ANNUAL REPORT OF COOPERATIVE REGIONAL PROJECTS

Supported by Allotments of the Regional Research Fund,
Hatch Act, as Amended August 11, 1955
January 1 to December 31, 1998

PROJECT: Regional Research Project S-009

Plant Genetic Resources Conservation and Utilization

COOPERATING AGENCIES AND PRINCIPAL LEADERS:

State Agricultural Experiment Station Representatives

AL	J. A. Mosjidis*	NC	H. T. Stalker* (Chair)
AR	T. E. Morelock*	OK	J. S. Kirby*
FL	K. H. Quesenberry*	PR	L. N. Aviles*
GA	W. D. Branch*	SC	B. B. Rhodes*
HA	Vacant	TN	D. L. Coffey*
KY	N. L. Taylor*	TX	F. M. Hons*
LA	D. LaBonte* (Secretary)	U.S.V.I.	T. W. Zimmerman
MS	C. E. Watson*	VA	R. E. Veilleux*

Administrative Advisor	GA	G. F. Arkin

U.S. Department of Agriculture

Area Director, ARS	R. G. Breeze
National Genetic Resources Program, ARS	P. K. Bretting
National Germplasm Resources Lab, ARS	A. K. Stoner*
National Seed Storage Lab, ARS	S. A. Eberhart
NCGR-Subtropical Horticultural, ARS	R. J. Schnell
NCGR-Tropical Fruit, ARS	F. T. Zee
Tropical Agricultural Res. Stn., ARS	R. Goenaga
Northern Regional Res. Center, ARS	T. Abbott
Cooperative State Res., Edu., and Ext. Serv.	M. A. Stanton
Natural Resources Conservation Service	E. D. Surrency

Plant Genetic Resources Conservation Unit
Cooperative ARS and SAES

Acting Research Leader/Coordinator	R. E. Lynch
Research Plant Pathologist	A. G. Gillaspie, Jr.
Research Horticulturist	R. L. Jarret
Curator, Agronomist	G. R. Lovell
Curator, Agronomist	J. B. Morris
Curator, Agronomist	R. N. Pittman

* Indicates a voting member of the Technical Committee

PROGRESS OF THE WORK AND PRINCIPAL ACCOMPLISHMENTS:

Genetic resources representing 718 new accessions were received, increasing the Unit holdings to 79,315. New introductions represented a broad range of seven families, twenty-four genera, and forty-six species introduced from sixteen countries. More than 3,300 regenerations were accomplished at Griffin or through cooperators across various sites. In response to 770 requests, 25,854 items (corms, in-vitro, plants, rhizomes, and seed) were distributed with 92% being supplied to domestic users. More than 7,200 accessions were backed up for long-term storage at the National Seed Storage Laboratory (NSSL). Overall 72.4 percent of the 79,315 accessions have been backed up at the NSSL. However, several of the germplasm collections are in need of substantial work to increase the accessions that are backed up at NSSL. In complement 494,333 records were created and 72,237 records were modified to enhance the GRIN database. This extensive database of accession-specific information has increased the effectiveness and usefulness of the germplasm to the scientific community.

Core collections for *Abelmoschus* and *Solanum melongena* were identified. More than 100 microsatellite genetic markers were isolated and characterized for use in characterizing *Citrullus* genetic diversity. A set of 15 SSR markers for *Sorghum* sp. and seven SSR markers for *Arachis hypogaea* were developed to better manage these collections. Genetic markers have been identified for other crops including bahia grass, sweet potato, pigeonpea, bermudagrass, cassava, and limonium. Molecular techniques have also been developed for pathogen (virus) detection and elimination in germplasm stored in the PGRCU. As an example, a RT-PCR detection method for cowpea mottle carmovirus, a very serious pathogen of cowpeas in Africa and a potential threat for the U. S. was developed that is much more sensitive than ELISA, is very specific, and should help assure that this pathogen is not introduced into the U. S. or other areas where it is not indigenous. Four new viruses or virus/host relationships in legumes were also characterized.

