Ghana launches first GMO crop amid debate

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A public debate is raging in Ghana as the country launches its first genetically modified crop for commercial cultivation.

The Savanna Agricultural Research Institute—one of the 13 research institutes of Ghana's Council for Scientific and Industrial

Research—said last month (July) that it had launched a pod borer-resistant cowpea for commercial cultivation in the country.

The Maruca vitrata pest, otherwise called the bean pod borer, has ravaged farms in the country, causing farmers in northern Ghana to live in fear of what will happen when harvest time comes.

Last year, farmer Hakeem Osman lost a third of the beans he was hoping to harvest on a farm which sprawls across some 15 acres in Ghana's north east region, after an attack by the bean pod borer.

"I lost money. Big money," he told SciDev.Net.

New strain

Jerry Nboyine, a senior research scientist at the Savannah Agricultural Research Institute, led a team spearheading the development of the genetically modified (GMO) cowpea.

This work was to help farmers like Hakeem, who rely on traditional methods of pest control to save their yields.

"A single maruca larvae or a caterpillar can destroy at least four flowers before it moves into the adult stage," Nboyine said.

"After screening over 15,000 cowpeas … from different locations in Africa and Asia, we couldn't identify any single one that possessed such property of being able to overcome damage by this particular insect," the researcher told SciDev.Net.

"The only option is now to go for genetic modification."

Taking a cue from the Bt corn hybrids developed in the late 1980s,

Nboyine and his team introduced the Cry1A gene into existing cowpeas in Ghana.

"We started off with a gene known as the Cry1A gene. That particular gene was used to transform a particular cowpea variety," he said.

With this new pod borer resistant cowpea, farmers like Hakeem are expected to double their average yield, getting more than 20 bags per hectare, instead of the current less than 10, and spraying only two times, instead of the current eight.

The researchers did a number of tests on the new variety and concluded that it was safe.

"The result showed that it was as safe as any conventional cowpea," Nboyine said.

Human rights

GMOs, however, are controversial in Ghana.

In May this year, Ghana's Human Rights Court threw out a lawsuit challenging the introduction of this GMO seed into the country, putting to an end a nine-year bruising court battle between the country's National Biosafety Authority and civil society groups.

"As a civil society organization, we've been cautious to look at what the hurry is for Ghana to go into GMO, when these basic factors wouldn't improve Ghana's well-being as far as food production," says Edwin Kweku Andoh Baffour, who works with Food Sovereignty Ghana, one of the organizations in the suit.

"What is the point of investing this money, especially when you are

making irreversible changes to the biodiversity in our nation?" asks Baffour.

Baffour also raised concerns about the safety of GMOs, questioning the absence of long-term studies on their health impacts.

Sulemana Issifu, Ph.D. Researcher, Agronomy in the Tropics and Subtropics, Hans Ruthenberg Institute, raised concerns about the impact of the GM crop on other organisms.

"As I continue to study the data, I become increasingly worried," Issifu told SciDev.Net.

But the news of a pest-resistant GMO cowpea variety excites farmers like Hakeem.

"If there's a new variety that can resist pests, it would be very beneficial to us because when we see that one, we won't waste money on the chemicals. It will also help us save money," Hakeem told SciDev.Net.

With the court case now out of the way, the researchers are looking to immediately commercialize the seeds, as cowpea is a major staple in Ghana.

Provided by SciDev.Net

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