

ANNUAL REPORT - JANUARY 1, 1950 - DECEMBER 31, 1951

SOUTHERN REGIONAL PROJECT S-9

NEW PLANTS AND PRESERVATION OF GERMPLASM

COOPERATING AGENCIES AND PERSONNEL

STATE AGRICULTURAL EXPERIMENT STATIONS

REGIONAL TECHNICAL
COMMITTEE MEMBER

Alabama	P. B. Gibson
Arkansas	A. B. Burdick
Florida	F. H. Hull
Georgia (Primary Station for S-9)	O. E. Sell
Kentucky	L. M. Josephson
Louisiana	J. C. Miller
Mississippi	H. W. Bennett
North Carolina	F. D. Cochran
Oklahoma	L. L. Ligon
Puerto Rico	J. Velez Fortuno
South Carolina	J. A. Martin
Tennessee	J. K. Underwood
Texas	R. G. Reeves
Virginia	J. T. Smith

U. S. Department Of Agriculture

Division of Plant Exploration and Introduction

B. P. I. S. A. E.	C. O. Erlanson
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PRIMARY STATION

Georgia Experiment Station

Coordinator

Edwin James

OFFICE OF EXPERIMENT STATIONS

F. D. Fromme

C. L. Lefebvre

REGIONAL ADMINISTRATIVE ADVISOR

R. D. Lewis - Texas

SUPPORTING PROJECTS APPROVED

<u>State</u>	<u>Title</u>
Arkansas	Investigations With New Crops
Georgia	The Introduction, Testing and Multiplication of New and Useful Plants of Potential Value for Industrial and Other Uses
Louisiana	Introduction and Testing of New Crops
North Carolina	New Plant Investigations
Oklahoma	Introduction and Evaluation of New Plants for Oklahoma
Puerto Rico	Introduction and Evaluation of New Plants for Industrial and Other Purposes, and the Preservation of Valuable Germ Plasm of Economic Plants.
South Carolina	Breeding of Disease Resistant Sesame Adapted to Mechanized Production
Texas	Introduction, Multiplication, Preservation and Determination of Potential Value of New Plants for Industrial and Other Purposes, and for the Preservation of Valuable Germ Plasm of Economic Value

COOPERATING STATES WITHOUT APPROVED

SUPPORTING PROJECTS

Alabama

Florida

Kentucky

Mississippi

Tennessee

Virginia

NATURE OF WORK AND PRINCIPAL

RESULTS OF THE YEAR

Activities of the Primary Station in Georgia

Two new land areas, totaling eight acres have been added to the original twelve assigned to the Primary Station for increase and evaluation work. A two-acre area of this has been developed for perennial legumes and grasses; the other six are being used for annual crops. A total of twenty acres is now in introduction and Primary evaluation nurseries.

Improvements have been added to the seed storage facilities so that larger numbers of accessions and increase may be stored in both the temporary and permanent cold storage rooms.

An additional tractor has been added to field equipment and a passenger car for traveling by the coordinator has been obtained through the Division of Plant Exploration and Introduction.

During the year a total of 2,515 accessions have been received at the Primary Station and distribution made on 5,980 numbers.

The kind and number of accessions are as follows;

<u>Crop</u>	<u>No. Received</u>	<u>No. Shipped to Cooperating States</u>
Corn and Sorghum	230	591
Forage and Turf Grasses	329	688
Forage & Soil Improvement Legumes	285	495
Cowpeas and Beans	697	1424
Oil Crops	358	677
Fiber Crops	11	4
Tobacco	6	0
Drugs and Condiments	85	34
Vegetables	488	1970
Fruits	14	39
Trees and Ornamentals	12	58

All states in the Southern Region have participated in the program. The distribution of the 5,980 numbers are listed below:

<u>Cooperating States</u>	<u>Accessions Sent</u>
Alabama	25
Arkansas	171
Florida	684
Georgia	747
Kentucky	49

<u>Cooperating States Cont.</u>	<u>Accessions Sent</u>
Louisiana	51
Mississippi	341
North Carolina	77
Oklahoma	513
Puerto Rico	436
South Carolina	680
Tennessee	84
Texas	1298
Virginia	34
Outside Region	790

With the realization that additional information is needed regarding the thousands of introductions brought into the country in recent years, a tomato screening program has been initiated. Fourteen vegetable breeders and plant Pathologists in eight southern and four northeastern states have volunteered to screen tomatoes for ten major and minor diseases. Bacterial wilt and late blight tests have been made on nine hundred and fifty-five accessions. Other disease evaluations are being made on two hundred of the nine hundred and fifty-five in various parts of the south and north-east. Plans are in progress to make this program nation-wide.

