

Biotech Awareness from the Ground up: Outreach to Small-Scale Farmers and Rural Communities in South Africa

SUMMARY: Every March, rural communities across South Africa gather around local small-scale farms to learn about biotechnology. There are no multi-media presentations or complex internet sites here. Instead people come simply to see a field of insect-protected maize next to a conventional field, to listen to the farmer talk about what they've learned from growing the crop, and judge for themselves how effective biotechnology can be in their own environment.

Rural agriculture communities in developing countries are often spread across vast distances, separated by mountains, plains and rivers and connected only by the most basic roads. To provide farmers and others in these communities with information about biotechnology that is real and relevant, it is necessary to demonstrate the technology right where they are. One successful programme does just that, by working intensively to train a few small-scale farmers in key areas and then opening their fields to all who are interested.

It starts with a farmer

The outreach programme organised by AfricaBio, an independent non-profit stakeholders organisation, begins every year with the selection of farmers from the main maize-growing areas of South Africa. Working with provincial agriculture departments, they identify farmers that have at least two hectares (about five acres) of land and are willing to use it to grow a biotech crop side-by-side with a conventional crop for at least one season.

Motlatsi Musi is one such farmer from the town of Olifantstevlei in Gauteng province. He was chosen to participate in the programme in 2006, along with other small-scale farmers who have managed to move above the subsistence level, but still struggle to keep their farms profitable year after year.

In September, one month before planting began that year, Mr. Musi and his fellow farmers were brought together to attend an orientation workshop. They were given basic background on biotechnology and more detailed information about the insect-protected maize they would all be planting for the first time that year, including how to scout for insects and the importance of maintaining



a refuge of non-biotech maize as part of an integrated pest management plan.

By mid-October, seed and fertilizer, procured primarily through industry donations, are distributed to farmers so that they are in place and ready once the rains begin and planting season starts. Each farmer plants at least two hectares: one hectare of insect-resistant (Bt) maize and one hectare of conventional maize of the same variety. And each small-scale farmer tends the crop according to the resources they have. Some do all their work by hand while others use some mechanised tools.



As the crop grows and the season progresses, staff from the programme and local agriculture extension workers visit each farm on a monthly basis to monitor progress, provide support and prepare for the second part of the programme – raising awareness in the local community.

Open fields for the community

The programme gives participating farmers valuable experience in growing biotech crops, but it doesn't stop there. Major 'information days' at the end of the growing season and smaller 'mini-events' at different crop stages ensure that neighboring farmers, the surrounding community, and stakeholders from around the country also have an opportunity to learn more about biotechnology.

Typically, each farmer in the programme will host one or two mini-events at different stages in the growing season. These events might attract 30-70 people from around the immediate geographical area. While the maize crop is still growing, other farmers, extension workers and community leaders are able to compare active insect infestations on the biotech and conventional fields.

Later, a major information day event is held just before harvest, usually in March. Up to 300 people, most of them farmers, gather on the farm at the demonstration fields. Local community leaders and media may also join, along with people from around the country who have learned about the event through their extension services or agriculture officials.

The format of each information day programme depends on the local community, but usually includes

a welcome address and invocation by community leaders. Then, using basic materials like posters and handouts and working in the local language (there are seven major language groups that the programme works with), experts talk about topics such as agriculture, agronomy, risk assessment and biotech. In each case, however, it is a farmer like Mr. Musi who is the main attraction as he talks about his experiences and then leads a tour of the field, cutting plants open to look at grain quality, yield and insect damage while answering questions from all.

Mr. Musi's experience of Bt maize controlling the maize stalk-borer in his own field continues to be very positive. "I used to get five tonnes of maize per hectare using conventional seed," Mr. Musi says. "But now that I'm planting biotech maize, I'm getting seven tonnes per hectare, and my expenses are down because I've been able to reduce labour and pesticide [applications]."

The success is growing

This kind of programme to educate small-scale farmers and raise awareness in the rural communities that they live in could be replicated in other areas. Of critical importance to success, say organisers at AfricaBio, is to use materials that are easy for people to understand. Language, educational level and the existing concerns that people have about biotech must all be taken into account. In addition, demonstration sites must give an accurate picture of the impacts of biotechnology on insect damage.

The success of this six-year effort is clear. The programme has demonstrated the impacts of biotechnology crops under real-world circumstances on small-scale farms. Many farmers who have participated in the demonstration programme have continued to plant biotechnology crops profitably. Neighboring small-scale farms have also adopted the crops, as evidenced by sales of seed specially packaged for smaller farms. The effectiveness of the programme has encouraged the provincial governments in Musi's home province of Guateng to directly support these demonstration activities or run their own programmes.

As for Mr. Musi, he continues to demonstrate the positive impacts of growing biotech maize to his fellow farmers and the community. His crop yields have increased by 40 percent since the days of planting conventional maize. Over the years the extra income has enabled him to buy a few pieces of equipment for his farm, send his children to study medicine and donate surplus maize to a charity. "My aim is to do South Africa proud," Mr. Musi says.