

Plant Breeding Efforts at New Mexico State University

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Part I. Breeding efforts by crop

Crop Group	PYs	Releases in the past 5 years	
		Germplasm	Cultivars
Alfalfa	0.75	1	1
Chile pepper	0.75	0	4
Cotton	0.8	0	1
Onion	0.75	2	4
Peanut	1.0	0	0
Total	4.05	2	9



Part IV. Job placement of recent graduates

The demand for plant breeding graduates has remained steady or has increased over the last 5 years. We can easily place graduates in plant breeding positions. Employers are looking for graduates that have applied plant breeding experience, knowledge and use of molecular techniques, and are willing to work long hours in field settings.



Some recent graduates are working as:
 Research scientists with USDA-ARS
 Faculty members at public & private univ. in U.S. and international
 Postdoctoral researchers with U.S. univ.
 Graduate students in Ph.D. programs
 Plant breeders with commercial seed companies
 Breeders with private foundations

Part II. Breeding efforts by activity

Activity	PYs	%
(a) Plant Breeding Research	1.15	25
(b) Germplasm Enhancement	1.01	21
(c) Cultivar Development	1.38	30
(d) Biotechnology Research and Development	0.51	11
(e) Plant Breeding Education	0.60	13
Total	4.65	100



Part V. Plant breeding courses at NMSU

AGRO/HORT 462	Plant Breeding
AGRO/HORT 486	Intermediate Genetics
AGRO/HORT 506	Plant Genetics
AGRO/HORT 516	Molecular Analysis of Complex Traits
AGRO/HORT 609	Breeding for Plant Disease Resistance
AGRO/HORT 610	Advanced Crop Breeding
AGRO/HORT 670	Biometrical Genetics and Plant Breeding
AGRO/HORT 685	Plant Genetic Engineering

Part III. Recent graduates and current graduate student enrollment

Domestic		International	
M.S.	Ph.D.	M.S.	Ph.D.
Recent graduates			
5	2	5	7
Current			
3	2	4	4



QuickTime™ and a TIFF (Uncompressed) decoder are needed to see this picture.

Part VI. Institutional philosophy, strengths, weaknesses, future plans

Institutional philosophy

Current NMSU breeding programs support and are beneficial to New Mexico agricultural clientele groups.

Strengths

Commodity group and institutional support, cultivar development, cultivar utilization by industry, productivity, breeding curriculum, job placement of graduates.

Weaknesses

Decreasing financial and physical resources, lack of interest by students, limited financial support by commercial seed industry.

Future plans

Undergraduate major in Genetics, continue support for breeding efforts.

Impact of NMSU onion breeding program

27 cultivars released since 1981.
 95% of autumn-sown NM onion acreage is planted with NMSU cultivars.
 Major source of germplasm for commercial cultivars

Since 1999
 More than 36,000 lbs. of NuMex onion seed sold.
 NuMex onion seed sales value would be \$2.7 million.
 Farm-gate value of onions produced from this seed would be \$130 million.
 Retail value of these onions would be \$500 million.
 Money invested in program from federal, state, commodity groups, and industry for salaries and operations would be \$1.85 million.
 Return on investment based on farm gate value would be 6,900%.

