

7/10/53

ANNUAL REPORT - JANUARY 1, 1953 - December 31, 1953

SOUTHERN REGIONAL PROJECT S-9

and

PRESERVATION OF GERMPASM

COOPERATING AGENCIES AND PRINCIPAL LEADERS

<u>State Agricultural Experiment Stations</u>	<u>Representative</u>
Alabama	W. R. Langford
Arkansas	R. L. Thurman
Florida	F. H. Hull
Georgia	O. E. Sell
Kentucky	E. M. Fergus
Louisiana	J. C. Miller
Mississippi	H. W. Bennett
North Carolina	F. D. Cochran
Oklahoma	H. F. Murphy
Puerto Rico	Jose Muratti
South Carolina	J. A. Martin
Tennessee	J. K. Underwood
Texas	R. G. Reeves
Virginia	T. J. Smith
 <u>U. S. Department of Agriculture</u>	
Section of Plant Introduction	C. O. Erlanson
Agricultural Research Service, U. S. D. A.	W. H. Hodge
Soil Conservation Service	Grover Brown

Regional Headquarters - Cooperative with Agricultural Research Service,
U. S. D. A., and the Georgia Experiment Station

Primary Plant Introduction Station
Experiment, Georgia

Edwin James,
Coordinator

Office of Experiment Stations - Agricultural Research Service

F. D. Fromme
C. L. Lefebvre

Regional Administrative Advisor

R. D. Lewis
Texas Agr. Exp. Sta.

NATURE OF WORK AND PRINCIPAL RESULTS OF THE YEAR

Regional Project S-9 is cooperative between the states of the Southern Region, Puerto Rico, and the Section of Plant Introduction, Agricultural Research Service, U. S. D. A. wherein the Primary Station at the Georgia Experiment Station has the responsibility for the increase, evaluation and distribution of plant introductions provided by the Section of Plant Introduction through their explorations and foreign exchange programs.

Ten states in the Region have state-supported projects in cooperation with Regional Project S-9 and are listed in a section following. In addition, the Primary Station has contract arrangements with experiment stations in Florida, Puerto Rico, South Carolina, Texas, and Virginia for the increase and evaluation of accessions which are more advantageously grown elsewhere than at the Primary Station because of climatic conditions or interested personnel specializing in the crops grown under such arrangements.

Primary Station

During the year, facilities at the Primary Station have been improved through the building of a tool shed, paving in the greenhouse and the purchase of a new tractor and equipment. A station-wagon type of vehicle has also been purchased for the travel of the coordinator. A germinator has been acquired and the personnel is now in the process of running spot germination tests on every tenth accession placed in storage since the establishment of the Primary Station in 1949.

A total of 2,187 new accessions were received at the Primary Station during the year and 1,135 have been evaluated and catalogued, thus becoming available to experiment station workers. Increases obtained during the summer season of 1953 not yet catalogued will be included in the next annual report. Accessions received, increased and distributed in the Region are shown by crop classes in the following table:

Accessions Received, Catalogued and Distributed
by the Primary Station During 1953

Crop Classes	Field Crops & Grasses	Legumes	Vegetable Crops	Miscellaneous Crops	Totals
Number Received	1,064	397	611	115	2,187
Number Increased	119	488	404	124	1,135
<u>Distribution by States</u>					
Alabama	6	5	6	39	56
Arkansas	59	0	23	15	107
Florida	514	247	92	59	1,012
Georgia	333	12	63	63	471
Kentucky	15	39	2	0	56
Louisiana	1	2	306	52	361
Mississippi	13	4	699	31	747
North Carolina	13	19	802	35	869
Oklahoma	302	286	99	56	743
Puerto Rico	193	56	29	91	374
South Carolina	12	20	553	167	752
Tennessee	6	205	78	26	315
Texas	537	291	203	83	1,114
Virginia	44	42	213	32	331
Outside Region	475	202	550	19	1,246
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Totals Distributed	2,638	1,430	3,718	768	8,554
<hr/> <u>USED IN SOUTHERN REGION</u> <hr/>					<hr/> 7,308 <hr/>

Of the above total of 7,308 accessions used by the states in the Southern Region, 1,459 accessions, principally sweet potatoes from the exploration of Dr. J. H. Miller and Dr. D. S. Correll in the West Indies, were sent direct to cooperators by the Division of Plant Exploration and Introduction. Screening of this collection is now in process. Included in the above total also are 909 accessions furnished by the North Central Region Primary Station. The balance of 6,186 accessions constitute the largest distribution by the Southern Region Primary Station since its initiation in 1949.

