

## PARTICIPATORY FOREST TREE IMPROVEMENT AND CONSERVATION

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University-Industry Cooperative Tree Improvement has been highly successful in the southern United States. Over nearly 60 years, three Cooperative programs have led the way in developing and deploying genetically improved planting stocks for loblolly (*Pinus taeda*) and slash pines (*P. elliottii*). Much lower levels of success have been achieved for species of lesser economic importance such as longleaf (*P. palustris*) and shortleaf pines (*P. echinata*) and the many southern hardwoods. For American chestnut (*Castanea dentata*) the American Chestnut Foundation's breeding program is finding success with a nearly 30 year sustained effort now beginning to yield putative disease resistance planting stock in numbers for operational testing. The program has relied on funding from individuals with a passion for returning chestnut to the forest and additional sources where and when available. TACF's program consists of a breeding farm in the central part of the American chestnut range that's responsible for early generation crossing and testing and a network of state chapters that handle later generations using local American chestnut germplasm for crossing and local environments for disease screening. In addition all entities are committed to developing seed orchards for the production of planting stock for their local areas. At the same time many other tree improvement programs have come and gone while the need for genetically improved trees of many species is increasing. Participatory plant breeding is a potential means for establishing and maintaining genetic improvement programs for species of intermediate economic value. Doing so will have a large overall economic impact and positive effect on our rural and urban environments. We will describe such a tree improvement approach for forest trees in the southeastern U.S. using longleaf pine as an example. It is hoped that the discussion will stimulate a collaborative effort to initiate such a program for longleaf pine and several other forest tree species.