Both *Trifolium alexandrinum* and *T. resupinatum* (normally considered winter annuals) accessions have been regenerated during the spring and summer with production of

high quality seed. Through collaborative efforts, we discovered that 5% *Senna* spp. and Ditera applied as a soil amendment reduced nematode gall indices to zero. Thus, *Senna* could be used as a rotation crop in the southeastern U.S. for control of specific nematode populations which devastate many crops in the region.

Major accomplishments with vegetable crops include: characterization of retrotransposons in sweetpotato, evaluation of the use of SSR loci for germplasm characterization in sweetpotato, acquisition and molecular systematic characterization of two new species of *Citrullus*, synthesis of interspecific hybrids among *Citrullus* spp., submission of a plant exploration proposal for acquisition of *Capsicum* spp. in Argentina, and isolation and sequencing of microsatellite loci in watermelon and pepper.

A critical improvement was made to the infrastructure with the completion of the installation of a backup generator to run all cold storage rooms in the event of a power failure.

In collaboration with crop experts, evaluation studies were conducted on morphological and agronomic/horticultural traits in forage legumes, cucurbits, watermelon, peanuts, cowpeas, oil crops, grasses, sorghum, okra, and eggplant. Associated characterizations were conducted in all regenerations by all curators.

USEFULNESS OF FINDINGS:

Collaborative efforts among scientists at the regional repository, other federal laboratories, state agricultural experiment stations, and industry are mutually beneficial as sources of research information and products that are available for all customers. Through the efforts at the repository, broad genetic representation of crop plants and their weedy/wild relatives is maintained for ready access. The identification of desirable traits among accessions aid in crop improvement efforts to produce a higher quality product more efficiently with innate resistance to pathogens or insects and in a more environmentally friendly, sustainable manner. Information gained from cropping system studies of potential new crops may lead to greater diversification of agriculture in the southeastern United States. Furthermore, development of core collections and molecular markers to determine diversity/redundancy will assist in reducing costs of maintaining germplasm collections.

STATEMENT OF ACCOMPLISHMENTS

Over the past four years, more than 147,000 seed packets, cuttings, tissue culture, corms, and rhizomes were distributed to public- and private-sector scientists. Almost ninety percent of the distributions were made to researchers in the U.S. These requested and evaluated genetic resources included traits used for disease resistance, insect resistance, improved quality, and phytochemicals with useful therapeutic

properties in recently released lines of sorghum, peanut, watermelon, cowpea, grasses, pepper, and other commodities. Documentation of these desirable traits and other related characters can be accessed through the GRIN (Germplasm Resources Information Network).

WORK PLANNED FOR NEXT YEAR:

Continued emphasis will be placed on regeneration, backup, and documentation efforts. Molecular marker development research will focus on applications in the sorghum, peanut, sweetpotato, vegetable, and clover to determine diversity and redundancy in these germplasm collections . Pathology research will center on characterization and assay development for viruses of legumes and development of molecular techniques to eliminate viral diseases from the germplasm collection.

PUBLICATIONS:

See attachment.

APPROVED:

/s/ H. T. Stalker	3/10/99
Chair, Technical Committee	Date
/s/ G. F. Arkin	3/10/99
Administrative Advisor	Date

PUBLICATIONS

Alabama

Xie, C., S. Xu, and J. A. Mosjidis. 1997. Multistage selection indices for maximum genetic gain and economic efficiency in red clover. Euphytica 98:75-82.

Zhang, X. and J. A. Mosjidis. 1998. Rapid prediction of mating system of Vicia species. Crop Sci. 38:872-875.

Mosjidis, J. A., C. M. Owsley, M. S. Kirkland, and K. M. Rogers. 1998. 'AU Sunrise': new forage legume cultivars. In: Smith, R. (ed.) Proceedings of the Fifteenth Trifolium Conference, Madison, Wisconsin, June 10-12, 1998.

Mosjidis, J. A. 1998. 'AU Grazer': a grazing tolerant sericea lespedeza. In: Smith, R. (ed.) Proceedings of the Fifteenth Trifolium Conference, Madison, Wisconsin, June 10-12, 1998.

