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**Ugandan farmers fight cassava mosaic disease with clean planting materials**

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**Notes to broadcaster**

Cassava was introduced in Uganda in the mid-1800s and is currently one of the most important staple foods in the country. The crop is grown with a mixture of legumes and cereals in plots of land that average 2-5 hectares.

Until the mid-1990s, Uganda produced a surplus of cassava. But, a 1988 outbreak of cassava mosaic disease reduced that surplus from about 1¼ million tonnes to less than 700,000 tonnes by 1994. The 1988 outbreak virtually eliminated cassava in many parts of the country.

Cassava production has been rising in Uganda since 2010. Currently, the country produces over four million tonnes of cassava per year, with 60 percent grown in northern Uganda. Annual production is projected to increase with the establishment of an ethanol factory in northern Uganda.

But a more dangerous form of cassava mosaic disease had recently emerged, and has devastated some indigenous and new varieties. It is estimated that the disease results in annual losses of 81.7 billion Ugandan shillings ($22.4 million US).

You could use this script as research material or as motivation for creating your own program on managing cassava mosaic disease or other challenges involving cassava and other crops.

Speak to farmers and experts who are dealing with these challenges. You might ask them the following questions:

Do households in their areas grow cassava?

What challenges do they experience in growing cassava?

Are solutions available for these challenges?

What are the experts doing about it?

Estimated running time for the script: 15 minutes, with intro and outro music.

**HOST:** Hello listeners, and welcome to this radio program. Today we shall be talking about the impact of cassava mosaic disease in Uganda, and about how to best manage the disease.

Cassava is one of the most important staple food crops in Uganda. In fact, cassava has for so long been synonymous with food security that the words “cassava” and “food security” are almost used interchangeably.

Cassava was introduced to Tanzania in the late 1800s and quickly spread to Uganda. But in 1988, a severe form of cassava mosaic disease—or CMD—virtually eliminated cassava in many parts of the country. To restore production, the government initiated a program that successfully increased cassava production.

But cassava mosaic disease recently re-emerged in a more dangerous form, wiping out some indigenous varieties, and not sparing new varieties. The disease results in estimated annual losses of 81.7 billion Ugandan shillings (about $22.4 million US).

In 2015, the National Crop Resource Institute introduced new high-yielding varieties which have better resistance to CMD.

To understand the impact of CMD, we shall be talking to farmers in northern Uganda, a region that produces 60 per cent of the cassava in the country. We shall learn how they are managing CMD, and the best practices for managing the disease. One of these farmers is Anna Okeng, a 45-year-old resident of Acaba sub-county in Oyam district.

**SFX:** SOUNDS OF A HOME, VOICE OF CHILDREN PLAYING

**HOST:** Good morning, madam! I hope you have enough time for our interview.

**ANNA OKENG:** Good morning and thank you for coming. It is dry season now, so I can afford to take some rest from garden work.

**HOST:** Welcome to the program. I am Denis Ongeng, a journalist from New Vision newspaper. I am here to interview you about cassava mosaic disease. Tell us about your involvement in planting cassava.

**ANNA OKENG:** I have been growing cassava for many years because it provides food security for my family. We still see hope in planting more cassava.

**SFX:** SOUNDS OF WIND BLOWING, BIRDS SINGING. FADE INTO BACKGROUND.

**HOST:** I see you have a new variety of cassava in your garden. How did you get it?

**ANNA OKENG:** This is the second year I am planting this variety. It is NASE 14, and I got it from one of my friends. Last year, I planted half a hectare, and I earned more than 800,000 shillings (about $220 US). But last season my garden was attacked by cassava mosaic disease. The leaves of the plants are disfigured. And when I uproot the plants, the tubers are very small—even after six months.

**HOST:** How are you responding to CMD?

**ANNA OKENG:** I am not doing much except uprooting infected plants and burying them. It is difficult to get clean planting materials because this village is heavily infected with the virus.

**HOST:** Have you had any training on how to manage CMD?

**ANNA OKENG:** No. But I would be grateful to get such an opportunity.

**HOST:** Do you have anything to add?

**ANNA OKENG:** Yes. Like I said, it is hard finding planting materials which are resistant to diseases. Most of the local varieties have disappeared and our only hope is improved varieties. But we do not know where to find them.

**HOST:** Thank you, Mrs. Anna Okeng, for sharing your experience.

(PAUSE) New varieties are being widely used in Uganda. But some varieties introduced earlier are more susceptible to cassava mosaic disease. Let’s listen to Ojede Patrick, a 51-year-old farmer in Awaka village in Oyam district who planted a variety known as 192/0067. Welcome, Patrick.

**OJEDE PATRICK:** Thank you. I have been planting this variety—which is also known more widely as Omongole—for the last four years. It is good, but also has challenges.

**HOST:** Before we talk about its benefits and challenges, tell me the process you go through from planting to harvesting this variety.

**OJEDE PATRICK:** I planted the variety on half a hectare of land. I planted 2,000 plants. Weeding is very important if a farmer wants to get good tubers. Usually weeding should start after three weeks. After the third weeding, the cassava plants will be large and not need as much weeding. The tubers are ready for consumption after six months.

**HOST:** Why did you choose Omongole over the local variety?

**OJEDE PATRICK:** It is early-maturing and that quality has helped us feed a family of five children. The sales income from cassava has also helped us pay school fees for our children.

**HOST:** What challenges do you have with this variety?

**OJEDE PATRICK:** The biggest challenge we have is cassava mosaic disease. There was serious invasion by CMD. As a result, I lost 3,000,000 Uganda shillings (about $820 US) because of poor yield.

