



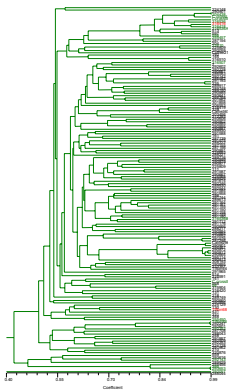
# Status of Plant Breeding for the USDA-ARS Crop Genetics and Breeding Research Unit at Tifton, Georgia



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**ABSTRACT**  
As of 1996 it was estimated that in the United States, 2205 science years were devoted to plant breeding with 706 of those at public institutions and 1499 by individuals in industry. These statistics represent a dramatic shift from thirty years ago when plant breeding was a predominantly public effort. The increase of the commercial sector has been largely attributed to changes in intellectual-property laws that introduced a legal framework for plant protection. Current statistical information to develop a clear understanding of the status of plant breeding in the United States is needed. The Crop Genetics and Breeding Research at Tifton Georgia is comprised of six scientists including four plant breeders, one plant pathologist, and one entomologist. The scope of breeding effort includes seven crop species (corn, peanut, pearl millet, rhizoma peanut, bermudagrass, bahiagrass, and napier grass), for four primary end uses (grain, forage, bioenergy, and turf), accomplished by 4.2 science years of effort annually. There have been eleven germplasm and seven cultivars releases in the last five years by unit scientists. Breeding science year efforts within the unit have generally remained stable but focus has shifted to include the application of MAS. As this is a federal institution very minimal time is devoted to breeding education, however some time is devoted to serving on graduate committees.



### Part I. Breeding efforts by crop

Crop Group	PYs	Releases in the past five years	
		Germplasm	Cultivars
Bahiagrass	0.2	2	1
Bermudagrass	.9	*	*
Corn	.7	4	*
Napiergrass	.1	*	*
Peanut	.8	5	4
Pearl millet	1.3	*	2
Rhizoma peanut	.2	*	*
<b>Total</b>	<b>4.2</b>	<b>11</b>	<b>7</b>

\*Four of six scientists on the team were hired in the last 5 years and have introduced new species or modified breeding goals and directions causing a delay/lack of releases.



### Part II. Breeding efforts by activity

Activity	PYs	%
(a) Plant Breeding Research	.75	18
(b) Germplasm Enhancement	1.55	37
(c) Cultivar Development	1.35	32
(d) Biotechnology Research and Development	.45	11
(e) Plant Breeding Education	.1	2
<b>Total</b>	<b>4.2</b>	<b>100</b>



### Parts III & IV. Recent Graduated and current graduate students enrollment & Job placement of recent graduates

One MS student now at Monsanto. Our unit leader feels that demand for breeders remains the same however scope and form have changed. In general however, our group believes that demand for breeders has decreased or changed to more molecular science due to industry consolidation and lack of university support for classical breeding.



### Part V. Plant breeding course offerings at your institution

Our team is from USDA-ARS and there fore does not have class offerings

### Part VI. Institutional philosophy, strengths, weaknesses, future plans, other comments

The published mission of our organization is: "ARS conducts research to develop and transfer solutions to agricultural problems of high national priority and provide information access and dissemination to: 1.ensure high-quality, safe food, and other agricultural products, 2.assess the nutritional needs of Americans, 3. sustain a competitive agricultural economy enhance the natural resource base and the environment, and 4.provide economic opportunities for rural citizens, communities, and society as a whole." This ideal is reflected to varying degree in all team members individual views, although how this is applied to individual research is much more PI specific. One of the major changes in future directions of the breeding programs related an interest to increase the molecular tool box for application to breeding work.