Xie, C. and J. A. Mosjidis. 1998. Linkage of isozymes and morphological traits in red clover. In: Smith, R. (ed.) Proceedings of the Fifteenth Trifolium Conference, Madison, Wisconsin, June 10-12, 1998.

Mosjidis, J. A. and K. Klingler. 1998. Cyanogenesis of common vetch accessions held by the U.S.N.P.G.S. Agronomy Abstracts. p. 158.

Arkansas

No publications submitted.

Florida

French, E. C. and G. M. Prine. 1998. Establishment of *Arachis glabrata* in highway medians. Abst. annual meeting of ASA, CSSA and SSSA held at Baltimore, MD, Oct. 18-22, 1998, p. 143.

Jank, L., and K. H. Quesenberry. 1998. Heritability of morphological characteristics in *Setaria sphacelata*. p. 75. *In* Agronomy Abstracts. ASA, Madison, WI.

Kouame, C. N., K. H. Quesenberry, D. S. Wofford and R. A. Dunn. 1998. Genetic diversity for root-knot nematode resistance in white clover and related species. Genet. Resour. & Crop Evol. 45:1-8.

Meerow, A. W. and F. Meyer. 1998. Alstroemeria 'Las Olas'PPAF, a semi-dwarf, tetraploid hybrid selection for hot climates. HortSci. 33: 758-759.

G. M. Prine and E. C. French. 1998. New forage grain and energy crops for Humid Lower South, USA. Abst. and Program of Conf. on New Crops and New Uses: Biodiversity and Agricultural Sustainability, held Nov. 8-11, 1998 at Phoenix, AZ, p. GC-4.

Prine, G. M. and D. L. Rockwood. 1998. Energy crop opportunities in Humid Lower South USA. Proc. Bioenergy 98 Conf. held at Madison, WI. Oct. 4-8, 1998. p. 1192-1199.

Prine, G. M. and D. L. Rockwood. 1998. Energy crops for Florida and Humid Lower South. Abst. 1998 annual meeting of ASA, CSSA and SSSA held at Baltimore, MD, Oct.. 18-22, 1998, p. 104.

Stricker, J. A., G. M. Prine and T. C. Riddle. 1998. Yield and estimated production costs for kenaf at two locations in Florida. Proc. First American Kenaf Society meeting held Feb. 26-27 at San Antonio, TX p. 111-119.

Taylor, N. L., R. E. Mundell, and K. H. Quesenberry. 1998. Collection, distribution, and characterization of American clover species. p. 3-4. *In* Craig Grau (ed.) Proceedings of the 15th Trifolium Conference, Madison, Wisconsin. 10-12 June 1998.

Georgia

No publications submitted.

Hawaii

No publications submitted.

Kentucky

No publications submitted.

Louisiana

No publications submitted.

Mississippi

Philley, H. W. , C. E. Watson, Jr., J. V. Krans, J. M. Goatley, Jr., V. L. Maddox, and M. Tomaso-Peterson. 1998. Inheritance of cold tolerance in St. Augustinegrass. Crop Sci. 38:451-454.

Hama, B. H., L. M. Gourley, and C. E. Watson. 1998. Inheritance of sorghum yield components in two diverse locations. American Society of Agronomy Annual Meeting,

Baltimore, MD. 18-22 Oct. 1998. Agron. Abstr. p.81.

Hama, B. H., C. E. Watson, and L. M. Gourley. 1998. Inheritance of sorghum seed weathering resistance in two locations. American Society of Agronomy Annual Meeting, Baltimore, MD. 18-22 Oct. 1998. Agron. Abstr. p.82.

Williams, W. P., F. M. Davis, and P. M. Buckley. 1998. Resistance to Southwestern Corn Borer in Corn after anthesis. Crop Sci. 38:1514-1517.

Williams, W. P., and G. L. Windham. 1998. Registration of root-knot nematode resistant maize germplasm lines Mp709, Mp710, Mp711, and Mp712. Crop Sci. 38:563.

