'95

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, 1995

1. **PROJECT: Regional Research Project S-009**

Plant Genetic Resources Conservation and Utilization

2. **COOPERATING AGENCIES AND PRINCIPAL INVESTIGATORS:**

State Agricultural Experiment Station Representatives

AL	J.A. Mosjidis*	NC	W.T. Fike*
AR	T.E. Morelock*	OK	J. Kirby*
FL	G.M. Prine*	PR	R.V. Colon*
GA	W.D. Branch*	SC	B.B. Rhodes*
HA	P.J. Ito*	TN	D.L. Coffey*
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LA	D. LaBonte* (Chair)	VA	R.E. Veilleux*
MS	C.E. Watson*		

Administrative Advisor — G.F. Arkin

U.S. Department of Agriculture

Co-Administrative Advisor, ARS	R.G. Breeze
National Genetic Resources Program, ARS	H.L. Shands
National Germplasm Resources Lab, ARS	A.K. Stoner*
National Seed Storage Lab, ARS	S.A. Eberhart
NCGR-Subtropical Horticultural Res. Stn., ARS	R.J. Schnell
NCGR-Tropical Fruit, ARS	F.T. Zee
Tropical Agricultural Res. Stn., ARS	F. Vazquez
Northern Regional Res. Center, ARS	T. Abbott
Cooperative State Res., Edu., and Ext. Serv.	D.A. Sleper
Soil Conservation Service	H.W. Everett*

Plant Genetic Resources Conservation Unit,
Cooperative ARS and SAES

Regional Coordinator	S. Kresovich
Research Plant Pathologist	A.G. Gillaspie
Research Horticulturist	R.L. Jarret
Curator, Agronomist	G.R. Lovell
Curator, Agronomist	R.N. Pittman
Curator, Agronomist	J.B. Morris

* Indicates voting member of the Technical Committee

3. PROGRESS OF WORK AND PRINCIPAL FINDINGS:

Genetic resources representing over 1,200 new accessions were received, increasing the Unit holdings to in excess of 85,000. New introductions represented a broad range of genera and species. Over 7,500 seed regenerations were accomplished at Griffin or through cooperators across various sites. In response to approximately 1,000 requests, more than 35,000 distributions were made (approximately 90% were supplied to domestic users). Over 500 oligomers were distributed as molecular markers to profile ('type') accessions and map useful characteristics. In complement, an enhanced effort on database development of the Germplasm Resources Information Network (GRIN) occurred in 1995. More detail on these particular service activities can be obtained directly from the research leader, curators, and/or GRIN database manager.

In collaboration with recognized crop experts, evaluation studies were conducted on: (1) morphological and agronomic/horticultural traits in forage legumes, grasses, sorghum, peanut, watermelon, and pepper; (2) nematode resistance in sweet potato; (3) tomato spotted wilt and other viruses in grain legumes; and (4) watermelon mosaic virus resistance in watermelon. Associated characterizations were conducted in all regenerations by all curators.

Several unidentified viruses have been detected in the 1995 legume regeneration plots and work continues with host range, serology, electron microscopy, and electrophoretic techniques to identify these isolates. Once pathogens are characterized, efforts to sanitize collections is undertaken.

Various genetic analysis techniques, *i.e.*, RFLPs, RAPDs, AFLPs, and SSRs, are being applied to establish genetic identity, relatedness, and structure of accessions held in *ex situ* plant genetic resources repositories in the U.S. (work focused on holdings from Griffin, Mayaguez, Ames, Miami, and Geneva). At present, over 100 SSRs primer pairs are available for use in the crops such as sorghum, peanut, maize, watermelon, sweet potato, pepper, apple, and grape. Based on our experiences to date, we have improved efficiency, simplified protocols, increased the level of automation, and decreased the unit cost of each assay. This genetic analysis is conducted in collaboration with Pioneer Hi-Bred International, Perkin-Elmer, Linkage Genetics, and Sequana Therapeutics.

Significant effort went to infrastructure improvement during FY95. A -20C seed storage facility was obtained with additional support from the South Atlantic Area Office. Computer hardware, software, and peripherals were purchased for installation as part of the local area network. To support controlled pollination efforts, 100 large cages were acquired and will be used for FY96 regenerations of vegetables and annual forage legumes. To support genetic analysis work, the Unit received additional support for the purchase of a DNA sequencer/fragment analyzer and computer workstation for data handling and analysis.

