



# USAID | SOUTH AFRICA

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GENERAL MANAGEMENT ASSISTANCE CONTRACT (GMAC)

**Contract No: 674-C-00-01-00051-00**

## **Biotechnology Outreach, Capacity Building, and Information Transfer in South Africa**

Contract or Grantee number: 0127-1003-G-GA35



AfricaBio

This report was produced for review by the USAID. It was prepared as a performance milestone under Mega-Tech, Inc.'s prime contract. The contents of this report address activities performed under USAID/South Africa's Strategic Objective No. 9: Increased Market Driven Employment

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### **Activity Summary and achievements:**

The purpose of this grant was to build biotechnology capacity among the scientific community to better understand the policy framework and to enable them to transfer information on biotechnology to the public, with special emphasis on small-scale farmers.

The following outcomes were some of the achievements of this grant:

- 626 small-scale farmers exposed to a new agricultural technology;
- 49 communicators trained to offer training in biotechnology matters to the general public, communities and small-scale farmers in local languages;
- 22 individuals trained in project management and business development of agricultural biotechnology;
- Development of electronic (BioLines) and hard copy (GMO indaba) newsletters, decision makers pocketbook, communication manuals/tools, Bt Maize brochure and summary consumer survey report; and
- CD distributed to 108 key scientist and community leaders of database and biotechnology information materials.

**Contents of this report:**

- 1) Final Report on Biotechnology Outreach, Capacity Building and Information Transfer (Jan 2005);
- 2) Grant Completion Report; and
- 3) Annual Narrative Summary (FY2005).



*AfricaBio*

*Final Report on Biotechnology  
Outreach, Capacity Building and  
Information Transfer in  
South Africa Project*



Grant No: 0127-1003-G-GA35 SA  
Duration: January 2004 to December 2004  
January 2004 - December 2004

JANUARY 2005

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## **Project Background**

The Biotechnology Outreach, Capacity Building and Information Transfer in South Africa Project was initiated in January 2004 to build biotechnology capacity among the scientific community to better understand the policy framework and to enable them to transfer information on biotechnology to the public, with particular emphasis on small-scale farmers.

The aim of this outreach programme was to address biotechnology information transfer in South Africa. The uptake of biotechnology by the farming community in South Africa has been steadily increasing. This has been particularly so amongst the small-scale farmers who are rapidly adopting the technology. The goal of this one year project has been to build capacity amongst those using the technology to better understand and communicate its benefits to others.

## **Verifiable Project Outcomes**

- 626 small-scale farmers exposed to a new agricultural technology
- 49 communicators trained to offer training in biotechnology matters to the general public, communities and small-scale farmers in local languages
- 22 individuals trained in project management and business development of agricultural biotechnology
- 2 visits to demonstration sites with small-scale farmers, journalists, policy/decision makers and scientists.
- A comprehensive database of key government contacts, institutions, NGOs, scientists, biotechnology activities and expertise available in South Africa.
- A media monitoring and analysis report
- Development of electronic (BioLines) and hard copy (GMO Indaba) newsletters, decision makers pocketbook, communication manual/tools, Bt Maize brochure and summary consumer survey report.
- CD distributed to 108 key scientist and community leaders of database and biotechnology information materials.
- Report of activities, achievements and recommendations.

## **Project Activities Implementation**

### **Preparatory Activities**

The foundation of the project was laid with a functional work plan and M&E plan that will guide all activities. The development of project training materials and information for dissemination commenced at this stage of the project.

### **Database development**

A database of key government contacts, academic and research institutions, NGOs, scientists and key decision/ policy makers that may impact on biotechnology in South Africa was developed.

This will be a very useful tool for biotechnology stakeholder in both South Africa and in the region at large because it will allow stakeholders in the region to have access to key biotech contacts in South Africa.

### **Project Material development**

Factual information materials were developed and distributed through various events and channels during the course of this project. The science-based information was in formats that are accessible to the target audience. Some of the materials that were developed include:

- Bt maize fact sheet
- Decision makers booklet
- Summary consumer survey report
- Media analysis report
- Training materials for demonstration visits, communicator's workshop, scientist workshop and small scale farmers training.

### **Demonstration visits 1 & 2**

The impact of biotechnology to farming systems in the African context was showcased to over a hundred Scientist, small scale farmer's biotechnology stakeholders both in South Africa and in the region and key journalists. This was carried out in two separate visits in March and April 2004. *See details in Appendix A*

### **Newsletter**

Four editions of a quarterly hard copy newsletter GMO Indaba, an informative newsletter that gives decision makes up to date information on biotech issues in South Africa, was developed, printed and distributed during

the course of this project. This newsletter was distributed via post and at our workshops/ events.

Twelve editions of a monthly electronic newsletter BioLines were also developed and distributed to an email database of about 4299 contacts.

### **Communicators training workshops**

A total of 72 communicators were trained on how to be competent biotechnology communicators, who are able to transfer factual biotechnology information to other stakeholders from varied backgrounds. *See details in Appendix A*

### **Small-Scale Farmers Training**

Six hundred and twenty six small-scale farmers in Gauteng, North West, Kwazulu Natal and Free State provinces of South Africa have received training from AfricaBio in a total of six workshops. The material covered in the information sessions includes:

- What is biotechnology?
- Applications of biotechnology
- Hands on exercise on developing farmers own GIOs
- Status of GM crops in South Africa - what is available for farmers to use
- Global status
- Biosafety
- Regulations, including the South Africa GMO Act

This biotech information transfer to small scale farmers is expected to empower them and allow them to make informed decisions about biotech.

*See details in Appendix A*

### **Scientists outreach workshop**

This three-day training course on project management was able to address the complexities of designing and delivering a successfully applied R&D project in agricultural biotechnology, and provide a framework for planning, decision making and operational management of integrated agricultural biotechnology projects. *See details in Appendix A*

## Overview of project achievements & lesson learnt and next steps

### Achievements

- This project has been an important tool for the development of biotechnology amongst scientist, small scale farmers and key biotechnology stakeholders in South Africa. It enabled target groups to develop communicators that can address biotechnology issues in their various sectors.
- The project has also built technical capacity among key scientist and has lead to efficient technology transfer/ diffusion, which in the end has foster impact on end users
- Established a strong collaboration between research and technology development system and the end users
- Increased awareness on biotechnology at all levels of the South African public

### Lesson Learnt

Below is a summary of the lessons learnt

- Awareness creation is a continuous process that must be constantly reinforced. The issues surrounding biotechnology are changing as new information becomes available. Communicators need to be updated and debriefed on the latest information on an ongoing basis.
- There is a need for information that is appropriately packaged to meet the needs for each target audience. Again this is an ongoing process. As a result, it is necessary to have the resources to keep this going.
- This project could not have been implemented fully without the contributions third party partners.
- As this project was linked to the SADC region to some degree, there is a need therefore for South African scientists, farmers and stakeholders to play a leading role, due to the fact that they have practical experiences in the application of the technology.
- The strong partnership that has been forged between AfricaBio and other stakeholders such as NAFU is hard to be discredited and this has help to develop the credible message that are expressed in public fora.

