



*A visiting group is taken through the process of developing aflasafe by scientists at a Ugandan research facility.
Photo Credit: Lominda Afedraru*

Uganda's aflatoxin-control product ready for release

By Lominda Afedraru

THE consumption of foods containing high aflatoxin concentrations can have acute health effects, leading to liver cirrhosis or even death.

Chronic exposure to aflatoxin is also known to cause liver cancer and is associated with immune system suppression, impaired food conversion, and stunting in children.

Exposure to high levels may result in acute symptoms and death.

Consumers are highly exposed to these poisons in staples such as maize and groundnuts.

In livestock animals acquire it through contaminated feed causing poor milk production, increased morbidity and reduced reproductive success.

In poultry birds acquire it through contaminated feeds leading to poor egg production, reduced egg weight and increased poultry mortality.

Additionally, aflatoxins negatively impact incomes and livelihoods, trade, food security and development.

According to records from International Food Policy Research Institute (IFPRI) 3,200 liver cancer cases per year are attributable to aflatoxin exposure (IFPRI) and 40 percent of commodities in local African markets exceed maximum levels in food.

To tackle the aflatoxin menace, scientists at the International Institute of Tropical Agriculture (IITA) and partner organisations have been conducting research and developing Aflasafe, a biocontrol solution developed using harmless types of *Aspergillus flavus* – the same kind of fungus that produces the toxin.

Each of the more than 10 countries where Aflasafe has been commercialised has its own version of the product.

In Uganda, it is awaiting commercialisation approval following validation on farmers' fields.

Scientists from the National Agricultural Research Organisation (NARO) and IITA have been conducting the testing since 2020, with promising results of more than 85 percent reduction in aflatoxin levels in maize, sorghum, and groundnut samples.

Dr Geoffrey Asea, the director of Uganda's National Crops Resources Research Institute (NaCRRI), said the team has developed a product namely UG01 which they expect to be rolled out

to farmers by the end of 2023 once they identified a private company to produce it on large scale.

Scientists from Kenya have also developed Kto1 which the team in Uganda has tested and it is working well in maize fields.

Dr Asea said that the product is in powder form and once it is released, farmers will be required to mix it in boiled sorghum seed and it will be broadcast either in maize or ground farm accordingly.

Using boiled sorghum seed mixture is meant to prevent it being blown off by wind during broadcasting.

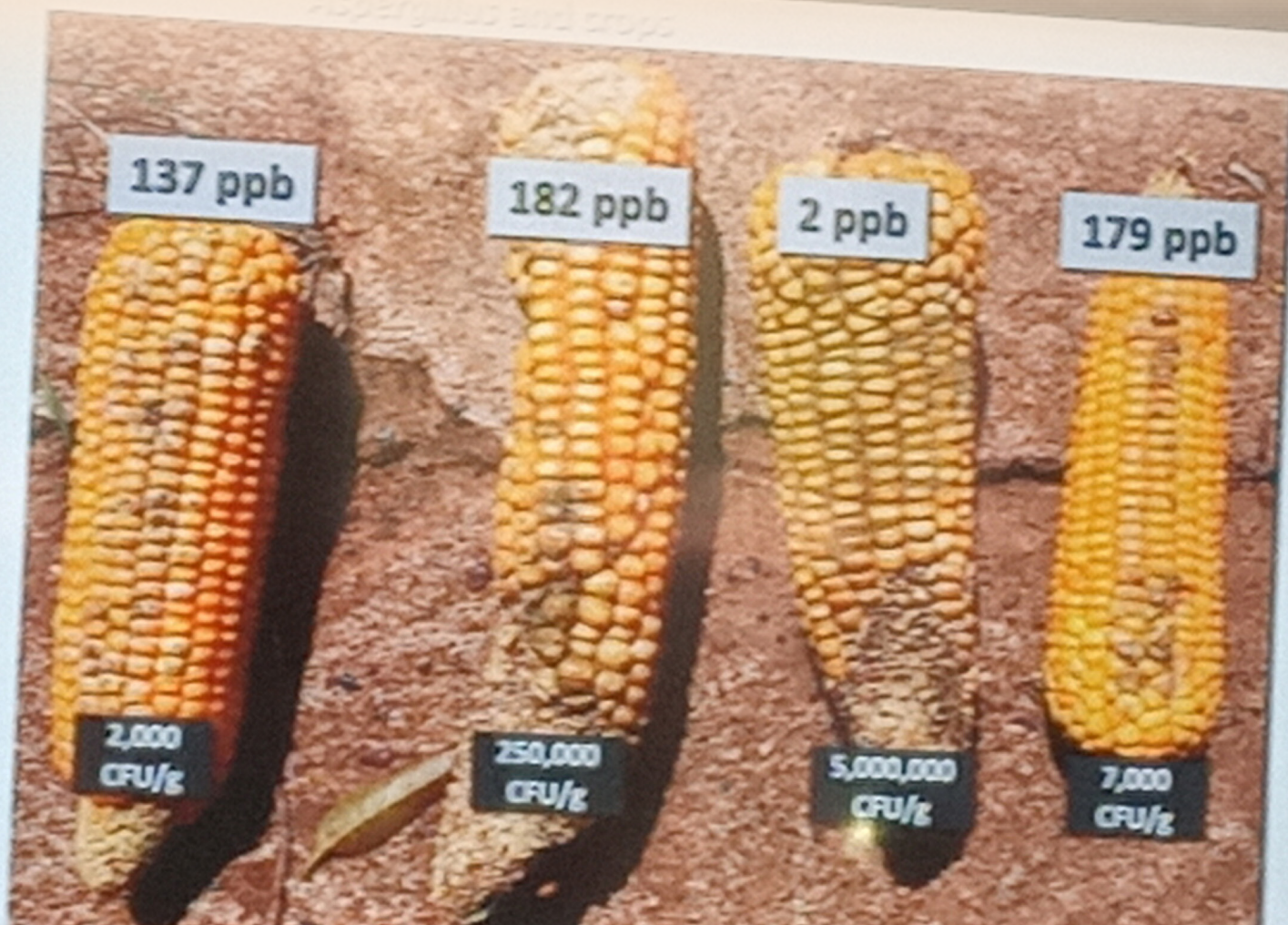
Farmers are required to apply Aflasafe 2-3 weeks before flowering of the plant at a rate of 10 kg per hectare.

Once Aflasafe is broadcast in the field, the spores will be colonised as the drop on the flowers of maize and groundnut to make them clean.

Some of the quantities of Aflasafe will drop in the field and get dissolved in soil to reduce the amount of aflatoxin existing in the soil.

The product was tested on 100 farms across the country and they have established that it works in all regions of Uganda.

Dr Asea contends that previously the rate of aflatoxin in foods in Uganda has been high but due to sensitisation, the rate is gradually dropping.



Samples of maize contaminated with aflatoxin. Photo Credit: Lominda Afedraru