4. USEFULNESS OF FINDINGS:

Results obtained via collaborative efforts among scientists at the regional repository, federal laboratories, state agricultural experiment stations, and industry are mutually beneficial as sources of information and products for all. Through the efforts at the repository, broad genetic representation of crop plants and their weedy/wild relatives is maintained for ready access. Cooperators identifying desirable traits among accessions aid in crop improvement efforts to produce a higher quality product more efficiently and in an environmentally safe manner. Information gained from cropping system studies of potential new crops may lead to greater diversification of agriculture in the southeastern United States.

5. WORK PLANNED FOR NEXT YEAR:

Operational priorities for 1996 include significantly expanded seed regeneration, back-up, and documentation activities, particularly for peanut, sorghum, forage grasses, and vegetables. In complement, genetics and plant pathology efforts will be directed to support curatorial functions.

A continued effort to improve Unit infrastructure also is planned. It is expected that the -20C seed storage facility and the local area network will be completed and operational in 1996. We also expect to access more land and additional pollination cages for regeneration efforts.

6. PUBLICATIONS ISSUED OR MANUSCRIPTS APPROVED DURING THE YEAR:

A list of approved manuscripts, theses, and miscellaneous reports addressing plant genetic resources conservation and utilization in the southeastern U.S. is attached as Appendix I.

7. **APPROVED:**

Chair, Technical Committee	3/7/96 **Date**
Administrative Adviser	3/8/96 **Date**

Publications Related to Evaluation and use of Plant Germplasm in the S-9 Region, 1995

ALABAMA

Qiu, J., J.A. Mosjidis, and J.C. Williams. 1995. Variability for temperature of germination in sericea lespedza germplasm. Crop Science 35:237-241.

Surrency, D.S, C.M. Owsley, M.S. Kirkland, D.V. McCracken, P.L. Raymer, W.L. Hargrove, J.L. Day, and J.A. Mosjidis. 1995. Registration of 'Americus' hairy vetch. Crop Science 35:1222.

Zhang, X. and J.A. Mosjidis. 1995. Breeding system of several Vicia species. Crop Science 35:1200-1202.

Mosjidis, J.A., C.M. Owsley, M.S. Kirkland, and K.M. Rogers. 1995. Registration of 'AU EarlyCover' Hairy Vetch. Crop Science 35:1509.

Mosjidis, J.A. and X. Zhang. 1992. Vicia Breeding System. Proceedings of the 48th Southern Pasture and Forage Crop Improvement Conference. Auburn, Alabama, April, 21, 1992, pp. 21-29.

Sakhanokho, H. 1995. Genotype x environment interactions in red clover (Trifolium pratense L.). M. Sci. Thesis Auburn University, Auburn.

Xie, C. and J.A. Mosjidis. 1995. Influence of sample size on the estimation of genetic parameters in a red clover population. Agronomy Abstracts. p. 92.

Mosjidis, J.A. and C. Xie. 1995. Sampling errors and confidence intervals of genotypic and phenotypic correlations in a red clover population. Agronomy Abstracts. p. 92-93.

ARKANSAS

No publications.

FLORIDA

Prine, G.M., J.A. Stricker, D.L. Anderson and W.R. Windham. 1995. Chemical composition of biomass from tall perennial tropical grasses. Proceedings Second Biomass Conference of Americas: Energy, Environment, Agriculture and Industry, Portland, OR, August 21-24. p. 278-287.

Prine, G.M., K.R. Woodard and T.V. Cuñilio. 1994. Leucaena and tall grasses as energy crops in humid lower South USA. Proceedings Sixth National Bioenergy Conference--Bioenergy 94--Using Biofuels for a Better Environment, Reno/Sparks, NV, October 2-6, 1994. Vol. 2:681-688.

Espaillat, J.R., E.C. French, S.H. West, D.J. Mitchell, R.T. McSorley, and G.M. Prine. 1995. Assessment and management of a soil-borne disease complex of sage and lavender. Agronomy Abstracts. 1995 Annual Meeting ASA, CSSA, and SSSA at St. Louis, MO. October 29 to November 2, 1995. p. 127.

Prine, G.M. 1995. Pigeonpea, potential grain legume crop for Florida. Florida Scientist 58(1):3.

Cunilio, T.V. and G.M. Prine, 1995. Leucaena as a short rotation woody bioenergy crop. Proc. Soil Crop Sci. Soc. Fla. 54:44-48.