Activities by State

Alabama. No supporting project. Received 56 accessions, 39 of which were ornamentals. Further screening of okra introductions received in 1952, six of which showed low nematode infestation. Publication of paper in Phytopathology concerning the nature of tobacco mosaic and tobacco etch resistance in capsicums 152225 and 152333.

Arkansas. Project - Investigations with New Crops. One hundred and seven introductions received, mainly field crops and grasses. Sorghum introduction 181076 being used in breeding program as a possible crop. Cowpea numbers 124600, 145198, 152195, 152197, 179554 and 180494 showing cercospera resistance, and two cucumbers, 164816 and 171604 being used in breeding programs. Cynodon magennisii 184339 being distributed to branch stations with a view toward future release. Selection work is continuing with castor beans as a potential new crop for Arkansas.

Florida. No supporting project. Received 1,012 accessions and currently increasing and evaluating under contract subtropical grasses, legumes, corn and phaseolus species. Forage plant testing is being carried out at several locations in the state. Tomato variety Manalucie, reported in Florida Circular 559 and released in 1953, has in its pedigree a number of L. hirsutum and L. pimpinellifolium lines with one hirsutum line carrying P. I. No. 126445. The Truck Crops Station also reports tomato number 183692 as having a high degree of resistance to tobacco etch and 115201 to phoma rot. Vigna number 189146 is also being used in the breeding program at the Main Station. Several legumes in first year of test appear promising at the Leesburg Station. Detailed reports on these are deferred pending further tests. Digitaria valida 161436, tested since 1950, shows value as a high yielding summer grass for silage or pasture.

Georgia. Project - The Introduction, Testing and Multiplication of New and Useful Plants of Potential Value for Industrial and Other Uses. A total of 471 accessions were received during the past year with particular emphasis on forage grasses and legumes. The Coastal Plains Station is actively screening all Cynodon, Paspalum and some Pennisetum species. Additional selection work is being done on okra introductions numbers 164925 and 165008, which showed low wilt infection during 1951 and 1952; others being used in the okra breeding program are 124399, 171662, 174000-01 and 183025. Seed sufficient to plant 300-400 acres of an ergot immune Bahai grass has been produced in order to provide for wider use in the coastal plains. Crosses are being made to transfer the cold hardiness of lupine number 177456 into higher yielding selections. The Athens Station found corn introductions numbers 162703 and 185665 of sufficient value to use in the development of unbred lines.

Kentucky. Project - Introduction, Multiplication, Preservation, and Determination of Potential Value of New Plants and Plant Species for Industrial and Other Purposes, and for the Preservation of Valuable Germplasm of Economic Plants. Received 56 accessions, mostly forage legumes to be used in new legume project.

Louisiana. Project - Introduction and Testing of New Crops. Special attention is being given to the screening of a large number of sweet potato introductions which account for about 300 of the 361 introductions received. All Allium introductions are being tested in order to find resistance to mildew. One okra introduction (number not reported) of value is being crossed on green podded varieties to obtain a variety better suited to the freezing trade.

Mississippi. No supporting project. Of 747 accessions received, approximately 700 were sweet potato accessions now being screened. All English pea introductions received since the initiation of the Cooperative Program have been screened for ascochyta resistance with negative results.

North Carolina. Project - New Plants Investigations. Received 869 accessions during the year with particular activity in vegetable crops including onions, beans, sweet potatoes, tomatoes and cucumber. All Rubus introductions are immediately included in observational plantings. Other species being tested include corn, peanuts, and medicagos. The introductions reported to be of value in the breeding programs at North Carolina include seven beans, three tomatoes, two sweet potatoes, two cucumbers, three cantaloupes, one peanut, four corns and 12 rubus. Some of the rubus introductions have been in the breeding program since 1928-38 but half have entered tests since 1947.

Oklahoma. Project - Introduction and Evaluation of New Crops for Oklahoma. Special attention given to testing grasses and legumes which account for 588 of the 743 accessions received. In addition to two large nurseries at the Main Station, additional testing work is being done at the Roberts Noble Foundation at Ardmore. Sorghum numbers 152709 and 179503 are being used in crosses. Number 152709, when immature, has a bitter seed coat which is an excellent bird repellent. The latter number is a broom corn which retains a desirable green color when mature.

