-group method, arithmetic average and principal component analysis identified three major clusters, dividing the inbreds into Argentinean Males/North American Oilseed Males, North American Oilseed Females/South African Females and Argentinean females/Confection germplasm. The underlying structure is consistent with existing pedigree information and major heterotic groups, demonstrating the value of SSR markers for use in the classification of hybrids.

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