## **Role played by AfricaBio**

The safe and efficient introduction of biotechnology and GM products into the African continent will require considerable public communication and outreach. This is best undertaken by non-governmental organizations that are perceived to be credible and factual. At present AfricaBio is recognized as one of these organizations (this statement was confirmed when AfricaBio was presented with the South African National award for outstanding contribution to S&T for the last three years in the NGO category which was awarded by the National Science and Technology Forum).

Apart from the coordination and implementation activities carried out by AfricaBio, the organization has added value due to its unique nature. AfricaBio is a stakeholder association that encompasses all biotechnology stakeholders. This means that AfricaBio is able to relate and address the needs of different stakeholders from decision makers, researchers, and farmers to consumers.

AfricaBio has been involved with communication of biotechnology to various stakeholders for the last four years. During this time, AfricaBio has developed various training and communication materials that are used to communicate to different stakeholders. AfricaBio was therefore able to use the various resources and expertise at its disposal to effectively carry out the various activities and deliverables identified in this project.

## **Recommendations and way forward**

1. To continue with training/awareness directed to target groups (Media, producers, scientists, decision makers etc.)
2. Continue to showcase the technology in the form of demonstration plots. We have found this to work proficiently in the past year. We have also found that demonstrating the role that this technology can play in agricultural development especially for small scale farmers does have a very strong impact on decision-makers.
3. Research on current consumer concerns and how to address them needs to be extended.
4. The most important need in South Africa and the region at the moment is to address top decision makers in government, at the ministerial and advisor level. This involves one on one meetings, information packaging and dissemination, showcasing crops such as GM white maize which has had a direct impact on disadvantage communities and utilizing our third party spokespersons.
5. This programme should be extended as it has had a positive impact on capacity building, information transfer and technology transfer amongst South African scientist, farmers and key decision makers. It is recommended that USAID should consider a two year project on "Biotechnology Outreach, Capacity Building and Information Transfer in South Africa.

## **Conclusion**

The Biotechnology Outreach, Capacity Building and Information Transfer in South Africa Project has had a positive impact in South Africa as it has contributed to capacity development, information transfer and technology transfer amongst South African scientists, farmers and key decision makers in terms of training the public in general in areas of biotechnology and biosafety.

## Appendix A

### Task Reports

Below are the 6 task reports that have been submitted as part of the deliverables for this project.

## BT MAIZE DEMONSTRATION 1

17 MARCH 2004



### BACKGROUND

The Bt maize demonstration plots were set up with the intention of visually demonstrating to biotechnology stakeholders the impact of Bt maize on farming systems in South Africa and the region.

The plots were planted in December 2003 at two locations. The first plot was planted at Zuurbekom (Gauteng Province) on the farm of the Secretary-General of the National African Farmers Union, Mrs. Sabina Khoza. The second plot was planted at the ARC - Potchefstroom (North West Province).

### OBJECTIVES OF DEMONSTRATION VISIT

The key objectives of the actual demonstration visits were:

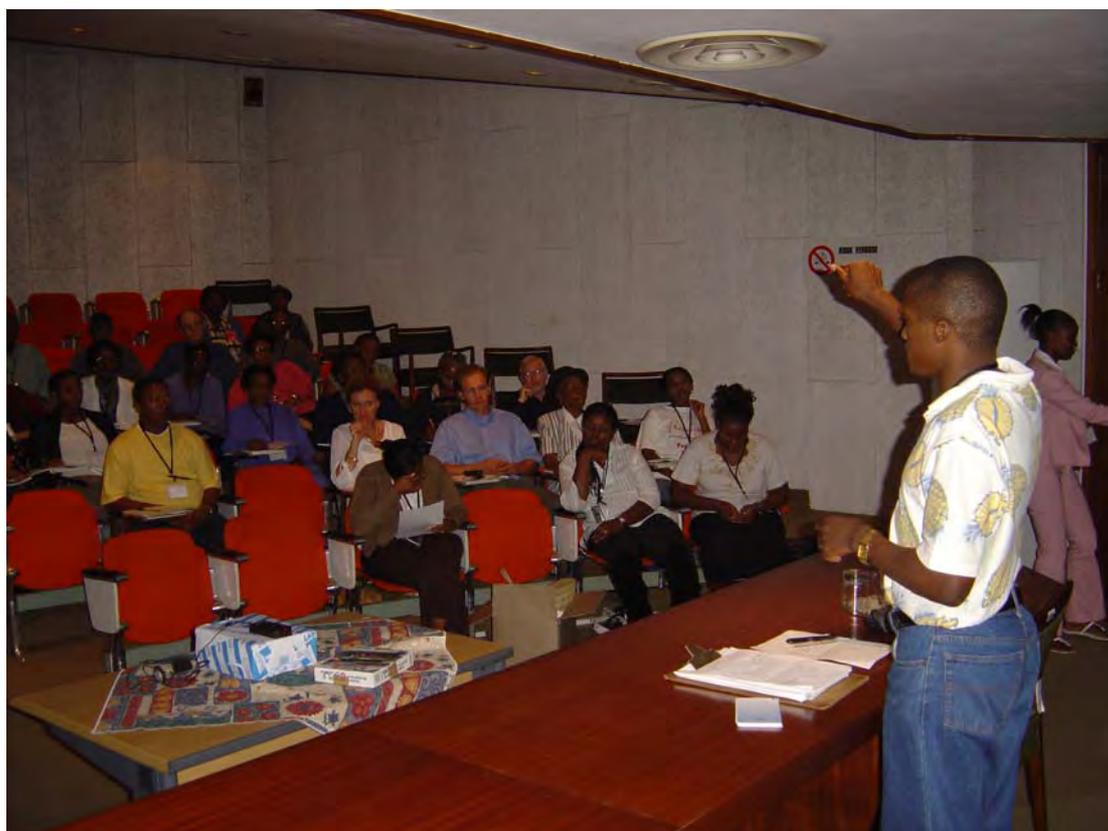
- To provide an opportunity for different stakeholders to visualize biotechnology and see what impact it can have on farming
- To demonstrate the impact of Bt maize on small holder production systems
- To demonstrate the effectiveness of Bt technology in controlling stalk borer
- Successful technology transfer and farmer empowerment

- To encourage networking between farmers, scientists, decision makers and media

## THE DEMONSTRATION VISIT

The first demonstration visit was held on the 17<sup>th</sup> of March 2004. The programme for the day began with an introductory presentation on Bt technology by Dr. David Keetch, President of AfricaBio. This presentation gave background information on the concept behind Bt technology, how the seed is formed and highlighted the advantages of the technology to farmers. Dr. Keetch went on to give a brief overview to the Bt maize demonstration project. This project was conducted in order to function as an important visual aid for showcasing the role of Bt maize in controlling stem borer in maize.

Mr. Kosi Rebe of the ARC then gave a presentation on the demonstration plot. The presentation included the following background information (See picture below and Appendix A (page 16) for copy of presentation).



## OVERVIEW OF DEMONSTRATION SITE

### **Goal of the demonstration project:**

Introduce stem borer resistant Bt Maize to small scale farmers to improve maize production, quality and returns.