**HOST:** What practices have you been using to manage CMD?

**OJEDE PATRICK:** We have been advised only to uproot infected plants from the garden and bury them, but that doesn’t help much to solve the situation.

**HOST:** Thank you, Patrick, for sharing your experience about managing CMD.

Our next farmer has been planting local varieties of cassava. She planted one hectare of a cassava variety locally known as Bao. She has been hesitant to plant the new varieties. Christine Oloi is a resident of Amuca in Lira district, 380 kilometres from Kampala. Welcome, Christine.

**CHRISTINE OLOI:** Thank you for the opportunity.

**HOST:** Tell us your experience with local varieties of cassava.

**CHRISTINE OLOI:** I have been planting local varieties such as Ajude and Olepo for a long time without much problem. They are very resistant to weeds and can even produce big tubers when surrounded by weeds. The local variety matures in over a year. As a result, we have to weed for a longer period of time.

**HOST:** I can see your garden has very few cassava plants. What happened?

**CHRISTINE OLOI:** I lost the whole local cassava crop. I got the planting materials from a relative in another district, hoping it would work for me. But when I planted Bao, most of the plants were attacked by cassava mosaic disease and I lost up to 200,000 shillings (about $55 US). I was left with only a few stems.

**HOST:** Why did you have to go to another district to find planting materials?

**CHRISTINE OLOI:** Getting local planting materials that are free from disease is never easy. The indigenous local varieties are disappearing because many have been eliminated by cassava mosaic disease over the years.

**HOST:** Do you have anything to add?

**CHRISTINE OLOI:** Many farmers do not know how to manage the disease. It would be good if farmers were equipped with such knowledge.

**HOST:** Thank you for sharing with us your experience on managing CMD. Now it is time to meet an expert who will advise farmers how to manage the disease.

**SFX:** SOUND OF A PERSON RIDING A BODA BICYCLE

**HOST:** A boda bicycle rider has just brought me to the Zonal Agricultural Research and Development Institute about 10 kilometres from Lira town, in northern Uganda. I am here to meet the Director of Research at the institute, Dr. Turyagyenda Laban Frank.

Good morning, sir. I am Denis Ongeng, a journalist working with New Vision who called you a few days ago.

**DR. TURYAGYENDA LABAN FRANK:** Yes, Denis, you are welcome.

**HOST:** I have met a number of farmers in the villages and they are concerned about cassava mosaic disease. How serious is the disease?

**DR. LABAN:** Cassava mosaic disease was under control in

Uganda by 2006, but it still posed a big problem to farmers, especially for local varieties of cassava. It can reduce yields by up to 50 percent.

**HOST:** How does it affect the plant?

**DR. LABAN:** The plants suffer from stunting and general decline. The more severe the symptoms, the lower the yields. The disease is transmitted by whiteflies which attack only the leaves and make them wrinkled and disfigured. This affects the process of photosynthesis, which means that the leaves can’t make enough food for the plant. Therefore, the yield is reduced. The majority of local varieties are already infected with CMD.

**HOST:** What can farmers do to control CMD?

**DR. LABAN:** CMD is a viral infection. There are two key steps

farmers can take. The first is to ensure that they get their cassava cuttings from a clean source with no history of the disease. When you plant infected planting material, the plant will be diseased.

Secondly, farmers should use varieties which are resistant to CMD. Many resistant varieties have been developed over the years by the National Agricultural Research Organization. These include NASE 1, NASE 2, NASE 3, and others. More recently, NAROCAS 1 and NAROCAS 2 were introduced. These varieties are resistant to CMD, and also have better yields and are early-maturing.

**HOST:** Are any other practices recommended to manage CMD?

**DR. LABAN:** A farmer should avoid mixing different varieties

in the same garden. Some varieties are more prone to pests and diseases than others, and the disease can spread from susceptible varieties. If you have enough land and need another variety, it should be planted about 500 metres away from the first variety.

Rogue out and destroy diseased plants in cassava gardens, and plant only cassava stems approved by experts and distributed by certified agro-input dealers. It is also recommended that you rotate cassava with crops like maize, groundnuts, and cowpea because they are not attacked by the disease or by whiteflies, so this reduces the disease burden. Also, plant only those varieties which are approved by the Ministry of Agriculture. These are usually distributed only by certified agro-input dealers. There may be other sources with a certificate of inspection from the ministry, but these are very hard to find in Uganda.

**HOST:** Some farmers say the new varieties are not available. How can farmers access them?

**DR. LABAN:** The varieties are available at our research station

and in the market, but there is not sufficient quantity for many farmers. To respond to this problem, we are working together with the National Agricultural Research Organisation to launched a big project to distribute new varieties at the village level. Cassava is one of the five crops we are promoting under this project. We hope that by the end of the project in 18 months, many farmers will be able to find these new varieties. The new varieties are available through cassava seed entrepreneurs who received certified planning materials, approved by the Ministry of Agriculture, Animal Industry and Fisheries.

**HOST:** Thank you, Dr. Laban.

Our listeners now know that cassava mosaic disease can be reduced through planting clean materials, uprooting and burying affected plants, and using CMD-resistant varieties. While indigenous varieties are not being discouraged, farmers are being advised to also tap into the benefits of the new varieties.

I hope you had a wonderful time listening to the program. Keep planting cassava and tune in again next time. Thank you.

## Acknowledgements

Contributed by: Denis Ongeng, journalist, New Vision newspaper

Reviewed by: Kawooya Ronald, Research Officer, Crop Agronomist, National Agricultural Research Organization (NARO), Rwebitaba Zonal Agricultural Research and Development Institute

**Sources of information**

Interviews:

Anna Okeng, interviewed on December 27, 2016

Oloi Christine, interviewed on December 29, 2016

Dr. Laban, interviewed on January 4, 2017

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