

State of New Mexico

Annual Report for Calendar Year 2004
to the W-6 Technical Committee

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During 2004 approximately 1456 accessions representing 61 genera were requested by 16 individuals. Eight of these individuals were affiliated with university plant breeding and molecular biology research programs. Two were affiliated with commercial industry. One was affiliated with a nonprofit research consortium and five were private collectors.

Mr. Joseph Simcox of the Rare Vegetable Seed Consortium was the largest New Mexico recipient of NPGS material during 2004. He received 1279 accessions, as detailed below for each specified genus: 7 *Abelmoschus*, 3 *Abutilon*, 2 *Anethum*, 32 *Arachis*, 2 *Basella*, 7 *Canavalia*, 4 *Carthamus*, 3 *Chenopodium*, 2 *Cicer*, 57 *Citrullus*, 6 *Clitoria*, 5 *Corchorus*, 5 *Coriandrum*, 4 *Crotalaria*, 22 *Cucumis*, 80 *Cucurbita*, 30 *Cyamopsis*, 1 *Cymbopogon*, 42 *Daucus*, 2 *Digitaria*, 26 *Eragrostis*, 6 *Fagopyrum*, 58 *Glycine*, 52 *Helianthus*, 8 *Hibiscus*, 3 *Lablab*, 26 *Lens*, 1 *Lespedeza*, 1 *Luffa*, 7 *Lupinus*, 1 *Melothria*, 3 *Momordica*, 48 *Oryza*, 1 *Peponium*, 163 *Phaseolus*, 23 *Pisum*, 2 *Psophocarpus*, 1 *Secale*, 4 *Sesbania*, 212 *Solanum*, 1 *Sphenostylis*, 8 *Strophostyles*, 1 *Tanacetum*, 15 *Triticum*, 2 *Vernonia*, 177 *Vigna*, and 112 accessions of *Zea*. These accessions are currently being evaluated in field and greenhouse trials for their suitability to arid southern environments including heat and cold tolerance, food quality, disease susceptibility, growth habit, and yield potential.

Dr. Jinfa Zhang (New Mexico State University, NMSU, cotton breeding program) requested 56 *Gossypium* accessions that are being utilized for: introgressing root-knot nematode resistance into Acala cotton germplasm; identifying DNA markers that are associated with root-knot nematode resistance; estimating genetic diversity among upland cotton cultivars; and evaluation of salt tolerance. The seedlot of SA1485 (Acala SJ-5) had no germination.

Mr. Lei E (NMSU alfalfa breeding program) received 5 *Medicago* accessions that are being evaluated for their breeding potential based on diallel analyses. All seed lots had acceptable germination.

Mr. Robert Moore, Mr. Fernando Solorzano, and Mr. Mark Seger (all from NMSU's Molecular Biology Program) received 4 *Glycine* accession for molecular biology research affiliated with nitrogen and carbon metabolism in leguminous crops.

Dr. Paul Bosland (NMSU chile breeding program) received 2 *Capsicum* accessions that will be utilized in a research program to identify molecular markers associated with cytoplasmic male sterility in pepper.

Mr. Larry Sims of New Mexico Highlands University received 11 *Lycopersicon esculentum* accessions for use in phytochrome research, and 1 *Cucumis*, 1 *Hordeum*, and 2 *Citrullus* accessions for evaluation of cold tolerance and photoperiod sensitivity.

Dr. Naveen Puppala (NMSU peanut breeding program) received 2 *Arachis* accessions that are being utilized as parents for introgressing desirable traits into peanut breeding lines.

Dr. Mick O'Neill of NMSU received 1 *Coix* accession for evaluation of adaptability to high desert ecosystems.

Ms. Jo Martin (private collector) received 1 *Begonia*, 1 *Belamcanda*, 2 *Echinacea*, 1 *Gossypium*, 3 *Petunia*, 1 *Pisum*, 1 *Solenostemon*, 1 *Thalictrum* accessions for evaluation of their adaptability to high desert environments.

No reports were received for the following: 6 *Ficus* accessions provided to Leon Deprest of Leon's Exotic Figs; 20 *Ficus* accessions provided to Albert and Charlene Gabaldon; 26 *Ficus* and 3 *Vitis* accessions provided to Raymond Diaz; 21 *Cucurbita* and 6 *Cucumis* accessions provided to Erica Renaud of Seeds of Change of the San Juan Pueblo.