Maize is the most important grain crop grown by resource poor farmers. Stem borers are a major constraint to maize production accounting for yield losses ranging from 0-80%. The overall results are severe shortages of food. Chemical control is the usual treatment although it is expensive for resource poor farmers. Whilst the seed is more expensive, Bt Maize offers a cost effective alternative to chemical spraying for farmers.

### **The specific goals for the demonstration visit were:**

1. Successful technology transfer and farmer empowerment,
2. Increased yield and stabilization of crop production,
3. Acquired farm management skills,
4. Increased income, improved food security and healthy communities

At the time of the demonstration visit, the preliminary results from the plot were as follows:

100 plants in each of the four blocks (2 Bt & 2 no Bt blocks) were infested with 3-5 first instar *Busseola fusca* larvae. Four and 25 % Bt maize plants recorded in separate blocks showed symptoms of stem borer damage. Eighty three percent and sixty seven percent non Bt maize plants in separate blocks also showed symptoms of stem borer damage. The low percentage of Bt maize plants with stem borers damage compared with high percentage in non Bt maize blocks shows that Bt maize was effective on the first instar larvae.



Fig. 2: Demonstration maize field

### **OVERVIEW OF FIELD DEMONSTRATION**

A total of 43 individuals participated in this activity at the Potchestroom site.

During the course of the field visit, participants were presented the opportunity to see both the conventional and Bt maize planted alongside each other on the same plot, which then gave them the chance to visually see the physical effect of the stem borer damage to the conventional maize (see picture below) and the stem borer resistance of the Bt Maize.



Below are some cross-section photographs of the field visit.





## THE PARTICIPANTS

There were a total of 43 participants from a diverse background of institutions and affiliations. They included:

- National Department of Agriculture
- ARC
- African housewives league
- Ikageng woman's club
- Farmers from Klerksdrop
- SACBC (known anti-biotechnology campaigners)
- Scientists from the University of Pretoria
- Y.W.C.A
- Ecumenical woman's prayer movement
- Gauteng Department of Agriculture Conservation and Environment

The programme for the day entailed providing the participants with an overview of Bt Maize, as well as providing an opportunity to address questions and concerns of the participants. This demonstration project has showcased the technology and has also been used to gather important socio-economic data that may be extrapolated for use by other stakeholders in Africa. This demonstration projects would also be showcased to key decision makers in Africa.

## THE KEY ISSUES

The demonstration visits raised various questions which were addressed by the speakers, the ARC and AfricaBio personnel. The main issues were:

- **Food Safety**

The participants required clarification on the safety of Bt maize for human consumption. The issue of mycotoxin reduction was discussed at length and the participants were reassured of the safety of Bt maize. Further information was provided in the information packs.

- **Access to Seed**

The other concern raised was the issue of access to seeds. It was noted that the farmers present wanted more information on where they could access Bt maize to grow for themselves. This issue will be addressed by one to one information sharing and at future demonstration visits by providing a list of organizations involved in Bt maize production.

- **Public Awareness**

The consumer groups present raised the point that not enough was being done to address the public awareness. Initiatives, such as this one by AfricaBio, to increase public understanding of biotechnology were praised.

The participants requested that there should be more of these types of demonstration projects on a regular basis

## Appendix A

**INTRODUCTION OF GENETICALLY  
MODIFIED MAIZE (BT) TO SMALL  
SCALE FARMERS IN GAUTENG &  
NORTH WEST PROVINCES**

**M. REBE**

### **INTRODUCTION**

= MAIZE: WIDELY GROWN BY  
RESOURCE-POOR FARMERS

= STEM BORERS: CONSTRAINT  
TO MAIZE PRODUCTION

= YIELD LOSSES: 0-80%

= BT: NEW TECHNOLOGY FOR  
STEM BORER CONTROL

-COST EFFECTIVE IN THE  
LONG RUN

-ENVIRONMENTAL  
FRIENDLY

### **GOAL OF THE PROJECT**

**INTRODUCE STEM BORER RESISTANT  
BT MAIZE TO SMALL-SCALE FARMERS**

**TO IMPROVE MAIZE PRODUCTION,  
QUALITY AND RETURNS.**

### **METHODS**

= SITE SELECTION  
FARMER INTERVIEWS

= THREE SITES SELECTED  
ONE HECTARE EACH

= FOUR BLOCKS IN EACH SITE

BT	NON BT
NON BT	BT

**RN 3505**

**DKC 78-15 BT**

## CULTURAL PRACTICES

= **PRIMARY SOIL TILLAGE**  
MOULDBOARD PLOUGH

= **SECONDARY TILLAGE**  
CULTIVATOR

## FERTILIZATION OF MAIZE

= METHOD: RANDOM SAMPLING

TEN SAMPLES: 0-30 CM TOP SOIL  
30-60 CM SUB SOIL

= APPLICATION: AT PLANTING  
TOP DRESSING

## IRRIGATION

**SPRINKLER: ZUURBEKOM**

**POTCHEFSTROOM**

**DRYLAND: LICHTENBURG**

## WEEDING

**METHODS: MECHALLY / PHYSICALLY**

### 1. TRACTOR

ROTAVATOR: POTCH

CULTIVATOR: POTCH

ZUURBEKOM

### 2. HAND HOEING: ZUURBEKOM

POTCH

## INFESTATION

1. NATURAL INFESTATION

2. ARTIFICIAL INFESTATION

WITH Busseola fusca

POTCH: 100 PLANTS/BLOCK

## INFORMATION DAYS

11/04: ZUURBEKOM = 30 FARMERS

25/02: POTCH = 28 FARMERS

26/02: POTCH = 100 FARMERS

10/02: POTCH = 40 FARMERS

## INFORMATION DAYS

17/02: POTCH = 43 FARMERS

17/02: ZUURBEKOM = 43 FARMERS

24/02: ZUURBEKOM = 46 FARMERS

## FIELD OBSERVATIONS

% LEAF DAMAGE RESULTS

A. ARTIFICIAL INFESTATION

	BT		NON BT
BLOCK 1a	4 %	BLOCK 1b	67 %
BLOCK 2a	25 %	BLOCK 2b	83 %

### FIELD OBSERVATIONS

#### % LEAF DAMAGE RESULTS

##### A. NATURAL INFESTATION

	BT		NON BT
BLOCK 1a	8 %	BLOCK 1b	33 %
BLOCK 2a	5 %	BLOCK 2b	18 %

### STEM DAMAGE: BT VS. NON BT

AREA: 60 m<sup>2</sup>

	BT	NON BT
No. STEM	224	247
DAMAGE	2	46
%	0.89	18.6

### STEM DAMAGE: BT VS. NON BT

AREA: 60 m<sup>2</sup>

	BT	NON BT
COBS	390	351
DAMAGE	7	82
%	1.79	23.36
COBS/PLANT	1.7	1.4

## Appendix B: BT MAIZE DEMONSTRATION EVALUATION RESULTS

43 people of which only 29 people completed evaluation forms. The results of the review of these evaluation forms have been recorded below.

