## SPECIAL REPORT

## Water-absorbing gels help commercial tree growers in Uganda to cope with drought

By Lominda Afedraru

**N** North Eastern Uganda, prolonged droughts have been affecting pastoralists and cereal crop growers for many years.

According to the February 2020 Food Security Early Warning System Agromet Update the October 2019 to January 2020 rainfall totals in the region were among the lowest in almost 40 years.

The drought conditions brought about damage arising from seasonal pests and diseases such as the Fall Armyworm, maize stem borer and the cassava brown streak, among others, causing severe crop failures.

In response, scientists are developing and advising farmers to embrace climate-smart technologies.

Researchers at Uganda's Makerere University College of Agriculture and Environmental Sciences (CAES) have developed substances called hydrogels, which absorb water in sandy soils, hold it in the form of a gel and keep the dry soil wet for the plant's survival for a longer period of time.

By applying hydrogels, farmers are able to cultivate perennial crops in the dry lands such as Northern Uganda.

Vianny Ahimbisibwe, a researcher at Makerere University's department of forestry, said their study sought to address the challenges faced by farmers who grow trees in water-stressed land or who want to grow trees in similar areas.



Farmers display groundnut harvested from a field planted with a drought-tolerant vareiety. Photo Credit: Lominda Afedraru

In their experiments, the scientists tested the seedlings of different tree species in potted sand. They then amended the process with specific measurements of hydrogels to monitor performance after watering for a period of eight weeks.

"We first asked the question as to why certain desert countries are big producers of crops and we realised that it was as a result of using hydrogels to contain water in the soil which can be applied by our farmers in Uganda,"said Ahimbisibwe.

The use of super absorbent hydrogels was observed to prolong plant survival under water-stress conditions.

Commercial tree farmers in selected districts across the country are already applying the technology in growing Eucalyptus and Mivule tree species.