



Plant Breeding and Genetics at the University of Nebraska



Part I. Breeding efforts by crop

By Crop	PYs	Germplasm	Cultivars
Soybeans	2.50		14
Sorghum/Millet	1.80	33	1
Small Grains	1.35	4	12
Forages	2.00		6
Dry Beans	1.25	9	
Maize	1.45	14	2
Alternative Crop Breeder	0.75		
Ornamentals	0.46		6
Not Crop Specific	2.90		
Total	14.46	60	41

Part II. Breeding efforts by activity	PYs	%
a) Plant breeding research	3.50	18
b) Germplasm enhancement	2.59	14
c) Cultivar development	2.64	14
d) Biotechnology Research and Development	5.73	30
e) Plant breeding education	2.92	15
f) Extension	1.75	9
Total	19.13	100

Part IIIa. Past Students	M.S.		Ph.D.	
	Plant Breeding	Molecular Genetics	Plant Breeding	Molecular Genetics
International	4	4	13	6
Domestic	7	3	2	

Part IIIb. Current Students	M.S.		Ph.D.	
	Plant Breeding	Molecular Genetics	Plant Breeding	Molecular Genetics
International	1	3	9	7
Domestic	4		2	1

Part IV. Job placement of recent graduates:

- Companies (Monsanto, Pioneer, etc.)
- Universities (many returned home to be lecturers)
- National research organizations (USDA, NARS)
- Advanced degree programs and postdoctoral appointments.

Part V. Plant Breeding and Genetics Courses:

- Plant Breeding: Principles and Practice (2 cr. hr., undergrad.)
- Plant Molecular Biology (3 cr. hr.)
- Crop Genetic Engineering (1)*
- Crop and Weed Genetics (1)*
- Self-pollinated Crop Breeding (1)*
- Germplasm and Genes (1)*
- Cross-pollinated Crop Breeding (1)*
- Plant Genetics (2)
- Population Genetics (3)
- Insect Control by Host Plant Resistance (2)*
- Molecular Crop Improvement (2)
- Plant and Crop Response to Abiotic Stress (2)
- Pest Resistance Management (1)*

*taught via distance education and/or resident and distance education.

Part VI. Institutional Philosophy, strengths, weaknesses, future plans, other comments:

As a Plant Breeding and Genetics group we aspire to become the main provider of advanced plant genetics courses at our University, while maintaining a strong program in plant breeding. Our strengths include: applied plant breeding programs in numerous and diverse crops, a range of environments from high yielding, irrigated environments to high altitude, arid rainfed environments, excellent core facilities including one of the finest public plant transformation facilities in the world coupled with excellent transgenic field testing capabilities, excellent interactions with departments of Animal Science, Entomology, Food Science and Technology, Nutrition and Health Sciences, Plant Pathology, and Statistics, and the School of Biological Sciences, and a constituency that supports agricultural research. We also have considerable resources for distance education including credit and non-credit courses, as well as the award winning Plant and Soil Sciences eLibrary (<http://plantandsoil.unl.edu>). This library currently houses 97 lessons (8 in Spanish) and received 7.79 million hits from 169,992 unique visits representing 119 countries in the past year. Our weaknesses include: limited crop evolution and cytogenetics capabilities, the need for an additional advanced plant breeding course, and though many projects use molecular markers in their research, we do not have a core faculty for high throughput molecular markers.