Prine, G.M. 1995. Field evaluation of crown rust in annual and perennial ryegrasses. Proc. Soil Crop Sci. Soc. Fla. 54:16-23.

GEORGIA

No publications.

HAWAII

No publications.

KENTUCKY

Taylor, N.L. 1995. Characterization of the United States germplasm collection of zigzag clover (Trifolium medium L.) Genet. Res. Crop Evol. 42:43-47.

Taylor, N.L. 1995. Registration of three genetic marker stocks for red clover: TP-RC, TP-LS, and PT-MC. Crop Sci. 35:1241.

Taylor, N.L., S.A. Ghabrial, G.A. Pederson, and M.R. McLaughlin. 1995. Quantification of yield benefits from incorporation of virus resistant white clover germplasm into grass legume systems. Plant Dis. 79:1057-1061.

Taylor, N.L. and S.A. Ghabrial. 1995. Registration of 19-L38-1472, a powdery mildew and virus resistant red clover germplasm. Crop Sci. 35:1721.

LOUISIANA

No publications.

MISSISSIPPI

Hovermale, C.H. 1995. Effect of date of planting on four varieties of kenaf. Mississippi Agric. For. Exp. Stn. Res. Rep. 20(9):1-6.

Kamau, C.K., L.M. Nduulu, L.M. Gourley, and C.E. Watson. 1995. Phosphorous utilization of acid-tolerant and intolerant sorghum genotypes. American Society of Agronomy Annual Meeting. St. Louis, MO. 29 Oct. - 3 Nov. 1995. Agronomy Abstr. p. 80.

McPherson, G.R., J.N. Jenkins, J.C. McCarty and C.E. Watson, 1995. Combining ability analysis of root-knot nematode resistance in cotton. Crop Sci. 35:373-375.

M'Ragwa, L.R.F., C.E. Watson, Jr., and L.M. Gourley. 1995. Selection response for seedling root length and coleoptile length in pearl millet. Crop Sci. 35:1032-1036.

M'Ragwa, L.R.F. and C.E. Watson, Jr. 1995. Registration of 'KAT/PM-2' pearl millet. Crop Sci. 35:1504.

Nelson, L.R., T.D. Phillips, and C.E. Watson. 1995. Plant breeding for improved production in annual ryegrass. American Society of Agronomy Annual Meeting. St. Louis, MO. 29 Oct. - 3 Nov. 1995. Agron. Abstr. p. 125.

Nduulu, L., C.E. Watson, W.J. Drapala, and L.M. Gourley. 1995. Diallel analysis of sweet corn inbreds introgressed with pest resistant field corn germplasm. American Society of Agronomy Annual Meeting. St. Louis, Mo. 29 Oct. - 3 Nov. 1995. Agron. Abstr. p. 81.

Odouri, C.O.A. 1995. Effects of divergent selection for anthesis date on agronomic characteristics of annual ryegrass. M.S. thesis, Mississippi State University. p. 75.

Odouri, C.O.A., C.E. Watson, and L.M. Gourley, 1995. Effects of divergent selection for anthesis date on agronmic characteristics of annual ryegrass. American Society of Agronomy Annual Meeting. St. Louis, MO. 29 Oct. - 3 Nov. 1995. Agron. Abstr. p. 80

Okora, J.O. 1995. Inheritance of the seedling root fluorescence trait and its relationship to botanical traits of annual and perennial ryegrass. M.S. thesis, Mississippi State University. 70p.

Okora, J.O., C.E. Watson, and L.M. Gourley, 1995. Botanical characteristics of fluorescent and non-fluorescent ryegrasses. American Society of Agronomy Annual Meeting. St. Louis, MO 29 Oct. - 3 Nov. 1995. Agron. Abstr. p. 81.

Ouma, J.P., L.M. Gourley, and C.E. Watson. 1995. Inheritance of chilling tolerance in grain sorghum during reproductive phase. American Society of Agronomy Annual Meeting. St. Louis, MO. 29 Oct - 3 Nov. 1995. Agron. Abstr. p. 80.

Pederson, G.A., and G.L. Windham. 1995. Registration of MSNR4 root-knot nematode resistant white clover germplasm. Crop Sci. 35:1234-1235.

Philley, H.W., C.E. Watson, Jr., J.V. Krans, J.M. Goatley, Jr., and F.B. Matta. 1995. Differential thermal analysis of St. Augustine grass. HortScience 30:1388-1389.

