

# Controlling the outbreak of Banana Bunchy Top Virus on farms in Mozambique



## BBTV affecting farmers in Mozambique

Banana Bunchy Top Virus (BBTV) was first detected around 1980 in Fiji and has since then spread, affecting farmers across the world. On the African continent, where bananas are not only used for trade but also often make up part of the local staple food, the disease has had an immense impact on the livelihoods of farmers and local population.

In Mozambique, BBTV first broke out in 2007 in the northwestern Tete Province. More recently, BBTV has been detected in the Gaza province in southern Mozambique at a commercial farm in the Guija district and at a small farm in the Chokwé district.

If the spread of BBTV continues, the disease could affect all 3,000 hectares of commercial banana plantations in the Maputo Province. Those commercial farms export the equivalent of USD \$60M annually, employ 5,000 full time workers and guarantee the supply to the full demand of the local market.

However, not only commercial farmers in Mozambique feel the impact of BBTV; smallholder and local farmers are hit hard as they often do not have the knowledge or financial means to prevent and control this devastating banana disease.

**The Banana Bunchy Top Virus (BBTV)** is a viral disease that affects banana plants. The name refers to the “bunchy” top leaves of a banana plant, which is a clear and characteristic symptom of banana plants being affected with the virus. Banana plants that are infected by the virus rarely produce banana or produce stunted bunches.

This virus can be transmitted through two ways:

- Infected plant suckers
- Banana aphids (*Pentalonia nigronervosa*)

All banana varieties are hosts to the disease, but symptoms may be different between varieties. Alternative hosts include Canna, Heliconia and Strelitzia.

Regular inspection of banana plants for symptoms is important in order to ensure timely detection of the virus. Infected plants should be destroyed by injecting a pesticide solution into the banana plant that attracts and kills the aphids.





**TECHNOSERVE**  
BUSINESS SOLUTIONS TO POVERTY

## The importance of a collective and coordinated approach to controlling BBTv

As there is no cure for BBTv and none of the currently used banana varieties are resistant to the virus, there is no other solution but controlling the aphid population and ensuring no infected planting materials are used or transported.

A good national BBTv control strategy consists of regular inspections to detect and remove infected plants as well as replanting with virus-free plantlets. However, this is easier said than done; smallholder farmers struggle with identifying symptoms correctly and often cannot carry the financial costs of the herbicide and insecticide solutions required to kill infected plants. Due to this, the risk of infestation is high for the smallholder farmers. As the aphids can easily move from commercial farms to local farmers and vice-versa, the virus spreads easily and quickly. On top of this, even if smaller farmers are able to identify the symptoms, they are often hesitant to kill suspected plants as they may not have access to new planting materials to continue growing bananas.

In order to offer smallholder farmers a helping hand, BANANAMOZ (Mozambique's Commercial Banana Farmers Association), with funding from the USDA (United States Department of Agriculture) and the support of MASA (Mozambique's Department of Agriculture) and TechnoServe, launched a project which focuses on the eradication and replanting of infected fields across the Gaza province in southern Mozambique. Combining resources and efforts from both the public and private sector, the project not only directly helps the smallholder farmers, but also protects the commercial farmers by reducing the risk of infection coming from outside their farm boundaries.



## Surveillance and use of mapping technology to control the spread of BBTv

With the help of CropWatch Africa (a service provider specialised in BBTv detection and area surveillance), an intensive one-week training was held in January 2019 to train technicians from the Mozambican Department of Plant Health in identifying BBTv symptoms and correctly eradicating infected plants.

In total, 26 technicians from all districts within the Gaza province were trained and are currently conducting regular surveillance and scouting activities within their districts to identify, report, eradicate and replant infected plants found in smallholder farms. At the same time, the technicians are trained on how to correctly collect data, which are entered into in the CropWatch cloud-based app directly. This allows the Department of Agriculture to access the collected information at any time.

All data collected by the field technicians is combined with data collected through remote sensing technology (which uses satellite imagery to detect crops) and additional information such as weather and ground data. All information comes together in the online CropWatch portal that then generates BBTv forecasting and tracking models within the specific area.

With all this information available, the Department of Agriculture is able to make informed decisions regarding national eradication and control strategies.