Puerto Rico. Project - Introduction and Evaluation of New Plants for Industrial and Other Purposes and the Preservation of Germplasm of Economic Plants. Received 374 accessions over half of which were grasses, several of which have showed enough promise to be placed in replicated clipping tests. Continued testing is required to determine their overall adaptability. The Insular and Federal Stations both cooperated in the evaluation and increase of subtropical grasses and legumes. A number of tropical sorghums at the Federal Station are receiving further attention as possible silage crops.

South Carolina. Project - Breeding of Disease Resistant Sesame Adapted to Mechanical Production. Continued cooperation in the increase and evaluation of sesame, peppers, and okra. Selection work with sesame is continuing with advanced selections R44, R47, C323, and C329, resulting from a multiple cross of 35 lines, showing considerable promise. Selections from Cyperus number 184949 have been increased and will enter into replicated tests. Cynodon number 184339 has been increased for replicated trials with the purpose of possible release as a lawn grass. Eight Capsicum introductions received in 1953 have sufficient value for breeding lines or as ornamentals. The Truck Crops Station is currently using three previously unreported cucumber introductions in their breeding program. One Vigna has also been used in crosses to obtain mildew resistance but is temporarily halted until a means of overcoming mosaic susceptibility can be found. The Edista Station has found cantaloupe number 183307 the only line to live through to frost free of disease.

The U. S. Vegetable Breeding Laboratory at Charleston cooperates with the Primary Station and have found that three cabbage introductions have sufficient mildew resistance to be used in crosses on commercial types.

Tennessee. Project - Evaluation of New Plants. Two thirds of 315 accessions received by Tennessee are legumes which are entering a new legume breeding project. Testing work is being done also on Hordeum and Phalaris species which show some promise. Selection work is being continued from the progenies of Rubus 197477. Many Lycopersicon introductions have been screened for resistance to Buckeye rot and blight. Some crosses are being made using resistant introductions.

Texas. Project - Introduction, Multiplication, Preservation, and Determination of Potential Value of New Plants for Industrial and Other Purposes and for the Preservation of Valuable Germplasm of Economic Value. State-wide testing absorbed 1,114 accessions during 1953 with greatest activity in forage grasses and legumes. Forty six introductions showed sufficient promise for further testing for use in breeding programs. These are listed separately in tabular form under application of benefits. In cooperation with the Section of Plant Introduction, over 2,000 clones and seed collections of native grass species in the Southwest and northern parts of Mexico have been made by members of the station personnel as a basis for drouth and heat resistance and recovery ability.

Virginia. No supporting project. Cooperates with the Primary Station by increasing and evaluating cantaloupes, five of which are reported to have special value for breeding purposes.

Application of Benefits

A summary of promising introductions reported in 1953 is presented in the attached table. A few of these received only mention in the 1952 report. Many which now appear to have promise may later be discarded as presently unknown limiting factors may arise.

Technical Committee

The S-9 Technical Committee met in Baton Rouge on March 5-6 and reviewed the progress of the project to date. The various members also reported on the progress of projects or plant introduction work in their respective states. Reports were also given by C. O. Erlanson and W. H. Hodge.

The budget for 1953 was discussed and approved with the recommendation that the coordinator be authorized to spend up to 10 percent of the 963 allocation for contractual arrangements in the Region for the increase and evaluation of introductions better suited to areas other than the Primary Station.

The committee decided to request that the National Coordinating Committee recommend the following Explorations:

1. Collection of ipomeas in the West Indies.
2. Collection of domestic grasses and legumes in the Southwest and northern Mexico.
3. Exploration for foreign forage plants.
4. Collection of avocado stocks.

The first phase of the ipomea collection was completed during the spring of 1953 through the exploration in Cuba and Puerto Rico by D. S. Correll of the Section of Plant Introduction, Agricultural Research Service, U. S. D. A. and J. C. Miller, Horticulture Department, Louisiana Experiment Station. Several hundred collections were made during this exploration, many of which are already in the hands of sweet potato breeders in the South.

Members of the staff of the Texas Station, with assistance by the Section of Plant Introduction began the collection of domestic forage plants during the summer of 1953. Approximately 2,000 collections have already been made. The Primary Station is contracting with the Texas Station for the initial evaluation and increase of these accessions.

The Texas Station has a collection of cold resistant avocados underway. Introductions from this collection are being tested at the Weslaco Substation.

Work Planned for Next Year

Increase and evaluation work both at the Primary Station and under contract at various states will be continued. Germination tests on older accessions will be expanded and re-increases obtained on those accessions which are dropping to a danger point in viability.