Saadan, H.M., L.M. Gourley, and C.E. Watson. 1995. Inheritance of manganese tolerance in sorghum. p. 52-61. In S.Z. Mukuru and S.B. King (ed.), Eighth EARSAM Regional Workshop on sorghum and Millets, Wad Medani, Sudan. 30 Oct. - 5 Nov. 1992. ICRISAT, Patancheru 502 324, Andhra Pradesh, India.

Shappley, Z.W., J.N. Jenkins, C.E. Watson, and B. Tang. 1995. Use of RFLP's in predicting agronomic performance. p. 531. In D.A. Richter and J. Armour (ed.), Proc. Beltwide Cotton Conf., San Antonio, TX. 4-7 Jan. 1995. National Cotton Council, Memphis, TN.

Villaroel, D., T.C. Kilen, T.P. Wallace, C.E. Watson, Jr., and F.B. Matta. 1995. Inheritance of a long juvenile trait in soybean [Glycine max (L.) Merr.]. Proc. Mississippi Acad. Sci. 40(2):9-11.

Watson, C.E., V.M. Zake, L.M. Gourley, and J. Zhu. 1995. Genetic correlations among acid-soil tolerant and intolerant genotypes. American Society of Agronomy Annual Meeting. St. Louis, MO. 29 Oct. - 3 Nov. 1995. Agron. Abstr. p. 86.

NORTH CAROLINA

No publications.

OKLAHOMA

Baker, C.A., J.A. Webster, and D.R. Porter. 1995. Inheritance and mechanisms of Russian wheat aphid (RWA) resistance in wheat PI 245462. Agron. Abstr., Am. Soc. Agron. p. 88.

Mornhinweg, D.W., D.R. Porter, and J.A. Webster. 1995. Registration of STARS-9301B barley germplasm resistant to Russian wheat aphid. Crop Sci. 35:602.

PUERTO RICO

Gonzalez-Velez, A. and I.B. de Caloni. 1995. Evaluacion sensorial de los cultivares de name Binugas y Gunung (Dioscorrea alata) cosechados a distintos meses de la siembra. (Res. note) J. Agric. Univ. PR. 79-85-88.

Martinez, S.L. 1995. Evaluacion de germplasma de guanabana. In Proceedings of Foro sobre el cultivo, produccion y procesamiento de guanabana, nispero y quenepa. University of Puerto Rico at Ponce, June 17, 1994.

Brunner-Fulton, B. 1995. Efecto de la poda de brotes laterales sobre el comportamiento de la papaya. In Proceedings of the 21th Annual Meeting-Sociedad puertorriquena de ciencias agricolas. Guayanilla, P.R. Nov. 10, 1995.

Ortiz, C.E. , A. Gonzalez, L.E. Rivera and R. Velez-Colon. 1995. Comportamiento de repollo en zonas ecologicas y practicas de manejo contrastantes. In Proceedings of the 21th Annual Meeting Sociedad puertorriquena de ciencias agricolas. Guayanilla, P.R. Nov. 10, 1995.

Roman, F., A. Gonzalez, and P. Marquez. 1995. Performance of three citrus cultivars on five rootstocks at Isabela and Corozal. In Proceedings of the 21th Annual Meeting Sociedad puertorriquena de ciencias agricolas. Guayanilla, P.R. Nov. 10, 1995.

SOUTH CAROLINA

Farnham, M.W. and K.D. Elsey. 1995. Recognition of Brassica oleracea L. resistance against the silverleaf whitefly. HortScience 30:343-347.

Rhodes, B. and X. Zhang. 1995. Gene List of Watermelon: 1995 Cucurbit Genetics Cooperative Rept. 18:69-84.

Thomas, C.E. and E.I. Jourdain. 1995. Evaluation of muskmelon plant introductions for resistance to downy mildew, 1988-1989, Part V. Biol. & Cult. Tests for Cont. of Plant Dis. 10:136.

TENNESSEE

No publications.

TEXAS

Burson, B.L. 1995. Genome relationship and reproductive behavior of intraspecific Paspalum dilatatum hybrids: yellow-anthered x uruguaiana. Int. J. Plant Sci. 156:326-331.

Grichar, W.J., D.C. Sestak, and A.J. Jaks. 1995. Annual clover production at Yoakum, Texas - 1993. p. 10-13. In Forage Research in Texas, 1994. CPR-5252. TX Agric. Exp. Stn. College Station, TX.

