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PLANT INTRODUCTION MEN SEEK NEW CROPS
FOR THE SOUTH¹

By Edwin James²

An important doorway for southern agriculture is located at Experiment, Georgia.

For it is here that federal and state crop workers have established the headquarters for their plant introduction work in southern states.

This headquarters was created in 1948. Its title is Primary Plant Introduction Station for the South, and it operates as one of four Regional Plant Introduction Stations in cooperation with the USDA Division of Plant Exploration and Introduction.

The Station at Experiment is directed by a Regional Coordinator for the Southern Region, which includes all states from Texas and Oklahoma eastward to Virginia and Florida, including also the Territory of Puerto Rico. Policies for its direction are drawn up by a committee which is made up of representatives from each southern state and from the Federal Government.

At the present time, the Station consists of approximately 20 acres of land. All of this land is conveniently located to permit irrigation by a portable system. A greenhouse and building have been constructed to house the activities, with financial help from the Georgia Agricultural Experiment Station, also located at Experiment.

Nearly all of the crop plants which the USDA introduces from foreign sources for use in the southern states are sent to the Primary Station at Experiment. Here the plants are increased until a large enough stock of seed or other material for reproducing the plant is on hand for further evaluation purposes.

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Are Grown Elsewhere

Some plants which cannot be grown conveniently at Experiment are sent to other locations for increase and evaluation. For example, new sorghum and castor bean plants are grown at Chillicothe, Texas.

New peppers, okra, and sesame, under the same procedure, are increased in South Carolina, under direction of the headquarters at Experiment. Certain subtropical and tropical species are grown in Florida and Puerto Rico.

All states in the Southern Region are cooperating in the further testing of some of the new, introduced plants. Since the Station was started, 14,788 accessions have been distributed to cooperating State Experiment Stations, privately endowed institutions, and private individuals.

Does Plant Have Value?

The first step after a plant is received at the Primary Station, or after it is placed at some location under the Station's direction, is evaluation. The evaluation is concerned with such things as the plant's general adaptability and its reaction to disease.

Catalogs of the plants which have been evaluated and which are being increased are issued periodically. These catalogs are distributed to all agencies cooperating with the Primary Station in the South. They also go to other regions where the crops listed can be grown.

Once it is decided that an introduced plant may have some useful purpose--for example, a wheat with rust resistance and which might be used as a parent in getting a new wheat variety--a supply of the seed goes into long-term storage.

The seed is kept under the most favorable conditions possible. It is replaced by new seed stock grown at the Station whenever it begins to

deteriorate. The Station also fills orders for seed from the stock.

No Startling New Plants

The possibility that we can look for any startling new crop plants from the program at Experiment is rather remote. Such plants, if they are coming, are probably a good many years away.

And in many cases, a completely new crop finds slow acceptance in agricultural circles. Exceptions to this, of course, are soybeans, sorghum and Sudan grass. These crops increased rapidly when introduced in the United States.

Sesame is one of the few brand new crops of recent introduction. More satisfactory varieties of sesame are needed. Even when these are established, sesame may be accepted rather slowly due to the fact that it will be competitive with other oil crops.

The introduction program is more likely to give immediate results in providing new strains and varieties of crops already established. The introduction of disease-resistance or higher yield into a crop we are already growing is relatively easy for the modern plant breeder. It is from this sort of thing that most benefits of the program will come.

Such was the case with the Congo watermelon and with disease-resistant cantaloupes, tomatoes, potatoes, and other important fruits and vegetables.

The small grain breeding programs in the country depend almost exclusively on introductions from which desirable qualities can be obtained for breeding into new varieties. Needless to say, the entire grain economy is built on introductions. All modern grain varieties can trace their origins to plants introduced from other areas.

Of more recent interest is the introduction of Argentine Bahia grass which found ready acceptance in Florida. During the past year, a rust-resistant ryegrass, also from Argentina, has attracted attention. Plans

are now under way to increase this as a commercial variety.

Between 40 and 50 new plant introductions are now being given further tests in the Southern Region, or have already entered into breeding programs.

Plant introduction work in the South, as in other parts of the United States, is bringing to farmers not only brand new crop plants, but also high yield, better quality, and drouth resistance in present-day farm crops. It is a program which can add greatly to the farm income of this region.