### Highlights of the workshop

- Field demonstration

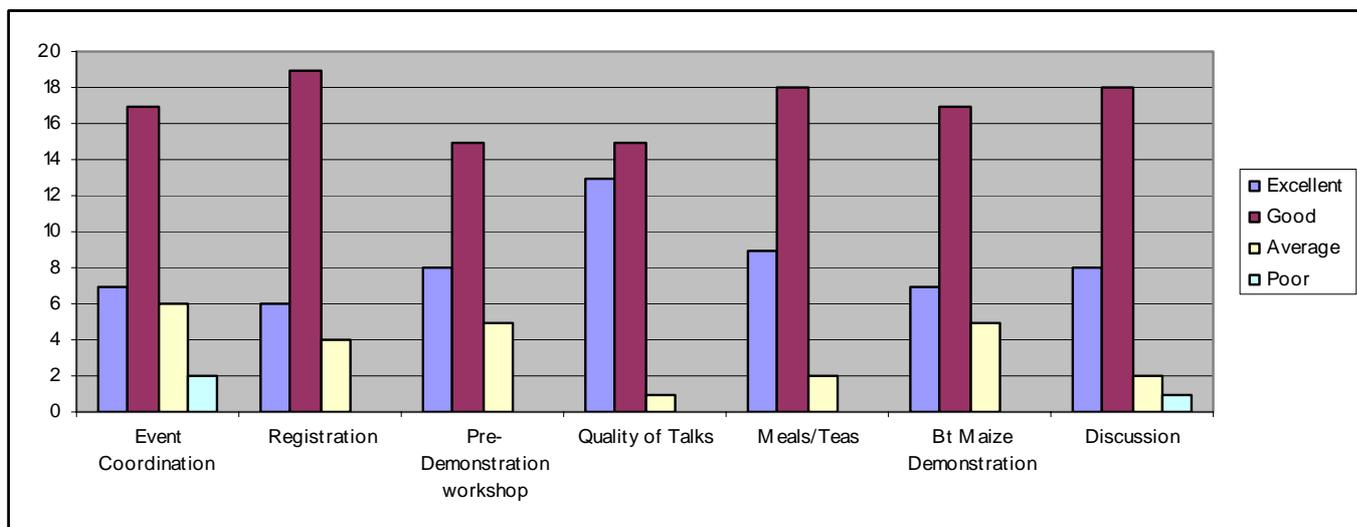
### Improvements for future workshops

- Logistical arrangements of transport robbed us of productive time
- Broader stakeholder participation or representation so that its not one sided

### Suggestions for future themes

- The impact of GMO on food safety, profit maximization and diversification and cooperative development
- Visiting commercial farmers who have planted GM crops

The majority of participants felt that this type of workshop should be held once a year to maintain the momentum and maintain the interests that have been created by this workshop.



### Appendix C: List of participants

No.	Name	Position	Institution	Tel & fax
1.	Akanbi R.	Information Manager	AfricaBio	
2.	Gebeyethu S.	Scientist	UP	Cell: 082 860 6512 E-mail: <a href="mailto:Solomon.gebeyethu@fabi.up.ac.za">Solomon.gebeyethu@fabi.up.ac.za</a>
3.	Hlungwane J.	Member	Ikageng woman's club	Tel: 011 528 0140
4.	Hlungwane P.	Member	Ikageng woman's club	Tel: 011 985 3773
5.	Keetch D.	President	AfricaBio	Tel: 012 667 2689
6.	Khakhana Z.	N.G.O	Ecumenical woman's prayer movement	Cell: 082 750 3312 E-mail: <a href="mailto:zuckyecumenical@yahoo.com">zuckyecumenical@yahoo.com</a>
7.	Khalo A.	Member	Ikageng woman's club	Tel: 011 985 7564
8.	Lezer S.	Scientist	University of Pretoria	Cell: 084 602 2837 E-mail: <a href="mailto:sabie.lezar@fabi.up.ac.za">sabie.lezar@fabi.up.ac.za</a>
9.	Linder D.	Faith group	SACBC	Tel: 012 323 6458 E-mail: <a href="mailto:dlinder@sacbc.org.za">dlinder@sacbc.org.za</a>
10.	Mabope N.	Committee	African housewives league	Cell: 073 418 1991 Tel: 011 931 2864
11.	Magoro R.	N.G.O	African housewives league	Tel: 011 932 2529
12.	Mahlangu P.	Project Assistant	AfricaBio	Tel: 012 667 2689
13.	Mahony Rev. D. O'	Scientist/ Philosopher	SACBC	E-mail: <a href="mailto:donaldfrancis@yahoo.com">donaldfrancis@yahoo.com</a>
14.	Makade J.	Member	SACBC	Tel: 013 665 2752
15.	Makgosi E.	Member	African housewives league	Tel: 011 986 3423
16.	Makgothi L.	Member	Ikageng woman's' club	Tel: 011 935 6579

17.	Mandivenyi W.	Projects Manager	AfricaBio	Tel: 012 667 2689
18.	Mavuso D.	Club member	Y.W.C.A	Tel: 011 985 0800 Fax: 011 714 5112
19.	Mohlamme S.	Hon. General secretary	African housewives league	Tel: 072 210 0076/ 011 984 9212
20.	Mokasola C.	Farmer	Klerksdrop	Cell: 072 151 7758
21.	Montsho E.	Programme	SACBC	Cell: 083 370 8976 Fax: 011 333 0620
22.	Monyebodi S.	Agric. Technician NW	DoA	Cell: 082 644 3711
23.	Mothlabakwe R.	Member	Ikageng woman's club	Tel: 011 528 0140
24.	Myeza L.	N.G.O	Ecumenical woman's prayer movement	Tel: 011 984 3821
25.	Nakedi M.	Catholic church	SACBC	Tel: 011 677 2994
26.	Ndaki S.	Agric. Technician NW	DoA	Cell: 084 834 5460 E-mail: <a href="mailto:ndakiesn@nw.agric.za">ndakiesn@nw.agric.za</a>
27.	Nesengani A.	Scientist	DACE	Cell: 082 783 7869 E-mail: <a href="mailto:gwsnan@potil.agric.za">gwsnan@potil.agric.za</a>
28.	Nienaber A	Dietitian	Private	Cell: 083 557 5850 E-mail: <a href="mailto:chagyn@gds.co.za">chagyn@gds.co.za</a>
29.	Nqgaka A.	Community Liaison officer	AfricaBio	Tel: 012 667 2689
30.	Phele E.	Member	Ikageng woman's club	Cell: 072 148 0031
31.	Phenya J.	Agric. technician	DoA	Cell: Fax: 0123196869

32.	Pule B.	Member	African housewives league	Cell: 082 433 4031
33.	Rangwetsi K	Journalist	Channel Africa	Tel: 011 714 2545 Fax: 011 714 2072 Cell: 083 596 0882 E-mail: <a href="mailto:rangwetsikj@sabc.co.za">rangwetsikj@sabc.co.za</a>
34.	Rebe K.	Senior Researcher	ARC	Cell: 072 514 6529 E-mail: <a href="mailto:khosirebe@webmail.co.za">khosirebe@webmail.co.za</a>
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36.	Setshedi A.	Agric. technician	DoA	Tel: 012 717 2211 Fax: 012 717 2636
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38.	Teffo T.	Member	Ikageng woman's club	Tel: 011 985 9704
39.	Thugwane J.	Member	Ikageng woman's club	
40.	Veli R.	Agric. Technician NW	DoA	Cell: 083 437 9666
41.	Visser S.	Govt.	DoA	Tel: 012 319 7310 E-mail: <a href="mailto:schalkv@nda.agric.za">schalkv@nda.agric.za</a>
42.	Weeks W	Scientist	DoA	Tel: 299 6538 E-mail: <a href="mailto:GWSWJW@potch.agric.za">GWSWJW@potch.agric.za</a>

