

ACT NOW TO STOP THE SPREAD OF THE CASSAVA BROWN STREAK DISEASE



As we commemorate World Food Day we would like to draw attention to this serious disease affecting cassava, a major food security crop.

What is Cassava Brown Streak Disease?

The cassava brown streak disease (CBSD) is a devastating disease that is spreading very fast and causing destruction to the cassava crop in East and Central Africa. This disease causes serious reduction in cassava harvest and in some cases total crop loss. Cassava is the second most dominant staple crop in Africa, after maize. This means that the disease could result in serious disruption in the lives of 200 million people (about 70% of the population) in East and Central Africa who depend on this crop for food and income generation.

Origin

CBSD is known to have started in the coastal areas of Kenya, Tanzania and Mozambique. It recently spread out to western Kenya, the lake zone of Tanzania and Uganda. In Uganda it has already been identified in the districts of Luweero, Busia, Pallisa, Wakiso, Mukono, and Kaberemaido.

What causes CBSD?

The disease is caused by a virus which is spread by a vector known as the whitefly. It is further spread through planting infected materials. The movement of materials from infested areas to non-infested areas escalates the situation.

How to identify CBSD

The symptoms are not striking or attention-catching and farmers are often unaware of the disease until harvest time.

- On the leaves, they appear as patches of yellow mixed with the normal green colour. The patches are more prominent on mature leaves which are often at the bottom of the plant.
- The damaged leaves do not become distorted
- On the stem, the disease appears as brown streaks on the upper green portions of the stem.
- On the root, it causes rotting of the roots and may also cause root distortion and cracking. It distorts the growth of the root, making it not fit for consumption.

The symptoms vary from variety to variety. Previously, the most widely known cassava disease in the region was the cassava mosaic disease (CMD). The symptoms of the two diseases (CBSD and CMD) are currently being confused with each other.

What is the difference between CBSD and cassava mosaic?

- The symptoms of CBSD are prevalent on lower mature leaves, while those of cassava mosaic are more pronounced on younger leaves
- Unlike cassava mosaic, the damaged leaves in CBSD do not get distorted in shape
- In CBSD the plant appears normal, while in cassava mosaic, the plant becomes stunted as the disease progresses



Comparison of CBSD infected cassava leaves to clean leaves

- The roots that are affected by CBSD may become distorted and rotten, while in cassava mosaic situations, roots do not become distorted but may reduce in size.
- CBSD causes discolouration of the roots into brown and dead brown patches while in cassava mosaic, there is no discolouration

How CBSD spreads

- The disease is spread through the planting of stem cuttings from infected plants.



Distorted cassava root

- It is also spread from plant to plant by white flies and probably other insect pests.
- Planting of susceptible varieties helps build up the disease.
- CBSD also spreads at multiplication centres if the original cuttings were infested or if they were not checked for CBSD.
- Farm implements such as knives used in cutting cassava stems into cuttings can spread CBSD to healthy planting materials when the infested knife is used on them.

How CBSD can be controlled

- The key control measure is planting clean cassava cuttings.
- The use of resistant varieties, however, is currently the most sustainable control method. Research in developing or selecting resistant varieties is ongoing in

several countries, with promising results in Tanzania, Kenya, Uganda and Mozambique.

- Integrated management of CBSD is the best way forward. The options in this approach are:

Field hygiene

Field hygiene involves uprooting and destroying all plants which are showing symptoms of CBSD. This reduces the risk at the source of the disease. To achieve results, cassava plants in multiplication plots should also be regularly checked for CBSD. All farm implements need to be sterilised over fire, especially when cutting cassava stems into planting materials.

Use of disease-free planting materials

Farmers should select cuttings from healthy cassava plants. They should use only materials from reliable multiplication sources. Farmers involved in community multiplication of planting materials should be trained in proper identification and how to reduce the spread of CBSD through cuttings.

Use of CBSD resistant/tolerant varieties

Tolerant cassava varieties exist in some countries even though some of them have not been consistent in showing tolerance to CBSD. In Uganda, two varieties are showing tolerance. These are MM-97 4271 and MM-96 0686. Resistance to CBSD is also reported in Tanzania, Malawi and Mozambique.

Use of clean materials

Use of clean planting materials is a crucial component of CBSD management.

- Propagators of cassava planting materials should therefore be trained in proper identification of symptoms of CBSD and other diseases which are spread through cuttings.
- Selection of planting materials should be done at propagation sites.

- Only resistant cassava varieties should be propagated and distributed.
- Multiplication of varieties known to be tolerant to CBSD should be fast tracked.

Quarantine and legislation

This involves restrictions on farmers living along borders between countries against transporting or moving cassava cuttings.

Awareness

Adequate sensitization and awareness campaigns need to be undertaken to enable the communities be part of and own the measures.



CBSD symptoms on stem

The Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) comprises the national agricultural research systems (NARS) of 10 countries namely; Burundi, DR Congo, Eritrea, Ethiopia, Kenya, Madagascar, Rwanda, Sudan, Tanzania and Uganda. ASARECA facilitates collective action among its member countries to address agricultural threats. Through ASARECA, several cassava growing countries are working together to combat this devastating disease.

Website: www.asareca.org



Different stages of CBSD root infection