Additional equipment for seed processing is planned and also field implements for soil fumigation for the control of nematodes. New spraying and dusting equipment is also contemplated.

The collection of domestic grasses and legumes will be continued during 1954 through explorations into New Mexico, West Texas, Arizona and northern Mexico.

Questionnaires are now in the hands of all cooperating personnel at the various experiment stations soliciting information on "pay-off" introductions which have entered into breeding programs or from which selections are being made. From the information thus obtained a printed progress bulletin on Regional Project S-9 is planned.

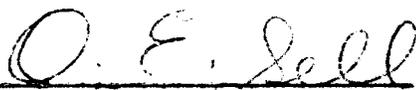
Publications Issued or Manuscripts Prepared During the Year

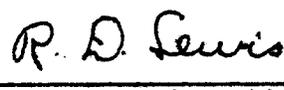
Eleven seed lists representing increases obtained during the 1952 and 1953 growing seasons have been distributed in the Region.

In addition two popular articles concerning the activities of the Primary Station have been published. These are:

"New Plants for the South," Farm and Ranch, July 1953

"Plant Introduction in the South," What's New in Crops & Soils,
October 1953


Chairman, Technical Committee


Regional Administrative Advisor

PROMISING INTRODUCTIONS REPORTED IN 1953

SPECIES	NUMBER	STATE REPORTING	CHARACTERISTICS	USE OF INTRODUCTION
Abelmoschus esculentus	124339	Ga.	Wilt resistant	Breeding program
Abelmoschus esculentus	164925	Ga.	Wilt resistant	Breeding program
Abelmoschus esculentus	165008	Ga.	Wilt resistant	Breeding program
Abelmoschus esculentus	171662	Ga.	Wilt resistant	Breeding program
Abelmoschus esculentus	174000	Ga.	Wilt resistant	Breeding program
Abelmoschus esculentus	174001	Ga.	Wilt resistant	Breeding program
Abelmoschus esculentus	183205	Ga.	Wilt resistant	Breeding program
Andropogon annulatus	181009	Tex.	Fertility requirement	In experimental seeding
Andropogon distachyus	193956	Tex.	Long growing season	Further observation
Andropogon saccharoides	202212	Tex.	Forage quality & vigor	In experimental seeding
Arachis hypogea	121070	Okla.	High yielding Spanish type	Being released as var.
Brassica oleracea var. capitata	156701	S. C.	Slight mildew resistance	Argentine In crosses
Brassica oleracea var. capitata	156702	S. C.	Mildew resistant	In crosses
Brassica oleracea var. capitata	176443	S. C.	Mildew resistant	Crossed on Round Dutch
Capsicum frutescens	159236	S. C.	Bright red color	Breeding material
Capsicum frutescens	169110	S. C.	Resistant to pod diseases	To be crossed with cayenne types
Capsicum frutescens	194567	S. C.	Excellent ornamental	Demonstration planting
Capsicum frutescens	194861	S. C.	Deep red color	To be crossed on cayenne types
Capsicum frutescens	194881	S. C.	Excellent ornamental	Demonstration planting
Capsicum frutescens	200725	S. C.	Very high yields	To be crossed on cayenne types
Capsicum frutescens	200726	S. C.	Very high yields	To be crossed on cayenne types
Capsicum frutescens	201245	S. C.	Deep red color	To be crossed on cayenne types
Capsicum frutescens	203523	S. C.	Excellent ornamental	Demonstration planting
Capsicum frutescens	203524	S. C.	Excellent ornamental	Demonstration planting
Cucumis melo	166966	Va.	Excellent quality	In crosses on Georgia 47
Cucumis melo	174143	N. C.	Resistant to mildews	Crossed on commercial varieties
Cucumis melo	179671	N. C.	Resistant to mildews	Crossed on commercial varieties
Cucumis melo	180283	N. C.	Resistant to mildews	Crossed on commercial varieties
Cucumis melo	180552-54	Va.	Resistant to mildews	Breeding material