43.	Zwane W.	Assistant accounts		Tel: 012 667 2689
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## BT MAIZE DEMONSTRATIONS TWO



**Demonstrating Bt maize to stakeholders**

**20-21 APRIL 2004**

### **BACKGROUND**

The introduction of bt maize into small holder agricultural systems is a process that will require a strategy to facilitate rapid, safe and responsible deployment of biotechnology products in Africa. Biotechnology applications have potential to make a positive impact on socio-economics and wealth creation in Africa. This activity was implemented to demonstrate this fact. The overall objective of the demonstration activity was to encourage stakeholders to visualize the safe and effective utilization of biotechnology products, in particular, genetically modified maize. The issue of GM maize became very obvious in the region during the 2–2/2003 food aid crisis.

These GM maize demonstration projects were used to showcase the technology and to also gather important socio-economic data that may be

extrapolated for use by other stakeholders in Africa. These demonstration projects have also been showcased to key decision makers in Africa.

**Fifteen focal point farmers lead by the Secretary General of the National African Farmers Union (NAFU) were given the opportunity for hands-on experience with GM seed and used this experience to raise awareness of the technology in their communities.**

In order to achieve the objectives of the project AfricaBio collaborated with key stakeholders. The partners for this activity were the National African Farmers Union and the ARC-Grain Crops Institute Potchefstroom. These partners were chosen specifically for their expertise and the roles they play in information dissemination to farming communities. Two demonstration plots of Bt maize were planted at Potchefstroom, North- West Province, and Zuurbekom, Gauteng. These plots are aimed at demonstrating the effects of Bt technology in the control of maize stalk borer.

## **OBJECTIVES OF DEMONSTRATION VISITS**

The key objectives of the actual demonstration visits were:

- To demonstrate the impact of bt maize on small holder production systems
- To demonstrate the effectiveness of bt technology in controlling stalk borer
- An opportunity to showcase successful technology transfer and farmer empowerment
- To encourage networking between farmers, scientists, decision makers and media

## **KEY OUTCOMES**

It was concluded that the demonstration visits were successful and fulfilled their overall objective of showcasing the impact of bt maize on small holder agricultural systems. The 57 participants represented all the stakeholder groups that were the target. Eight of the 14 SADC countries participated in this demonstration. The participants included:

**Decision makers** – including heads of government departments ( notable participants included Dr. Skalk Visser, Dr. Gert Williamse, Hon. Binthony Kutsaira)

**Media** – Landbou, Nu Farmer, SABC Africa Channel

**Scientists** - from public and tertiary institutions

**Farmers** - there was a strong representation of NAFU with 6 of the 9 executives being present

**Government officials** - representatives from the ministries of Health, Agriculture and Environmental Affairs

SADC participants from Malawi, Lesotho, Swaziland, Mauritius, Zambia, Namibia and Zimbabwe

This demonstration activity needs to be continued as it had immense impact on the participants as shown in the evaluation forms. Participants were able to visualize the crop for themselves and make their own conclusions. The demonstration visits were conducted on two occasions so as to keep the numbers manageable.

### OVERVIEW OF DEMONSTRATION SITE

Introduce stem borer resistant Bt Maize to small scale farmers to improve maize production quality and returns.

Maize is the most important grain crop grown by resource poor farmers. Stem borers are a major constraint to maize production accounting for yield losses ranging from 0-80%. The overall results are severe shortages of food. Chemical control is the usual treatment although it is expensive for resource poor farmers. Bt Maize therefore offers a cost effective solution for farmers.

The expected outputs and impact of the demonstration plots were to:

Successful technology transfer and farmer empowerment,

Increased yield and stabilization of crop production,

Acquired farm management skills,

Increased income, improved food security and healthy communities

Preliminary results (**From the Potch trial**)

Symptoms of stem borer damage	Bt	Conventional
Artificial infestation	25%	83%
Natural infestation	5%	67%

The low percentage of Bt maize plants with stem borers damage compared with high percentage in non Bt maize blocks shows that Bt maize had a toxic effect on the first instar larvae.

## **BT MAIZE WORKSHOP**

**In order to offer a comprehensive programme, it was decided that an additional workshop be added to the demonstration visit.**

**This workshop was aimed at addressing all the questions that arose as a result of the field visits. In order to address the various aspects of the technology experts from the relevant sectors were brought in to address the participants. The areas identified for further information input were:**

- Background to biotechnology
- Global Status
- Regulations
- Trade
- Food Safety
- Industry issues
- Environmental issues

The full programme is given in the appendix. The workshop proved to be very popular and was attended by an additional 20 participants.

The main achievement of the workshop was to address the common concerns raised about the technology and ensure that the participants were fully briefed on all aspects.

The participants present at this workshop included farmers, scientists, media, government officials and decision makers. A group of SADC participants, funded from a separate project was also present. The demonstration activity therefore achieved its goal of bringing together different stakeholders and affording them an opportunity to exchange dialogue and to network.

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# **SOUTH AFRICAN BIOTECHNOLOGY COMMUNICATOR'S TRAINING**

**1 & 2 JUNE 2004**

## **BACKGROUND**

The South Africa Biotechnology Outreach Programme's ultimate objective is to create a ground swell of public awareness and understanding of biotechnology among South Africans. One of the strategies for achieving this goal is to develop a group of core communicators from a broad range of stakeholders to be vehicles for this outreach. In order to do this effectively, the biotechnology communicators need to be competent and confident on the subject.

The aim of this outreach programme is to address biotechnology information transfer in South Africa. This is an ongoing process that requires regular support and training (and retraining). It involves communicator workshops and specific presentation development for communicators and their target audiences. This is an ongoing intensive process where farmers growing GM crops will be offered training on biotechnology on a regular basis. These farmers will also be assisted to develop their own training programmes for other farmers.

### **Objectives of Workshop**

- To develop a group of community communicators with balanced, factual, science-based information that is able to address various stakeholder audiences.
- Communicate with our stakeholders on the current issues on biotechnology and keep them updated and informed on the latest developments
- Supply current information to those communicators who have been previously trained. It was noted in the past that communicators needed to be updated on a regular basis.

The aim was to bring together as many stakeholder communicators as possible. Some of the communicators were newly identified while others were initially trained during 2001, 2002 and 2003. The objective was to build upon the capacity of those who have already been trained while at the same time, bringing in new communicators for other target audiences. The development of communicators is an on going process that needs regular input.

## Biotechnology Communication Training

A comprehensive programme was developed that not only provided essential communication skills, but also comprised an update of key information that communicators need to be aware of. The resource people were aptly chosen for their expertise and presentation skills so that the communicators would have a dual benefit from each presentation.

