



©FAO/F. Dusunceli

NOVEMBER 2019

PROTECTING CASSAVA, A NEGLECTED CROP, FROM PESTS AND DISEASES

Cassava (*Manihot esculenta* Crantz) is the fifth most produced staple food crop in the world, being a basic source of staple food for an estimated 800 million people worldwide. Cassava is an increasingly popular crop. Currently, approximately 291 million tonnes are produced around the world, over a territory of 26.3 million hectares – with increases, respectively, of 55 percent and 66 percent since 2000.

Cassava is grown by smallholder farmers in more than 100 tropical and subtropical countries of Africa, Asia and Latin America. Thanks to its efficient use of water and soil nutrients

and tolerance to drought, cassava can produce reasonable yields using limited or no inputs, even in areas with poor soils and unpredictable rainfall.

Like other crops, cassava is vulnerable to pests and diseases that can cause heavy yield losses. Insect pests such as white flies and mealybugs, and diseases caused by viruses and phytoplasma, affect the production of cassava worldwide.

Of the viral diseases, Cassava mosaic disease (CMD) and Cassava brown streak disease (CBSD) are the most widespread, severely affecting at least 50 percent of cassava crops in Africa.

CMD and CBSD pose a serious threat to the food security of 135 million people in Central and East Africa alone. At least half of all plantings in Africa are affected by one of these diseases. Scientists estimate that annually, 15–24 percent (equivalent to approximately 12–23 million tonnes) of the crop is lost due only to CMD in Africa. The negative impact is more severe when the cassava plants are also infected with CBSD. Without adequate response mechanisms, CBSD may cause losses of up to 100 percent, as experienced in many cases in the African Great Lakes region.

CUTTINGS FREE FROM VIRUSES ARE KEY FOR PREVENTION

Among the channels through which CMD and CBSD may spread, the movement of infected plant materials and cuttings used in production plays an important role, in

addition to insect vectors such as white flies. Therefore, development of the seed multiplication and supply system is key in preventing the spread of pests and diseases.

The development and use of resistant or tolerant varieties should be supported where possible.

KEY FACTS

CASSAVA PESTS AND DISEASES

CASSAVA IS A STAPLE FOOD FOR AN ESTIMATED 800 MILLION PEOPLE, MOSTLY IN AFRICA

CASSAVA IS AN IMPORTANT STARCH CROP, BEING THE CHEAPEST SOURCE OF CALORIES IN SUB-SAHARAN AFRICA, AND CONTAINING SIGNIFICANT AMOUNTS OF VITAMIN C, THIAMINE, RIBOFLAVIN AND NIACIN

CASSAVA HAS BECOME A MULTIPURPOSE CROP THAT RESPONDS TO THE NEEDS OF DEVELOPING COUNTRIES, TO TRENDS IN THE GLOBAL ECONOMY AND TO THE CHALLENGES POSED BY CLIMATE CHANGE

CASSAVA PESTS AND DISEASES SPREAD EASILY THROUGH PLANTING MATERIALS AND WHITE FLIES FROM ONE COUNTRY TO ANOTHER

CMD AND CBSD ARE THE MOST WIDESPREAD DISEASES OF THE CROP

FAO SUPPORTS REGIONAL PREVENTIVE STRATEGIES, AS WELL AS COUNTRY-SPECIFIC EFFORTS TO STRENGTHEN THE SURVEILLANCE AND CONTROL CAPACITIES OF NATIONAL INSTITUTIONS

FAO
EMPRES PLANT PROTECTION

E-MAIL

Food-Chain-Crisis@fao.org

WEB-SITE

www.fao.org/food-chain-crisis

Food and Agriculture Organization
of the United Nations



Managing cassava pests and diseases in the long term requires establishing strong institutional and regional collaborations, as well as building national capacities for research, implementing surveillance, raising awareness and educating cassava farmers and seed producers.

THE REGIONAL CASSAVA INITIATIVE IN AFRICA

In Africa, the Regional Cassava Initiative, coordinated by FAO and run by partners from 2009 to 2013, helped build resilience against CMD and CBSD through research, surveillance and policy support in East and Central Africa.

Thanks to the project, a region-wide integrated disease management strategy was developed and implemented, focusing on awareness-raising, production and distribution of disease-free planting materials, surveillance, information sharing and establishment of national cassava bodies. In 2014, an outbreak of CBSD affected the crop in Rwanda. A FAO emergency project assisted with the importation of clean planting materials from Uganda, followed by quick local multiplication and distribution in 12 affected districts in the country.

The cassava issue has now been placed on agendas at national, regional and international level.

SUCCESSFUL CONTROL OF CASSAVA MEALYBUG OUTBREAKS IN GREATER MEKONG

Mealybug is an important cassava pest (*Phenacoccus spp*) that is widespread in Africa and South America, and which

causes significant losses. In recent years, it has become a significant constraint on crops growing in the Greater Mekong region in Asia. In Thailand alone, 6 million tonnes of crop losses, worth USD 600 million, were attributed to a mealybug outbreak that occurred in 2009/2010.

In Thailand, this insect pest was successfully managed through biological control methods implemented by the FAO Regional Office for Asia Pacific and national institutions: in particular, introduction of the parasitic wasp *Anagyrus lopezi*, through Farmer Field School (FFS). Subsequently, this experience was expanded to other countries in the region, through the training of 853 lead farmers on the same approach in Cambodia, Lao People's Democratic Republic and Vietnam.

In recent years, CMD has been affecting cassava in Cambodia; in this country, it was first reported in 2015, presenting a potential threat to family farmers. A Technical Cooperation Project funded by FAO improved the national response capacity to monitor and address the challenge, by enhancing laboratory infrastructure and facilitating training workshops on surveillance, sampling procedures, diagnosis, and operationalization of field e-surveillance systems using p-trackers. In addition, FFSs were established on the Integrated Pest Management of CMD to facilitate farmers' experiential learning. There is significant scope for expanding these efforts in the region.

FAO assists countries in responding to emergency outbreaks and integrated management at national and regional levels in Africa, Asia and Latin America.



Some rights reserved. This work is available under a CC BY-NC-SA 3.0 IGO licence