

NUTRITION

Exploring for Better Food

Sweet potatoes from small out-of-the-way gardens have been brought into this country. Plant explorers have collected them as part of the U.S.D.A. program to improve crops.

By **FREMONT DAVIS**

► **THE ROUGH**, tough, unrefined stock of the world's plants is being explored by United States scientists. Highly organized teams whose aim is to discover plants to improve the world's food are looking into the remote gardens of the world. New or better crops will result. Possible sources of life-saving drugs are being found.

Dr. D. S. Correll, plant explorer of the division of plant exploration and introduction of the U. S. Department of Agriculture, and Dr. Julian Miller, Louisiana State University plant expert, recently guided through customs in Washington, D. C., a few unpretentious bulging burlap bags, corrugated boxes, and sticks and leaves cut from bushes and trees.

These nondescript looking items from Cuba, Puerto Rico and the Virgin Islands did not give the impression of treasure from remote patches of the world. Nevertheless, they were a sort of rough treasure.

Among them were the seeds or germ of life for 298 different kinds of sweet potatoes, 20 relatives of the sweet potatoes, and other stocks such as yams and seeds of 85 little known cotton plants. In addition, there were 16 strains of castor beans, and samples from 148 wild, uncultivated plants that could be sources of chemicals that may some day help the health of the world. Besides this main part of the shipment, there were 138 samples of tobacco, corn and beans. Eventually, in the hands of experts, some of these will be bred and crossed with our plants to give them greater vigor.

The expedition's chief aim was to find potato material. A secondary objective was to gather material from the many wild plants and trees for the Public Health Service's National Heart Institute. The samples are of interest for the chemicals they may contain that might help the battle against diseases of the heart and of the circulation of the blood.

The sweet potatoes you eat may some day have better color or sweeter flavor because of these shipments. You have told Dr. Correll and other specialists that you like a good yellow colored meat in your sweet potato. As part of the potato-buying public, you register your vote for it by buying that kind more than others.

By the same token, Dr. Correll knows that you like a nice oval shape and a smooth skin on your sweet potatoes. He is therefore interested in finding potatoes that will give you what you want. At the same

time, he wants potatoes that will give the farmer plants resistant to diseases such as stem rot. When the potatoes he gets are from out-of-the-way spots, they are not likely to be closely related to the highly bred ones that are in production. These often give the resistance needed for better crops.

Among some of the sweet potatoes Dr. Correll brought back were some with quite yellow meats. Some had purple skins, some had very good flavor but with white meat. These promise to be useful in tailoring the crop to the needs of the sweet-potato-eating public.

Drs. Correll and Miller found the people of Cuba, Puerto Rico and the Virgin Islands very cooperative. They, as representatives of the United States, do as much as they can to help with the agricultural problems of the people while on the trip. All of the results of our plant breeding are available to friendly nations for the asking.

The equipment of the plant explorer is simple. An automobile is used to get to the

take-off spot for the walking and climbing trek. A spade to dig out the tubers and roots, a few cutting tools such as a knife and small ax are about all that is needed. The knowledge of what to look for is more important. The laborious leg work starts after there is no better transportation to the remote gardens that hold promise of good hunting.

In the West Indian regions, Drs. Correll and Miller visited many truck farmers and small family patches tucked in out-of-the-way places. Here they would ask the workers in the field if they might look at their potatoes. Perhaps the farmer would reply that they could look, but the potatoes were too young.

Often old women would be working in the fields. Since they usually refused to allow him to dig, Dr. Correll would point to something that he wanted and offer the trench shovel that he carried and offer the woman to use. Most likely she would toss it aside, and rapidly dig with the stick or straight iron bar that she used for most of her work.

Potatoes in that area were selling for a few cents a pound, so Dr. Correll would hold the potatoes in his hand to estimate the weight and offer payment above the market price. The proud natives sometimes



ODD-SHAPED SWEET POTATO LEAVES—Dr. D. S. Correll, plant explorer of the U. S. Department of Agriculture, examines a potato collected from the Caribbean, one step in research aimed at enhancing the quality and flavor of the commercial crops of the world. The photograph was taken from the floor through a glass-top table that held the specimens.

would not take the money. Then he would give the coins to one of the always-present children and explain to the worker that it was for the young one.

The plant explorer knows that the potatoes in family plots will not be there long. They are needed as food, and they are eaten shortly after being taken from the field. The plant explorer is always doing what he can to create better relations with the people who can help him develop better crops.

The rough treasures from expeditions like these are labeled and put into bags for shipment back to the urban base.

Expeditions are constantly going to remote areas of the world to collect material for the Plant Introduction Garden at Glenn Dale, Md.

Such plant expeditions are not without hazard. Careful planning to get the work done with little danger and laborious hiking on foot cannot remove the need to climb high mountains or the exposure to occupational hazards.

Vigorous steps are taken to keep diseases from entering the country. Plant material is given a quick build-up to get enough for the breeder to go to work. A part of the collections is kept as seed in a sort of plant bank until it can be used. Here the know-how of the skilled gardener is used to propagate the hard-to-obtain plants.

He uses many tricks, such as bud grafting and leaf rooting, to get some of it to grow. To keep the seeds, there is storage space in dry, cool rooms. Experiment stations all over the United States, such as the one at Sturgeon Bay, Wis., then get samples to do the actual breeding and development of new crops.

No major American crop is native to this country. Corn, tobacco, pumpkins, squash and beans have their origin in tropical America. The soybean crop from the Orient, acala cotton from Mexico, navel oranges from Brazil and ladino clover from Italy are a few of the modern era introductions by plant explorers.

Only time and skillful work of the plant breeders will tell what the next advance will be.

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