Meredith, W. R., Jr. 1998. Registration of eight sub-okra, semi-smooth, and nectariless near-isolines of DES 119 cotton germplasm. Crop Sci. 38:1725.

Heitholt, J. J., and W. R. Meredith, Jr. 1998. Yield, flowering, and leaf area index of okra-leaf and normal-leaf cotton isolines. Crop Sci. 38:643-648.

Halimi, E. S., D. E. Rowe, and R. G. Pratt. 1998. Responses of alfalfa to stem-tip inoculation with five isolates of *Sclerotinia trifolium*. Crop Sci. 38:1179-1182.

McCarty, J. C., Jr., J. N. Jenkins, and J. Zhu. 1998. Introgression of day-neutral genes in primitive cotton accessions: I. Genetic variances and correlations. Crop Sci. 38:1425-1428.

McCarty, J. C., Jr., J. N. Jenkins, and J. Zhu. 1998. Introgression of day-neutral genes in primitive cotton accessions: II. Predicted genetic effects. Crop Sci. 38:1428-1431.

Hartwig, E. E., T. C. Kilen, and L. D. Young. 1998. Registration of ‘Pace’ soybean. Crop Sci. 38:1399.

Kilen, T. C., and L. Lambert. 1998. Genetic control of insect resistance in soybean germplasm PI 417061. Crop Sci. 38:652-654.

Kilen, T. C., and L. D. Young. 1998. Registration of D94-6041 soybean germplasm line resistant to Phytophthora rot and soybean cyst nematode races 3 and 14. Crop Sci. 38:567.

Gourley, L. M., C. E. Watson, and J. D. Axtell. 1997. Food grain quality sorghum inbreds released as germplasm. Inter. Sorghum Millets Newslett. 38:59.

Gourley, L. M., C. E. Watson, and J. D. Axtell. 1997. Brown-midrib silage sorghum and sudangrass inbreds released as germplasm. Inter. Sorghum Millets Newslett. 38:58.

Gourley, L. M., C. E. Watson, and J. D. Axtell. 1997. Grain sorghum inbreds tolerant to tropical soils released as germplasm. Inter. Sorghum Millets Newslett. 38:93-94.

North Carolina

No publications submitted.

Oklahoma

Baird, J. H., D. L. Martin, C. M. Taliaferro, M. E. Peyton, and N. Tisserat. 1998. Bermudagrass resistance to spring dead spot caused by *Ophiosphaerella herpotricha*. Plant Disease 82:771-774.

Assefa, S., C. M. Taliaferro, M. P. Anderson, B. G. Delos Reyes and R. M. Edwards. 1998. Diversity among *Cynodon* accessions and taxa based on DNA amplification fingerprinting. Genome (In press).

Anderson, M. P, C. M. Taliaferro, M. Gatschet, B. Reyes, S. Assefa. 1998. Molecular identification of cold acclimation genes in, and phylogenetic relationships among, *Cynodon* species. p 115-134 *In* Sticklen, M. B. and M. P, Kenna (Eds.), Recent cellular and molecular genetics approaches to turfgrass improvement, A turfgrass biotechnology workshop, Aug. 11-13, 1996, East Lansing, MI.

Baltensperger, A. A., C. M. Taliaferro, and C. Rogers. 1998. Seeded bermudagrasses gain respect, quality. P. 59-64 *In* Golf Course Management, Golf Course Superintendents Assoc. Amer., Lawrence, KS.

Porter, D. R., Mornhinweg, D. W. and Webster, J. A. 1998. Insect resistance in barley germplasm, pp. 51-61. In: S.L. Clement and S. S. Quisenberry (eds.) Global plant genetic resources for insect-resistant crops. CRC Press, Boca Raton, FL.

Porter, D. R., Baker, C. A. and Webster, J. A. 1998. Inheritance of Russian wheat aphid resistance in PI 140207 spring wheat. Plant Breed. 117:293-294.