### Resource Persons

Name	Expertise
Prof. Jennifer Thomson	Plant biotechnology
Dr. Willy de Greef	International law, trade and regulation
Mrs. Muffy Koch	Biosafety, communication
Prof. Jocelyn Webster	Biotechnology Communication, plant biotechnology
Dr. Wynand van der Walt	Seed Trade and regulation
Dr. David Keetch	Legislation, IPS
Mrs. Dinah Lefakane	Communication
Ms. Beverley Crook	Communication

The training that the delegates were given included:

- Principals of Communication
- Hands on experience from a professional communicator
- Communicating biotechnology: the challenge
- Update of manual : revised introduction presentation
- Biotechnology products in the pipeline
- Live interviews – Reality Session
- What do consumers want to know? Mini survey Review of AfricaBio survey
- Impact of Trade Issues
- Biosafety Protocol
- Labeling and IPS: what communicators should know
- Developing communication programmes for outreach

### Review of Communicators' manual

The Biotechnology Communicators' manual was updated for 2004. The information was reviewed and made current so that trainers are kept abreast of the latest developments in the world of biotechnology. This reviewed manual will be printed and utilized again in August 2004, when the next set of SADC communicators is to be trained.

The introduction course was also updated to make it more relevant to the needs of biotechnology communicators. Throughout the manual review process, communicators were encouraged to note that:

- It is important that we broaden the debate about biotechnology to all sectors of application
- It is easier to build awareness from an existing level of understanding
- Examples work best if they are relevant to the target group. Perception is reality – misinformation needs to be corrected

### **Mock Interview**

This was an interactive session which involved not only demonstrating to participants how to conduct Television interviews but also by illustrating key issues that the communicators are likely to encounter when dealing with the media. The session proved to be very successful for most of the participants and should be utilized in future training workshops.

### **Participants**

The workshop was attended by 49 participants representing a range of backgrounds including:

- **Farmers** – Ubongwa Farmers Association (KZN), Marupula Farmers(Gauteng)
- **Consumer groups** such as Ikageng Women’s Club, YWCA, African Housewives League
- **Provincial Government**- North West, Mpumalanga and Gauteng
- **National Government** – Departments of Agriculture, Environmental Affairs and Tourism
- **Seed Industry** – Syngenta
- **Retail industry** – Spar
- **Scientists** – University of Zululand, University of KwaZulu Natal, University of Pretoria
- **Research Organizations** – ARC, MEDUNSA

## **Biotechnology Communicators Workshop Evaluation**

A workshop on developing communication skills amongst identified community leaders and train them on how to become competent communicators who are able to transfer science-based biotechnology information to other stakeholders from varied backgrounds. The communicators were equipped with communication skills, up to date science-based information and appropriate resources that would allow them to contribute to the on going biotechnology information transfer to the public.

### **Highlights**

- Reality Session & Live interviews
- Consumer survey
- Impact of Trade Issues
- Review of South African GMO Act

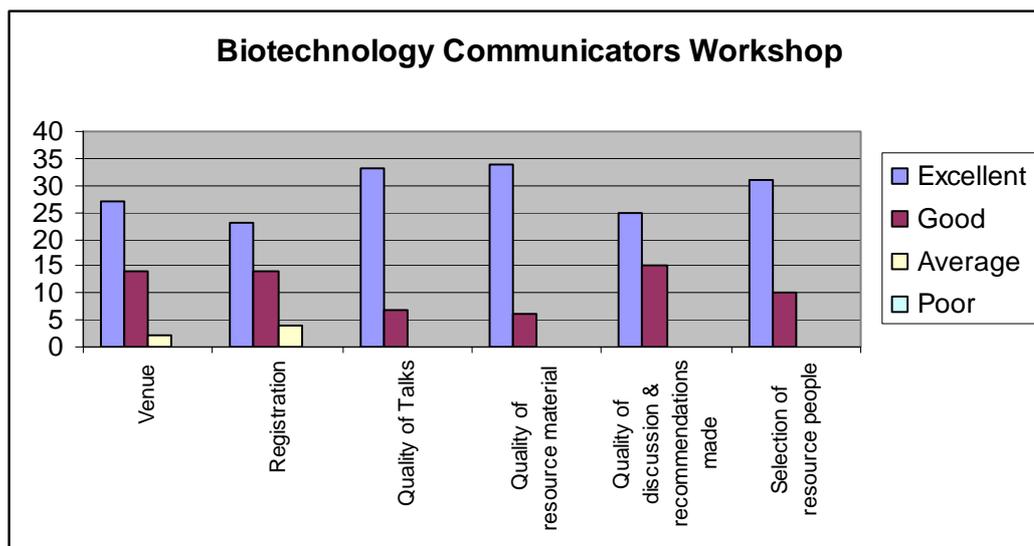
### **What information or training courses are needed?**

- Perception Survey on small holder farmers
- Agricultural biotechnology and rural communities
- Safety and environmental impact of GM products
- Info on GM seed suppliers and cultivators in the region
- Detailed info on other GM crops available on the market

### **Other Comments**

- We need a presentation on Dos and Don'ts of media interview
- Start off with a technical presentation on what is biotechnology
- Interview small holder biotech farmers on their experiences
- Encourage more group discussions

The majority of participants felt that this type of conference should be held once a year to maintain the momentum and maintain the interests that have been created by this workshop.



### Workshop evaluation review

The quality of materials distributed; the presentations / talks and the selection of resource people for the workshop were all assessed as being excellent. Workshop participants however have reservation about the venue and registration.

### Way forward

The overall aim of the programme would be to develop a group of communicators that are able to address the information needs of different stakeholder groups. This is an interactive process that requires appropriate management and resources. Following the course, the participants were encouraged to identify their future training requirements and activities or events that could be conducted in different stakeholder communities.

The participants identified for this workshop had been initially drawn from the different stakeholders that AfricaBio hopes to target as part of its outreach activities under the USAID programme. As a result, programmes have been developed that will now be utilized to achieve the project goals. The workshop therefore served a third purpose of not only facilitating networking between the organizations, but also for establishing outreach systems.

As part of the outreach programme, a concerted effort will now be made to ensure that these communicators receive more personalized training, as well as a platform on which to communicate. It has been the experience of AfricaBio that community spokespersons often have no resources at their disposal to facilitate any outreach initiative. This issue will be addressed by incorporating these communicators into the overall outreach strategy and enabling them to participate in future initiatives.

Examples of some of the activities, indicated by the communicators that are being planned as part of the follow up from this workshop are highlighted in the table below.

Sector	Activity
Consumers	Information sessions for women’s groups in Soweto
Farmers	Training on biotech plants, awareness raising, NAFU provincial and national congresses, briefing for extension personnel
Scientist	A course on biotechnology management and communication
Industry	Information sessions for retail industry on GM foods in the market – what consumers should know

### **Biotechnology Communicators Workshop Follow-up**

As part of the workshop follow-up, practical resource materials such as the Do’s and Don’ts of Interviews and the Revised Communicators Manual were sent to all the workshop participants that had access to emails. Hard copies were however given to communicators who do not have emails.

Power Point presentations from the workshop were sent to communicators as per request.



