

Plant Breeding at the University of Georgia

David Knauff, Horticulture Department



THE UNIVERSITY OF GEORGIA
COLLEGE OF AGRICULTURAL &
ENVIRONMENTAL SCIENCES

Breeding Effort by Crop

Crop Group	PYs	USDA PYs	Releases in the past seven years	
			Germplasm	Cultivars
Forage	1.1	1.5		24
Turf	2.05	0.5		6
Soybean	1.1		21	7
Peanut	1.8	1		7
Cotton	1.3			
Other oilseed	1.15			2
Corn	0.4	0.8		
Small grains	1.8			8
Other cereals	1.3	0.2		
Fruits and nuts	1.6			9
Vegetables	0.7			
Herbaceous ornamentals	1			36
Woody ornamentals	2.9			25
Germplasm preservation and enhancement		1		
Totals	18.2	5	21	124

Includes proposed contributions from two vacant positions in Horticulture (vegetable breeding and horticultural molecular genetics)

Breeding Effort by Activity

Activity	PY	%
Plant Breeding Research	2	13
Germplasm enhancement	1.1	13
Cultivar development	9.4	45
Biotechnology research and development	5.7	26
Plant breeding education	0.9	4
	19.10	100

Graduate Students in Plant Breeding

Graduate student	Graduated 2000- 2006	Current
MS domestic	6	7
MS international	2	1
PhD domestic	4	6
PhD international	5	11

Plant Breeding Curriculum

Curriculum proposal for an interdisciplinary graduate program at the University of Georgia that would award an M.S. and a Ph.D. degree in plant breeding has been submitted to the university for faculty approval.

The curriculum is modeled after the program offered at the University of Wisconsin. Students would be required to obtain a minimum of 15 academic semester credit hours in a distribution of subject areas related to plant breeding. The M.S. requires a course in plant breeding, statistics, and biochemistry or molecular genetics. The Ph.D. requires, in addition to courses in these subject areas, a course in genetics or cytogenetics. These areas include:

- Plant breeding
- Genetics and cytogenetics
- Plants and their environment
- Quantitative Genetics, Biometry, and Bioinformatics
- Biochemical and Molecular Genetics

Institutional Philosophy

The University of Georgia is strongly committed to plant breeding and cultivar development, as evidenced by the number and range of breeding programs currently supported. In addition, the university has actively sought to market cultivars developed by university researchers, and has instituted a program of royalty collection and distribution to support these efforts. Managed through the University of Georgia Research Foundation (UGARF), the amount of royalties placed on released cultivars are determined on a case-by-case basis.

Royalties

In 2006, the UGARF collected over \$5.1 million in cultivar royalties. All research programs designed to develop and release cultivars are eligible to compete for funding from the UGARF Research Fund. In the last several years over \$1 million has been distributed back to plant breeders to support cultivar development research.

Released cultivars are highlighted as 'Georgia Gems' on a university-based Web site at www.ovpr.uga.edu/georgiagems/.

Royalty distribution formula

First \$10,000 of accumulated net revenue

100% to Originator

Over \$10,000

25% to Originator

10% to Originator's Research Program

10% to Department/Unit

15% to UGARF Operations

40% to UGARF Research Fund