Curvetto, R. O. and Webster, J. A. 1998. Resistance mechanisms of PI 240675 rye to biotype F greenbug. Southwest. Entomol. 23:97-103.

Brewer, M. J., Struttmann, J. M and Mornhinweg, D. W. 1998. Aphelinus albipodus (Hymenoptera: Aphelinidae) and Diaeretiella rapae (Hymenoptera: Braconidae) parasitism on Diuraphis noxia (Homoptera: Aphididae) infesting barley plants differing in plant resistance to aphids. Biol. Control 11:255-261.

Baker, C. A., Porter, D. R. and Webster, J. A. 1998. Inheritance and categories of Russian wheat aphid (Homoptera: Aphididae) resistance in STARS-225217, a red winter wheat, pp. 148-157. In: S. S. Quisenberry and F. B. Peairs (eds.) Response

model for an introduced pest--the Russian wheat aphid. Thomas Say Pub. Entomol. ESA, Lanham, MD.

Brewer, M. J., Struttman, J. M., Oswald, C. J. II, and Mornhinweg, D. W. 1998. Russian wheat aphid (Homoptera: Aphididae) and parasitoids (Hymenoptera: Braconidae and Aphelinidae) found on field-grown barley lines varying in susceptibility to Russian wheat aphid, pp. 258-269. In: S. S. Quisenberry and F. B. Peairs (eds.) Response model for an introduced pest--the Russian wheat aphid. Thomas Say Pub. Entomol. ESA, Lanham, MD.

Burd, J. D., Butts, R. A., Elliott, N. C. and Shufran, K. A. 1998. Seasonal development, overwintering, biology, and host plant interactions of Russian wheat aphid (Homoptera: Aphididae) in North America, pp. 65-99. In: S. S. Quisenberry and F. B. Peairs (eds.) Response model for an introduced pest--the Russian wheat aphid. Thomas Say Pub. Entomol. ESA, Lanham, MD.

Puerto Rico

No publications submitted.

South Carolina

No publications submitted.

Tennessee

No publications.

Texas

Abdel-Momen, S. M., C. E. Simpson, and J. L. Starr. 1998. Resistance of interspecific *Arachis* breeding lines to *Meloidogyne javanica* and an undescribed *Meloidogyne* species. J. Nematology 30:341-346.

Burson, B. L., and M. A. Hussey. 1998. Cytology of *Paspalum malacophyllum* and its relationship to *P. juergensii* and *P. Dilatatum*. Intl. J. Plant Sci. 158:153-159.

Burson, B. L., M. A. Hussey, and G. S. Shafer. 1998. Time of pollination and 2n+2 fertilization in apomictic buffelgrass. Agron. Abstr. p.78.

Burson, B. L., M. A. Hussey, and B. C. Venuto. 1998. Yield, quality, and persistence of promising new dallisgrass biotypes. South. Branch Am. Soc. Agron. Abstr. p.9.

Crasta, O. R., W. Xu, D. T. Rosenow, J. E. Mullet, and H. T. Nguyen. 1998. Mapping of post-flowering drought resistance traits in grain sorghum: association of QTLs

influencing premature senescence and maturity. Molec. Gen. Genetics (In Press).

Dahlberg, J. A., D. T. Rosenow, G. C. Peterson, and L. E. Clark. 1998. Release of 50 partially converted sorghum bulks from the Sorghum Conversion Program. Intl. Sorghum Millet Newsletter ISMN 38:38-41.

Dahlberg, J. A., D. T. Rosenow, G. C. Peterson, L. E. Clark, F. R. Miller, A. Sotomayor-Rios, A. J. Hamburger, P. Madera-Torres, A. Quiles-Belen, and C. A. Woodfin. 1998. Registration of 40 converted sorghum germplasms. Crop Sci. 38:564-565.

El-Zik, K. M., and P. M. Thaxton. 1998. Notice of release of twelve multi-adversity resistant (MAR-6) germplasm lines of upland cotton. Proc. Beltwide Cotton Conf. 50:601-606.