Communicators Workshop  
1 & 2 June 2004

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52.	Phenya	Sello	DACE	Tel: 0127172211 Cell: 0823632358 Fax: 0127172636
53.	Prins	Anneke	FABI	Tel: 012 420 3909 Cell: 072 630 0327 Fax: 012 420 3960 e-mail: <a href="mailto:anneke.prins@fabi.up.ac.za">anneke.prins@fabi.up.ac.za</a>
54.	Riet	Thomas Billy	DACE	Tel: 014 553 2137 Cell: 083 436 1168 Fax: 014 553 2271

				e-mail: ma
55.	Rikhotso	Ronnie	SABS	Tel: 012 428 6514 Cell: 083 703 5782
56.	Serobe	Winnie	Ikageng Woman's club	
57.	Sheela	Isaac	DoA (NW)	Tel: 012 729 1181 Cell: 072 516 5807 Fax: 012 729 1181
58.	Shegoak	Sutherland	Maruapula	Tel: 011 936 5140 Cell: 073 229 2563 Fax: 011 762 2312
59.	Sibanyoni	D.C	DACE	Tel: 013 947 2551 Cell: 082 645 463 Fax: 013 947 2809
60.	Sinclair	Lynette	Syngenta	Tel: 011 541 4059 Cell: 083 283 0809 Fax: 011 541 4062 e-mail: <a href="mailto:lynette.sinclair@syngenta.co.za">lynette.sinclair@syngenta.co.za</a>
61.	Sitsila	Charles	NAFU (Free State)	
62.	Tang	Mammone	NDA	Tel: 012 319 6212 Fax: 012 319 6329 E-mail: <a href="mailto:mammonet@nda.agric.za">mammonet@nda.agric.za</a>
63.	Tendani	Pinkie	Ngwenya	Cell: 082 8289516
64.	Thomson	Prof. Jennifer	UCT	Tel: Cell: Fax: e-mail:

65.	Tlala	Vincent	South African Pharmacy Council	Tel: 012 319 8500 Cell: 082 920 6407 Fax: 012 321 1492 e-mail: <a href="mailto:Vincent@pharmcouncil.co.za">Vincent@pharmcouncil.co.za</a>
66.	Tshesane	Puksi		Tel: 011 985 2728
67.	Van der Hoven	Johan	DACE (NW)	Tel: 0122525557 Cell: 0827809478 Fax: 0122523993
68.	Van der Walt	Martie	Medical Research Council	Tel: 012 339 8577 Cell: 083 556 7149 Fax: 012 325 5970 e-mail: <a href="mailto:vdwalt@mrc.ac.za">vdwalt@mrc.ac.za</a>
69.	Van der Walt	Dr. Wynand	AfricaBio	Tel: 012 347 6334 Cell: 083 468 3471 Fax: 012 347 6334 e-mail: <a href="mailto:wynandjvdw@telkomsa.net">wynandjvdw@telkomsa.net</a>
70.	Webster	Prof. Jocelyn	AfricaBio	
71.	Wilson	Lauren	Spar	Tel: 011 821 4312 Cell: 083 302 7745 Fax: 011 823 5386 e-mail: <a href="mailto:Lauren.wilson@spar.co.za">Lauren.wilson@spar.co.za</a>
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# REPORT ON SMALL-SCALE FARMERS OUTREACH IN SOUTH AFRICA

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NOVEMBER 2004

## Background

Biotechnology outreach to small-scale farmers is an important activity that needs to be carried out to ensure that they benefit from this new technology. Initial observations have shown that the benefits accruing to small scale utilizing agricultural biotechnology have been significant. However in order to reach the target audience an effective communication programme is required. AfricaBio initiated this project in order to address the information constraints that small scale farmers experience by managing a communication programme that specifically addresses their needs.

## Aim

This project was initiated in January 2004 with the following overall objectives:

- To offer training on agricultural biotechnology to approximately 600 small-scale farmers in three South African provinces.
- To prepare accurate and relevant biotechnology information for small farmers.
- To widely disseminate information brochures that are relevant to the farmers in 4 languages, namely English, Zulu, Sotho, Pedi the predominant languages spoken in the target areas.
- To allow small scale farmers an opportunity to interact with scientists, media and decision makers to discuss their agricultural production issues.
- To develop a network of small scale farmers and promote capacity building with communities.

## **Key Activities:**

### Training of Small-scale farmers

This was the main activity conducted under this project. The training was conducted using a participatory approach that empowered the farmers. A total of 626 small-scale farmers in Gauteng, North West, Kwa-Zulu Natal and Free State provinces received training in a total of six workshops. The training was extensive, and covered the following:

- What is biotechnology?
- Applications of biotechnology
- Hands on exercise on developing farmers own GIOs
- Status of GM crops in South Africa - what is available for farmers to use already
- Global status
- Biosafety - the GMO Act

### Farmer Outreach

Farmer outreach was an important part of the project as it is important for AfricaBio to develop a working relationship with the partners.

To this end, AfricaBio personnel met with the office of the MEC of Agriculture in the Free State to discuss the state of biotechnology in the province and how the technology can be channeled towards empowering previously disadvantaged farmers. As a follow up to this, a demonstration plot has been made available to these farmers for the 2004/2005 planting season in Mr Nonkonyane's farm, the chairperson of NAFU (National African Farmers Union)-Free State in Bloemfontein.

Further links were developed with the Meadowlands Farming Project, who will also have an opportunity to manage a demonstration site in Hartzenbergfontein farm situated in Walkerville which will give access to all the farmers in Soweto and surrounding areas in Gauteng.

Other linkages were established with organizations involved in training of small scale farmers including the Buhle Farmers Academy in Delmas, Mpumalanga; Fair Deal Training Centre in Suurbekom, Gauteng; Masiphathisane Club in Bathurst, Eastern Cape; Cedara Agricultural College in Kwa-Zulu Natal and Ikageng Women's Club, Rustenburg in North West.

## **The Key achievements of the project**

The key achievements of the project may be summarized as follows:

- Successful biotechnology training programme for farmers that included a hands on demonstration of the impact of agricultural biotechnology on small scale farming systems
- Development of an interest in agricultural biotechnology by small scale farmers following exposure to the technology
- Responding to the information needs of small scale farmers by developing appropriate materials that they can understand and utilize.
- Technical gain in experience for the farmers who will be working on the farms.
- Successful technology transfer and farmer empowerment.
- Efficient use of available natural resources.
- Improved working relationship between the farmers and various farmers' organizations, department of agriculture extension officers and other relevant institutions.

## **Lessons Learnt**

- Adoption of new technologies is a process that requires an integrated approach. This includes both visual demonstrations of the technology as well as comprehensive communication campaigns that address the needs of end users
- AfricaBio has learnt how to engage with communities and establish linkages and networks with farmers, farming academies and farmers associations as well as other stakeholders.
- AfricaBio has learnt that more time is required in order to prepare for these workshops. There are hidden costs especially for liaising and communicating with the communities in order to arrange for the workshops.
- Communication is an on-going process; more than one session is required for each target group.

