CHARACTERIZATION OF REDBAY (*PERSEA BORBONIA*) GSSR MARKERS

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Through Illumina HiSeq paired end sequencing, 20,046 genomic microstallite (gSSR) markers with PCR primers have been identified for redbay [*Persea borbonia (L.) Spreng*.]. This resource is the first molecular markers developed for the species, which is now being threatened by laurel wilt, a new, nonnative disease that is causing widespread mortality in redbay populations indigenous to the coastal regions of South Carolina, Georgia and Florida. These markers, when fully characterized, will be valuable in linkage map construction, molecular characterization of germplasm collections, and analysis of genetic diversity in redbay. To validate the effectiveness of these gSSR markers, 94 markers, chosen randomly, were evaluated in a group of 25 unrelated redbay trees from eastern South Carolina, most of which were located at least five miles apart. PCR amplification success rate was 92.8%, indicating high quality of the gSSR markers. Polymorphism values for these loci are being investigated with DNA fragment analysis by automated capillary electrophoresis.