El-Zik, K. M., and P. M. Thaxton. 1998. Registration of five glabrous multi-adversity resistant (MAR-6) gemplasm lines of upland cotton. Crop Sci. 38:1729.

El-Zik, K. M., and P. M. Thaxton. 1998. Registration of seven pubescent multi-adversity resistant (MAR-6) germplasm lines of upland cotton. Crop Sci. 38:1730.

Jessup, R. W., B. L. Burson, A. H. Paterson, Y. W. Wang, and M. A. Hussey. 1998. A detailed RFLP map of apomictic buffelgrass. Agron. Abstr. p.72.

Nelin, M. 1998. “New Chemistry”,Nematode Resistance. The Peanut Grower 10(4):21.

Quero, A. R., B. L. Burson, and M. A. Hussey. 1998. Heterosis for yield and quality in *Pennisetum* interspecific hybrids. Agron. Abstr. p.72.

Rodriquez-Herrera, R., W. L. Rooney, R. D. Waniska, D. T. Rosenow, and R. A. Frederiksen. 1998. Path analysis for grain mold resistance in sorghum. Agron. Abstr. p.80.

Rosenow, D. T., J. A. Dahlberg, G. C. Peterson, S. B. Coulibaly, A Toure, H. F. W. Rattunde, and J. C. Chantereau. 1998. Characterization of the Mali Sorghum Collection. Agron. Abstr. p.163.

Simpson, C. E. 1998. *Arachis praecox*: eighteen chromosomes present challenges for introgression of early maturity genes. Proc. Am. Peanut Res. Ed. Soc. 30:(In Press).

Simpson, C. E. 1998. 1997 Uniform peanut performance test results. *In* W.D. Branch (ed.). Georgia Coastal Plain Exp. Stn. UGA/CPES Res. Progress Rpt. No.4-98.

Simpson, C. E., and J. L. Starr. 1998. Resistance to root-knot nematodes in peanut. The Texas Peanut Producer 27:9.

Singh, A. K., J. Smartt, C. E. Simpson, and S. N. Raina. 1998. Genetic variation vis-a-vis molecular polymorphism in groundnut, *Arachis hypogaea* L. Genetic Resources Crop Evol. 45:119-126.

Smith, O. D., and C. E. Simpson. 1998. Peanut variety “Tamrun 98" approved for release. The Texas Peanut Producer 27:12.

Smith, O. D., and C. E. Simpson. 1998. Runner variety and advanced lines tests. The Texas Peanut Producer 27:13.

Smith, O. D., C. E. Simpson, and M. A. Black. 1998. Registration of Tamrun 96 runner peanut. Crop Sci. 38:1403.

Smith, O. D., C. E. Simpson, M. A. Black, and B. A. Bessler. 1998. Registration of Tamrun 96 peanut. Crop Sci. 38:1401.

Starr, J. L., and C. E. Simpson. 1998. Resistance to root-knot nematodes in TP262-3-5, a candidate for release as a nematode-resistant cultivar. Proc. Am. Peanut Res. Ed. Soc. 30:(In Press).

Starr, J. L., and C. W. Smith. 1998. Registrations of three root-knot nematode resistant germplasm lines of upland cotton. Crop Sci. 39:(In Press).

Thaxton, P. M., K. M. El-Zik, and T. Dusek. 1998. Development of MAR cotton germplasm with morphological mutant traits. Proc. Beltwide Cotton Conf. 50:557-561.

Toure, A., K. Traore, A. Bengaly, J. F. Scheuring, D. T. Rosenow, and L. W. Rooney. 1998. The potential of local cultivars in sorghum improvement in Mali. African Crop Sci. J. 6:1-7.

Vietor, D. M., W. L. Rooney, D. T. Rosenow, and R. D. Powell. 1998. Carbon partitioning in stay-green sorghum cultivars under water stress. Agron. Abstr. p.92.

Yancy, C. H., Jr. 1998. Nematode resistance close - It’s not immunity, but it’s not bad. Peanut Farmer 34(3):19-23.