Marshall, D., L.R. Nelson, and B. Tunali. 1993. The occurrence of Acremonium and other endophytic fungi in the indigenous wild cereals of Turkey. In Proceedings of the Second International Symposium on Acremonium/grass interactions. Ed. Hume, D.E., Latch, G.C.M., and Easton, H.S. p. 8-10.

Nelson, L.R., D. Marshall, and B. Tunali. 1993. Exploration for fungal endophyte in Lolium and other grass species of Central Turkey. In Proceedings of the Second International Symposium on Acremonium/grass interactions. Ed. Hume, D.E., Latch, G.C.M., and Easton, H.S. p. 11-13.

Ouedrago, M., O.D. Smith, C.E. Simpson, and D.H. Smith. 1995. Leafspot reaction and yield of nineteen interspecific peanut lines. Peanut Science. Accepted.

Smith, O.D. and C.E. Simpson. 1995. Selection of peanut cultivars. Chap. 3 pp.19-22. In Melouk, H.A. and Shokes, F.M. (eds.) Peanut Health Management. APS PRESS. Amer. Phytopath. Soc. St. Paul, MN. USA.

Starr, J.L., C.E. Simpson, and T.A. Lee, Jr., 1995. Resistance to Meloidogyne arenaria in advanced breeding lines of peanut. Peanut Science 22:59-61.

Stalker, H.T. and C.E. Simpson. 1995. Germplasm Resources in Arachis. Chapter 2. In H.E. Pattee and H.T. Stalker (eds.) Advances in Peanut Science. pp. 619. Am. Peanut Res. and Educ. Soc., Inc. Stillwater, OK.

Tischler, C.R. and B.L. Burson, 1995. Evaluating different bahiagrass cytotypes for heat tolerance and leaf epicuticular wax content. Euphytica 84:229-235.

Valles, J.F.M., C.E. Simpson, and V.R. Rao. 1994. Case Study-Collection of Wild Species of Arachis. Chapter 30. In Germplasm Collection, Preservation, Evaluation, and Utilization. Published by the International Board for Plant Genetic Resources, FAO, Rome, Italy. IN PRESS.

VIRGINIA

No publications.

PLANT GENETIC RESOURCES CONSERVATION UNIT

Kresovich, S., A.K. Szewc-McFadden, S.M. Bliek, and J.R. McFerson. 1995. Abundance and characterization of simple sequence repeats (SSRs) isolated from a size-fractionated genomic library of Brassica napus L. (rapeseed). Theor. Appl. Genet. 91:206-211.

Liu, Z.W., R.L. Jarret, S. Kresovich, and R.R. Duncan. 1995. Characterization and analysis of simple sequence repeat (SSR) loci in seashore paspalum (Paspalum vaginatum Swartz). Theor. Appl. Genet. 91:47-52.

Gillaspie, Jr., A.G., M.S. Hopkins, D.L. Pinnow, and R.O. Hampton. 1995. Seedborne viruses in preintroduction cowpea seed lots and establishment of virus-free accessions. Plant Disease 79:388-391.

Gillaspie, Jr., A.G.and J.M. Wright. 1995. Resistance of Citrullus lanatus germplasm to watermelon mosaic virus 2 strains. Phytopathology Abstr. 85:51.

Wilkinson, R.E. and J.J. Roberts. 1995. Gibberellic acid analogs modification of epicuticular wax. pp. 453-455. In J.C. Kader and P. Mazliak (eds.) Plant Lipid Metabolism, Kluwer Acad. Publ.

Roberts, J.J., B.M. Cunfer, and B. Padgett. 1995. Diseases. In J.L. Day, P.L. Raymer and A.E. Coy (eds.) 1994-95 Small Grains Performance Tests. The Univ. of GA., Agric. Expt. Sta. Res. Rpt. #636.

Roelfs, A.P., D.L. Long, and J.J. Roberts. 1995. Races of Puccinia graminis in the United States during 1993. Plant Disease 79:969-972.

Long, D.L., J.J. Roberts, K.J. Leonard, and D.V. McVey. 1995. The role of the USDA-ARS Cereal Rust Laboratory virulence surveys. Phytopathology 85:1168.

NATIONAL GERMPLASM RESOURCES LAB

No publications.

NATIONAL SEED STORAGE LABORATORY

No publications.

NCGR-TROPICAL FRUIT

Zee, F., M. Munekata, and P.J. Ito. 1995. The Rediscovery of 'Noel's Special' Passion Fruit. HortScience 30(5) I098.

Zee, F. 1995. A Tropical Grafting Method. Hawaiian Grown Tree Crops Journal. Vol III(2) 14.

