
FIVE YEARS GM WHITE MAIZE DEMONSTRATION TRIALS INCREASED YIELDS ON AVERAGE BY MORE THAN 20% SECURING A SUSTAINABLE FOOD SUPPLY

Successful demonstration trials over the past five years with GM (genetically modified) white maize and conventional maize conducted by AfricaBio on 53 demonstration sites in six provinces increased maize yields by more than 20%, securing a sustainable food supply, says Prof Jocelyn Webster, executive director of AfricaBio.

The plots consisted of 1ha Bt maize (stalk borer resistant) and 1ha non-Bt (conventional) maize. The results showed effective control of stalk borer and consistent increase in yields, which assisted in sustaining the food supply.

Speaking at a press conference in Centurion, she said the project was carried out in collaboration with the National African Farmers' Union (NAFU), Buhle Farmers' Academy, Cedara Agricultural College and provincial departments of agriculture in conjunction with emergent farmers.

The objective of the project was to demonstrate to small-scale farmers the role of biotechnology and assess the benefits of Bt maize. Some 2048 small-scale farmers, over 184 agricultural extension officers and more than 75 agricultural decision makers in six provinces received extensive training in Bt maize cultivation during this period. The project is ongoing.

Over the five years, cob damage by stalk borer averaged 0.6% in the Bt maize plots compared to more than 14% damage in the conventional maize plots.

One of the emergent farmers, Mr Molatsi Musi, had a 34% yield increase. From the surplus money he earned he bought himself a hammer mill – something he could not afford before during 20 years of farming as a result of poor harvests. Now he mills maize from his neighbours, earning extra cash.

In 2006/07 with the increased yields emergent farmers such as Mrs. Ella Baloyi and Mr. Motlasi Musi in Gauteng donated more than 10 x 50kg bags of maize meal to the Ikageng Women's League in Soweto who in turn distributed the maize to old age homes, child care centres and hospices.

Reports of increased yields with Bt maize are not only forthcoming from emergent farmers trained by AfricaBio. Reports of success are being received from other emergent farmers all over South Africa, says Dr Keetch the project manager.

Mr Richard Sithole, for the past 12 years chairman of the Hlabisa District Farmers' Union, rural KZN, with a total of 500 small-scale farmer members reported that they planted Bt maize for the first time 2003/04 season on an average of 2.5 ha each.

Their average yield increase the first year was 220%. Sales of surplus maize gave them an average increased income of R2825.

Sithole points out that with just 20 farmers earning this extra income, and there were many more, it means that among them they had R56 500 more disposable income in the community to boost the informal sector. “This amounts to food security and alleviating poverty,” emphasised Dr Keetch.

In the Eastern Cape, Chief Advocate Mdutsane of Ixopo, with 120 emergent farmers under his jurisdiction, planted 142 ha of Bt maize. Their yields increased from 1.5 t/ha to 3.5 t/ha.

They call it *iyasithluthisa*, isiXhosa for “it fills our stomachs.”

“It is often said there is a world surplus of food. The problem is getting it to famine stricken areas due to a lack of infrastructure, roads and transportation.

“However, these emergent farmers have proved that although it may be impossible to transport a ton of maize to rural areas on horseback, bicycle or taxi, one man can easily carry a 25 kg bag of Bt maize seed, plant it and harvest enough to feed local communities and sell off surpluses to ensure food sustainability, poverty alleviation and a better life for many,” said Prof Webster. She also announced that AfricaBio is heavily involved in the Southern African Development Community (SADC) countries with training programmes for agricultural biotechnology development.

During the past four years AfricaBio hosted more than 300 delegates from the SADC and the rest of Africa during agricultural biotechnology workshops including visits and lectures at agricultural research and scientific institutions, universities, commercial and emergent GM farmers.

Whilst AfricaBio is assisting emerging farmers to assess this new technology it is also involved in providing training on farming methods in general said Dr Keetch, Chairman of AfricaBio. He pointed out that GM crops still need good farming practices. In addition not all pest and diseases are controlled by GM

crops so there is a need for the use of agro chemicals, fertilizers and other crucial agricultural inputs.

“Africa can benefit from GM technology however, strict regulatory procedures are slowing the adoption down said Professor Webster. South Africa is the only African country growing GM crops commercially. At present over 50% of our maize, 70% of soya and 90% of cotton grown in South Africa is genetically modified. Other African countries such as Egypt, Kenya, Burkina Faso and Uganda are testing these crops and will commercialise in the future. Recently four West African presidents – from Mali, Niger, Ghana and Burkina Faso – announced at the Ministerial Conference on Harnessing Science and Technology in Ouagadougou, Burkina Faso, that the continent must increase food production 12-fold to satisfy the needs of the population. They emphasised that in order to meet this challenge, Africa must acquire and adopt biotechnology.”

Bt maize has been grown internationally for over eleven years. It is officially approved for commercial release in South Africa. The approval mechanism for any GM crop requires extensive testing and independent scientific review of safety to human health and the environment.

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