SPECIES	NUMBER	STATE REPORTING	CHARACTERISTICS	USE OF INTRODUCTION
Cucumis melo	183307	S. C.	Highly disease resistant	To be used in crosses
Cucumis melo	193495	Va.	Resistant to mildews	Breeding material
Cucumis sativus	175120	S. C.	Anthracoze resistant	In crosses
Cucumis sativus	173889	N. C.	Resistant to downy mildew	Crosses on slicing & pickling types
Cucumis sativus	176952	S. C.	Cold hardiness	In crosses
Cucumis sativus	175111	S. C.	Intermediate resistance to anthracnose	Have been used in crosses
Cucumis sativus	179676	S. C.	" " "	but temporarily halted owing
Cucumis sativus	183308	S. C.	" " "	to superior resistance of
Cucumis sativus	183345	S. C.	" " "	No. 197807.
Digitaria valida	161436	Fla.	High yield. Disease resistant	In testing & development stage
Eragrostis expansa	162393	Tex.	Vigor & seed production	Further observation
Galactia sp.	195316	Tex.	Good forage & seed quality	To be crossed on native species
Hordeum bulbosum	168317	Tenn.	Hardy & disease resistant	Crossing on H. vulgare
Hordeum bulbosum	168319	Tenn.	Hardy & disease resistant	Crossing on H. vulgare
Helianthus annuus	170414	Tex.	Short erect, self sterile	Selections
Helianthus annuus	170425	Tex.	Erect & moderately self fertile	Selections
Helianthus annuus	176571	Tex.	Short & moderately self sterile	Selections
Helianthus annuus	176574	Tex.	Erect & highly self fertile	Selections
Ipomea batatas	153699	N. C.	Wilt resistant	Crossed on common varieties
Ipomea batatas	153909	N. C.	Wilt & nematode resistance	" " " "
Lycopersicon hirsutum	126445	Fla.	Disease resistance	In pedigree of new var. Manalucie
Lycopersicon esculentum	115201	Fla.	Resistant to phoma rot	In breeding program
Lycopersicon esculentum	183692	Fla.	Resistant to tobacco etch	In breeding program
Lolium multiflorum	193145	Ga. & Tex.	Rust resistant	Further observation. Wide regional distribution
Lolium multiflorum	201980	Miss.	Rust resistant	" " " "
Medicago scutellata	189571	Tex.	Upright & long season	Further observation. Wide regional distribution
Paspalum notatum	158822	Ga.	High yield. Ergot immune	Increasing
Pennisetum ciliare	164607	Tex.	Spreading habit & good competition	Wide regional distribution. Further observation.

SPECIES	NUMBER	STATE REPORTING	CHARACTERISTICS	USE OF INTRODUCTION
<i>Pennisetum ciliare</i>	164414	P. R.	Good forage quality & yield	In replicated tests
<i>Pennisetum ciliare</i>	185641	P. R.	Good forage quality & yield	In replicated tests
<i>Pennisetum ciliare</i>	185642	P. R.	Good forage quality & yield	" " "
<i>Pennisetum ciliare</i>	202513	Tex.	Rhizome habit	Selection work
<i>Pennisetum ciliare</i>	133898	Tex.	Rhizomatous, shorter & leafy	In increase (other than Station)
<i>Phalaris tuberosa</i>	193056	Prim. Sta.	Good forage quality & high production	Wide regional distribution
<i>Phalaris tuberosa</i>	196338	Prim. Sta.	" " " "	" " "
<i>Phaseolus vulgaris</i>	165419	N. C.	Fusarium resistance	Further tests & hybridization
<i>Phaseolus vulgaris</i>	165453	N. C.	Fusarium resistance	" " "
<i>Phaseolus vulgaris</i>	165455	N. C.	Fusarium resistance	" " "
<i>Phaseolus vulgaris</i>	167203	N. C.	Fusarium, rust & anthracnose resistance	" " "
<i>Phaseolus vulgaris</i>	167383	N. C.	Anthracnose resistance	" " "
<i>Phaseolus vulgaris</i>	169733	N. C.	Fusarium & rust resistance	" " "
<i>Phaseolus vulgaris</i>	193006	N. C.	Fusarium resistance	" " "
<i>Sesamum indicum</i> *	153517	Tex.	Resistant to <i>altenaria</i>	In crosses
<i>Sesamum indicum</i>	154298	Tex.	Erect, unbranched, productive	Further observation
<i>Sesamum indicum</i>	154299	Tex.	Long capsules	" "
<i>Sesamum indicum</i>	154304	Tex.	Large seed	" "
<i>Sesamum indicum</i>	156991	S. C.	Large tan seed, 8-rowed capsule	In multiple cross
<i>Sesamum indicum</i>	156992	S. C.	Vigorous, large-seeded	" " "
<i>Sesamum indicum</i>	156994	S. C.	Long pods, large white seed	" " "
<i>Sesamum indicum</i>	156997	S. C.	Vigorous, large tan seed	" " "
<i>Sesamum indicum</i>	157157	S. C.	One capsule per node, 8-rowed	" " "
<i>Sesamum indicum</i>	158038	S. C.	White seed, 3 capsules per node	" " "
<i>Sesamum indicum</i>	158040	Tex.	Long large capsules	Further observation
<i>Sesamum indicum</i>	158045	Tex.	Long loose capsules	In crosses
<i>Sesamum indicum</i>	158049	Tex.	Long capsules	In crosses
<i>Sesamum indicum</i>	158051	S. C.	3 capsules type, strong stalk	In multiple cross
<i>Sesamum indicum</i>	158056	Tex.	Long, large, loose capsules and drought resistant	In crosses
<i>Sesamum indicum</i>	158058	Tex.	Long, large, loose capsules and short internodes	In crosses