Increase and evaluation work is continuing. In the period covered by this report increases and evaluations have been made on fifteen hundred and twelve accessions; catalogues of these have been made and distributed to the cooperating states or are in the process of compilations for distribution in February 1952.

The Botany Department at the Georgia Station has contributed valuable assistance in disease identification work with forage crops. Additional service has been rendered by the screening of three hundred and fifty watermelons and cantaloupes for downy mildew resistance.

Contract arrangements were made with the Experiment Stations in Oklahoma, South Carolina and Texas for the increase and evaluation of crops particularly adapted to their respective areas. These included sorghums, beans, sesame, safflower, sunflower, castor beans, cowpeas, peppers and okra.

REGIONAL ACTIVITIES

Projects in support of the Regional Project S-9 have been submitted and approved by the S-9 Technical Committee for seven states and Puerto Rico in the Southern Region.

Although all states in the region are participating in this project the participation in some cases is limited as is indicated by the number of accessions sent to each state. Reports by states to the Technical Committee with added information supplied by the coordinator are given below.

Alabama - No report. Limited testing of forage legumes.

Arkansas - "Testing program of eight varieties of castor beans, and twenty-five varieties or strains of sesame!" Active also in testing sorghums, winter legumes and grasses.

Florida - "Plant introductions regarded as valuable source of germ plasm and have been used extensively!" Very active in testing legumes and grasses.

Georgia - Active participation, largely in vegetable crops.

Kentucky - Limited testing of legumes and grasses.

Louisiana - #Work being continued on okra and sweet potatoes!
Station also active in other vegetable crops and winter legumes.

Mississippi - Active participation in testing vegetable crop introductions, mainly tomatoes, peas, melons and cole crops.

North Carolina - Major contribution to tomato screening program. Limited activity in testing grasses and legumes.

Oklahoma - "Testing of sesame, cowpeas, sunflowers, check peas, guar, mung beans, vetch, winter peas, and castor beans!" Active also in testing forage grasses and legumes.

Puerto Rico - "Work in project includes sesame, okra, sunflowers, fiber crops, legume species for soil conservation, pineapple and papaya!"

South Carolina - "Work reviewed on okra, pepper and sesame!"
Station cooperative in vegetable crop testing.

Tennessee - Little testing on legumes and grasses. Limited testing of vegetable crops.

Texas - "Preliminary observation made on 1,828 stocks distributed as follows:

Sesame	454	Sunflower	112
Range Plants	244	Forage and	
Sorghum	237	Pasture	105
Vegetable crops	180	Peanuts	63
Guayle	161	Ornamentals	27
Fruit Crops	152	Safflower	23
		Miscellaneous	82

About one hundred of the 1,828 were considered promising!"

Virginia - Limited work on pasture plants and vegetable crops.

APPLICATION OF RESULTS AND PRINCIPAL

BENEFITS REALIZED

The bulk of importations are used in breeding programs which require considerable time to prove their value. Such was the case with the Georgia 47 cantaloupe which had an importation as one of its parents. Several instances of mildew resistance in melons and cucumbers have been reported during the year. Resistance to prevalent diseases have been found in some tomato and pepper introductions. Many of the recent grass and legume introductions grown at the Primary Station show unusual promise for the South, but need wider testing before their general adaptability and value are certain.

WORK PLANNED FOR THE COMING YEAR

1. Further work on increases and evaluations.
2. Initiation of screening programs on crops in addition to tomatoes.
3. Development of additional state projects.
4. Improvements of facilities at the Primary Station for seed processing.
5. Further improvement of land facilities.

PUBLICATIONS ISSUED ON MANUSCRIPTS

PREPARED DURING THE YEAR

Two catalogues of increase in addition to those of the previous year have been distributed; nine are in the process of preparation, or revision.

Approved:

C. E. James

R. D. Lewis

Chairman, Technical Committee

Regional Administrative Advisor

Edwin James

Regional Coordinator