

Sweetpotato Action for Security and Health in Africa



Breeding in Africa for Africa

What is the problem?

Currently national sweetpotato breeding programs in Africa take a long time, 7 to 8 years, to produce a new variety. Frequently those new varieties do not suit the various geographic areas and the preferences of diverse farmers and consumers within a country. Most countries have no real breeding program and rely on testing materials developed elsewhere, which in some cases works well, but not when agro-ecological conditions are quite distinct.

What do we want to achieve in the first five years?

We want to revolutionize conventional sweetpotato breeding. We seek to redesign sweetpotato breeding protocols in Africa to produce varieties in fewer years (3 to 4 maximum). We will invest in developing diverse sweetpotato types that will provide national programs with a wide range of "parents" with the preferred combination of characteristics to use in their own breeding programs. Particular attention will be paid to

preferences of women producers and consumers of all ages.

We expect to release at least 20 locally adapted sweetpotato varieties through continued support of national program partners, which are responsible for releasing new, improved sweetpotato varieties within their countries.

How are we going to make it happen?

We will introduce a new way of breeding sweetpotato combining different breeding methods:

1. So-called "accelerated breeding" in which we multiply new breeding lines in screenhouses, glasshouses, and irrigated fields and use more sites at earlier stages in the breeding cycle to substitute for fewer sites over longer periods of time
2. The inclusion of a method that uses very distinct sweetpotato populations, which, when crossed, lead to major improvement of characteristics such as yield and disease resistance
3. The application of molecular



The Sweetpotato Action for Security and Health in Africa (SASHA) is a five-year initiative designed to improve the food security and livelihoods of poor families in Sub-Saharan Africa by exploiting the untapped potential of sweetpotato. It will develop the essential capacities, products, and methods to reposition sweetpotato in food economies of Sub-Saharan African countries to alleviate poverty and under-nutrition.



④ Participatory breeding in Uganda

markers that will make it easier and faster to identify plants that have resistance to viruses

Three sub-regional Sweetpotato Support Platforms within key national programs will be established for West Africa, Southern Africa, and East and Central Africa. These will carry out and support the research in breeding, seed systems, and other areas targeting specific needs of each region. It will be a collaborative effort with institutional partners in each sub-region, working in close collaboration with the Alliance for a Green Revolution in Africa to build capacity in conventional sweetpotato breeding.

The research will produce new locally adapted sweetpotato varieties in Africa to exploit their genetic potential and increase and diversify their use. We will draw on CIP's extensive germplasm bank and the best local landraces in each sub-region to create pipelines of new sweetpotato varieties at the sub-regional level.

The major target traits for each sub-region are:

1. Sweetpotato virus disease (SPVD) resistance and high beta-carotene in Eastern and Central Africa
2. Drought tolerance and high beta-carotene in Southern Africa
3. High dry matter lacking sweetness in West Africa

These population improvement programs will be linked to national variety development programs, carried out by National Agricultural Research Systems (NARS) breeding programs. Farmers will be active partners in the process of selecting materials to meet their conditions and preferences.

④ Key Partners

The major partners in the project will initially be the national sweetpotato programs in East and Central Africa (Uganda, Kenya, Tanzania, Rwanda), West Africa (Ghana and Nigeria), and Southern Africa (Mozambique, Malawi and South Africa). Secondary partners include national programs in Ethiopia, Madagascar, Zambia, Burkina Faso, and Angola.

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