SPECIES	NUMBER	STATE REPORTING	CHARACTERISTICS	USE OF INTRODUCTION
Sesamum indicum	158061	Tex.	Long capsules, high oil	Further observation
Sesamum indicum	158069	S. C.	One capsule type, 4-rowed	In multiple cross
Sesamum indicum	158073	Tex.	Very short inter nodes	In crosses
Sesamum indicum	158402	S. C.	Yellow gene, 8-rowed, white seed	In multiple cross
Sesamum indicum	158901	Tex.	Large, loose, tetracarpellate capsules	Further observation
Sesamum indicum	158906	S. C.	Single stem, 8-rowed	In multiple cross
Sesamum indicum	158919	S. C.	Single stem, good seed	" " "
Sesamum indicum	158935	Tex.	Large, loose, capsules & drought resistant	Further observation
Sesamum indicum	158937	S. C.	Single stem, 3 capsules per axil	In multiple cross
Sesamum indicum	158941	S. C.	3 capsule type, string stalk	" " "
Sesamum indicum	158769	S. C.	Resistant to wilt, altenaria and aphid	" " "
Sesamum indicum	158770	S. C.	Resistant to aphid	" " "
Sesamum indicum	158774	S. C.	Resistant to aphid & fungus	" " "
Sesamum indicum	158775	S. C.	Early, resistant to cercospora	" " "
Sesamum indicum	158776	S. C.	Indehiscent type	" " "
Sesamum indicum	158777	S. C.	Very vigorous	" " "
Sesamum indicum	162563	Tex.	Large, loose tetracarpellate capsules	Further observation
Sesamum indicum	198123	Tex.	Tetracarpellate capsules; not fasciated & possible resistance to bacterial blight	Further observation
Sesamum indicum	201770	Tex.	Early branching type	Further observation
Sesamum indicum	Early Russian	Tex. & S. C.	Early & resistant to bacterial blight	In crosses
Setaria sphacelata	189618	Tex.	Good forage quality & vigor	Further testing
Sorghum vulgare	152709	Okla.	Immature bitterness restrains birds	In crosses
Sorghum vulgare	179503	Okla.	Broom straw, green when mature, resistant to lodging	In crosses

SPECIES	NUMBER	STATE REPORTING	CHARACTERISTICS	USE OF INTRODUCTION
<i>Sorghum vulgare</i>	181076	Ark.	High forage yield	In crosses
<i>Tephrosia vogellii</i>	161375	Tex.	High rotenoid content	Further testing for adaptation
<i>Trichloris mendocina</i>	162188	Tex.	Low fertility requirement	In experimental seeding
<i>Trifolium lappaceum</i>	171832	Tex.	Good growth in rice stubble	Further observation
<i>Vigna sesquipedalis</i>	189416	Fla.	Good fruiting habit	In crosses & selection
<i>Vigna sinensis</i>	145198	Ark.	<i>Cercospera</i> resistance	In crosses
<i>Vigna sinensis</i>	152197	Ark.	<i>Cercospera</i> resistance	In crosses
<i>Vitis</i> sp.	157531	Tex.	Good table grape with tight skin	Further observation
<i>Zea mays</i>	161418	N. C.	Strong short plants	Inbreeding
<i>Zea mays</i>	162420	N. C.	Low ear position	Crossed on N. C. 18 (52)
<i>Zea mays</i>	162703	Ga.	Genetic diversity	Inbreeding
<i>Zea mays</i>	185664	N. C.	Vigorous & late, good grain quality	Inbreeding
<i>Zea mays</i>	185665	N. C. & Ga.	Vigorous & late, semi-flinty	Inbreeding

* Selection and breeding work with sesame closely integrated between the Texas and South Carolina Stations.