Zee, F. 1995. Bud Forcing in Newly Bud-grafted Rambutan. Hawaiian Grown Tree Crops Journal. Vol. III(3) p. 9, 14.

Zee, F. 1995. FactSheet - Rambutan. Electronic Bulletin. New Crops Center, Purdue University. Indianapolis, Indiana. (On World Wide Net. 3/28/95).

Zee, F. 1995. FactSheet - Pili nut. Electronic Bulletin. New Crops Center, Purdue University, Indianapolis, Indiana (On WWW 3/28/95).

Zee, F., M. Aradhya, and R. Manshardt. 1995. Identification of lychee cultivars by isozyme fingerprinting. Proceedings 4th Annual Hawaii Tropical Fruit Growers Conference - 1994, 38-39.

Zee, F., M.K. Aradhya, and R.M. Manshardt. 1995. Identification of lychee cultivars by isozyme fingerprinting. Proceedings - Hawaii Agriculture: Positioning for Growth, April 1995. Univ. Hawaii, CTAHR., 112-113.

Aradhya, M.K., F. Zee, and R.M. Manshardt. 1995. Isozyme variation and differentiation in lychee (Litchi chinensis Sonn.). Scientia Horticulturae, 21-35.

Aradhya, M.K., F. Zee, and R.M. Manshardt. 1995. Genetic variability in Nephelium. Proceedings - Hawaii Agriculture: Positioning for Growth, April 1995. Univ. Hawaii, CTAHR., 106-107.

Zee, F., K.M. Aradhya, and R.M. Manshardt. 1995. Isozyme Variation in lychee (Litchi chinensis Sonn.). HortScience. 30(4):796. Abstr.

Aradhya, K.M., F. Zee, and R.M. Manshardt. 1995. Genetic diversity in Nelphelium. HortScience. 30(4):795. Abstr.

Morshidi, M., R.M. Manshardt, and F. Zee. 1995. Isozyme variability in wild and cultivated Carica papaya. HortScience 30(4):809. Abstr.

SUBTROPICAL HORTICULTURE RESEARCH STATION

Schnell, R.J., C.M. Ronning, and R.J. Knight. 1995. Identification of cultivars and validation of genetic relationships in Mangifera indica L. using RAPD markers. Theoretical and Applied Genetics. 90:269-274.

Ronning, C.M., R.J. Schnell, and D.N. Kuhn. 1995. Inheritance of Random Amplified Polymorphic DNA (RAPD) Markers in Theobroma cacao L. J. Amer. Soc. Hort. Sci. 120(4):681-686.

Ronning, C.M., R.J. Schnell, and S. Gazit. 1995. Use of Random Amplified Polymorphic DNA (RAPDs) to Identify Annona Cultivars. J. Amer. Soc. Hort. Sci. 120(5):726-729.

Knight, Jr.,R.J., J.A. Payne, R.J. Schnell, and A.A. Amis. 1995. 'Byron Beauty', An Ornamental Passion Vine for the Temperate Zone. HortScience 30(5):1112.

Hennessey, M.K., R.J. Knight, Jr., and R.J. Schell. 1995. Antibiosis to Caribbean fruit fly in avocado germ plasm. HortScience 30(5):1061-1062.

Hennessey, M.K., R.J. Knight, Jr., and R.J. Schell. 1995. Antibiosis to Caribbean Fruit Fly (Diptera:Tephritidae) immature stages in Carambola Germplasm. Florida Entomologist Vol. 78 #2 354-357.

Mohamed-Yassen, Y., S.A. Barringer, R.J. Schnell, and W.E. Splittstoesser. 1995. In vitro shoot proliferation and propagation of guave (Psidium guajava L.) from germinated seedlings. Plant Cell Reports 14:525-528.

NORTHERN REGIONAL RESEARCH CENTER

No publications.

TROPICAL AGRICULTURE RESEARCH STATION

Rivera-Amador, E. and Sotomayor-Rios, A. 1995. Ploidy Variation and Induction of Flowering in the ARS Xanthosoma Collection at Mayaguez, Puerto Rico. Agronomy Abstracts.

Torres-Cardona, S., A. Sotomayor-Rios, and C. Torres. 1995. Contributions of the USDA-ARS Winter Nursery Program to U.S. Agriculture. Agronomy Abstracts.

USDA-SOIL CONSERVATION SERVICE

No publications.

USDA-CSREES

No publications.