Virginia

Hilu, K. W. and L. Sharova. 1998. Characterization of 10kDa Prolamin Genes in Phyllostachys aurea Riv. (Bambusoideae, Poaceae). Amer. J. Bot. 85: 1033-1037.

Hilu, K. W., L. A. Alice, and H. W, Zhang. 1998. A phylogeny of Poaceae and subfamily Chloridoideae based on chloroplast DNA matK sequences. Amer. J. Bot. 85: 135.

Hilu, K. W. and L. A. Alice. 1998. A phylogeny based on matK sequences of subfamily Chloridoideae. Abstracts of Monocot II, p. 28, Royal Botanic Garden, Sydney.

USDA-Plant Genetic Resources Conservation Unit

Dean, R. E., Dahlberg, J. A., Hopkins, M. S., Mitchell, S. E., and Kresovich, S. 1998. Genetic redundancy and diversity among .... sorghum collection as assessed with simple sequence repeat (SSR) markers. Crop Sci. (In press).

Gillaspie, A. G., Jr., Hajimorad, M. R., and Ghabrial, S. A.. 1998. Characterization of a severe strain of cucumber mosaic cucumovirus seedborne in cowpea. Plant Dis. 82:419-422.

Gillaspie, A. G., Jr., Hopkins, M. S., Pinnow, D. L., and Jordan, R. L.1998. Characteristics of a potyvirus of the bean yellow mosaic virus subgroup in *Sesbania speciosa* germplasm. Plant Dis. 82:807-810.

Gillaspie, A. G., Jr. and Ghabrial, S. A. 1998. First report of peanut stunt cucumovirus naturally infecting *Desmodium* sp. Plant Dis. 82:1402.

Gillaspie, A. G., Jr., Mitchell, S. E., Stuart, G. W., and Bozarth, R. F. 1998. RT-PCR method for detection of cowpea mottle carmovirus in *Vigna* germ plasm. Phytopathology 88 (Supplement):S32. (Abstract).

Gillaspie, A. G., Jr., Pappu, H. R., Jain, R. K., Rey, M. E., Hopkins, M. S., Pinnow, D. L., and Morris, J. B. 1998. Characteristics of latent, seedborne bean common mosaic potyvirus in *Cyamopsis tetragonoloba* (L.) Taubert. Phytopathology 88 (Supplement):S125. (Abstract).

Gillaspie, Jr., A. G., Pappu, H. R., Jain, R. K., Rey, M. E., Hopkins, M. S., Pinnow, D. L. and Morris, J.B.. 1998. Characteristics of a latent potyvirus seedborne in guar and of guar green-sterile virus. Plant Dis. 7:765-770.

Greene, S. L. and Morris, J. B. 1998. Surveying the global conservation of a crop gene pool: An example using clover. Agron. Abstr. 90:162.

Hopkins, M. S., Casa, A. M., Wang, T., Mitchell, S. E., Dean, R. E., Kochert, G. D., and Kresovich, S. 1998. Discovery ..... of polymorphic ..... SSRs in cultivated peanut (*Arachis hypogaea* L.). Crop Sci. (In press).

Jarret, R. L., Liu, Z. W. and Webster, R. W. 1998. Genetic diversity among Paspalum spp. as determined by RFLPs. Euphytica 104:119-125.

Morris, J. B. 1998. Special-purpose legume genetic resources conserved for industrial

and pharmaceutical use. New Crops and New Uses: Biodiversity and Agricultural Sustainability Abstr. P. 117.

Morris, J. B. and Greene, S. L. 1998. Conserving genetic resources: An example using clover. Agron. Abstr. 90:161.

Smith, J. S., Kresovich, S., Hopkins, M. S., Mitchell, S. E., Dean, R. E., Woodman, W. L., Lee, M., and Porter, K. 1998. Genetic diversity ..... sorghum ..... assessed with simple sequence repeats. Crop Sci. (In press).

Walker, J. T., Morris, J. B., and Melin, J. B. 1998. Nematicidal activity of plant tissue as soil amendments compared with Ditera. Phytopath. 88:S92.