## Recommendations

- This project should be continued in 2005 to ensure that the farmers reached continue to obtain updated information on developments in biotechnology
- The demonstrations were a valuable tool that enhanced the programme significantly. Any future initiative should include a visual demonstration of the technology
- The farmers reached during the project need to be assisted in setting up a network that will be used to foster discussions and exchange of ideas by small scale farmers in different areas
- The linkages formed with the farmer training facilities need to be further developed to ensure that these institutions include agricultural biotechnology in their regular curriculum.
- After the facilitation of workshops, communities always indicate that they would benefit greatly from demonstration plots on GM maize, Soya or cotton.
- It would also be better to have funds to keep more contact with these communities through subsequent presentations in the areas of interest and quarterly correspondence on new developments in the technology.

To benefit from agricultural biotechnology, we need a well informed civil society that can make appropriate choices. This project attempted to be part of such a process by addressing the needs of the primary producers.

## Appendix 1

### Meadowlands Farming Project Soweto, Gauteng BIOTECHNOLOGY INFORMATION DAY 13 July 2004

No.	Names	Organisation	Contact numbers	E-mail/Address/Fax
1.	Richard Maema	Meadowlands Farming	073 229 2563	529B, zone 2
2.	Lindi Masipa	Meadowlands Farming	083 485 2782	011-936 2614
3.	Milicent Moloji	Meadowlands Farming	083 411 8775	
4.	Josephine Matjie	Meadowlands Farming	011-936 5338	
5.	Susan Masike	Meadowlands Farming	011-936 0779	
6.	Maria Segothe	Meadowlands Farming	011-936 9414	
7.	Sonia Modisane	Meadowlands Farming	011-989 1923	
8.	Nomdeni Ntshingile	Meadowlands Farming	073 308 9525	
9.	Boitumelo Phora	Meadowlands Farming	011-536 1358	
10.	Patricia Koti	Meadowlands Farming	011-936 0837	
11.	Mavis Radebe	Meadowlands Farming	073 308 9525	
12.	Maria Chimbaira	Meadowlands Farming	072 598 7708	
13.	Sipho Mvubelo	Meadowlands Farming	011-982 9058	
14.	Henry Masofu	Meadowlands Farming	011-982 9058	
15.	David Matlou	Dube	011-982 2174	
16.	Cynthia Subeko	Meadowlands Farming	072 781 8417	
17.	Alfred Moganedi	Meadowlands Farming		
18.	Abel Malungane	Meadowlands Farming	011-936 4573	
19.	Ephraim Mosidi	Meadowlands Farming	011-936 3240	
20.	Lebohang Kotsi	Meadowlands Farming		
21.	Motlathi Metsine	Meadowlands Farming	011-936 3172	
22.	Manyadi Tsogane	Meadowlands Farming		189D Pilane str. zone 2
23.	Veronica Mashad	Meadowlands Farming		24A zone 2
24.	Evelyn Moropa-chair	Karabo ya Mohato ext1	083 566 2557	
25.	Mary Mogano-farm mng	Karabo ya Mohato ext1		
26.	Michael Mogano	Karabo ya Mohato ext1	011-934 8801	
27.	Tswaledi Mogano	Karabo ya Mohato ext1	011-934 8801	
28.	Mpho Mashele	Maropa Pula	011-988 4046	
29.	Thando Sithole	Maropa Pula	011-936 2857	
30.	Ishale Risivi	Maropa Pula		
31.	Mamotale Dinore-wd committee member	CPA	011-9361909	
32.	Khathutshelo Mulaudzi	Meadowlands Farming		
33.	Ephraim Molebatsi	ACCD	011-412 3341	
34.	Peter Muntswu-grp	Meadowlands Farming		

35.	Kenneth Ngubane	Meadowlands Farming	011-936 8136	
36.	Gertrude Mthembu-AD	Meadowlands Farming	011-988 2002	
37.	Violet Baloyi	Meadowlands Farming		
38.	Mothusi D. Dipholo- DDir	Muruo Agrarian Farmers	011-936 1371	
39.	Ntando Mngomezulu- Dir	Muruo Agrarian Farmers	084 285 5026	
40.	Priscilla Lushaba	Meadowlands Farming	073 747 5521	
41.	Lydia Mthembu	Meadowlands Farming		678F zone 5
42.	Patience Mgojo	Meadowlands Farming	084 846 0332	
43.	James Vitsholo	Meadowlands Farming	072 604 5911	
44.	Jabu Mthimkhulu	Meadowlands Farming	011-939 3349	
45.	Dan Mbhele	Meadowlands Farming	011-988 5253	2761A zone 10
46.	Lester Sithole	Meadowlands Farming	011-936 8037	135B zone 5
47.	Duke Sehume	Meadowlands Farming	083 437 5700	6912 zone 2
48.	Joseph Montshi	Meadowlands Farming	082 425 2800	462B zone 12
49.	Margaret Gwala	Meadowlands Farming	072 154 7077	618B zone 4
50.	Vhulahani Mudau	Meadowlands Farming	073 486 4823	168 zone 6
51.	Nobesuthu Khulwa	Meadowlands Farming	073 580 2453	168 zone 6
52.	Alfred Muthubi	Meadowlands Farming	073 486 4823	843B zone 6
53.	Velly Phophi	Meadowlands Farming	011-936 5960	137A zone 4
54.	Takalani Mutoti	Meadowlands Farming	083 473 8689	196A zone 4
55.	Truin Masindi	Meadowlands Farming	011-939 4532	159 zone 6
56.	Stephen Menyelwa	Meadowlands Farming		487B zone 4
57.	Kedibone Seletsa	Meadowlands Farming	011-988 6325	2338A zone 9
58.	Lebohang Mphuti	Meadowlands Farming	011-988 6325	2346A zone 9
59.	Sabina Motsumi	Meadowlands Farming		
60.	Salainih Petlele	Meadowlands Farming		
61.	Kedibone Mojapelo	Meadowlands Farming		
62.	Elizabeth Mokgoe	Meadowlands Farming		
63.	Dorothy Thantsa	Meadowlands Farming		
64.	Malebo Motsisi	Meadowlands Farming		
65.	Joyce Diale	Meadowlands Farming		
66.	Tshegofatso Mashabela	Meadowlands Farming		
67.	Flora Kgasoane	Meadowlands Farming		
68.	Ntsoaki Mabuti	Meadowlands Farming		
69.	Nelly Makhudu	Meadowlands Farming		
70.	Mzwandile Mda	Meadowlands Farming		
71.	Xolani Raore	Meadowlands Farming		
72.	Wilson Khosa	Meadowlands Farming		
73.	Johannes Sepeng	Meadowlands Farming		
74.	Mandla Thusini	Meadowlands Farming		

75.	Jabu Nxumalo	Meadowlands Farming		
76.	Pitso Phofu	Meadowlands Farming		
77.	Mpho Madiba	Meadowlands Farming		
78.	Rachel Mamadisa	Meadowlands Farming		
79.	Winnie Maponyana	Meadowlands Farming		
80.	Rosemary Kgamedi	Meadowlands Farming	082 628 9394	
81.	Tshidi Molapo	Meadowlands Farming	084 337 2644	
82.	Alphina Rabotapi	Meadowlands Farming	011-936 9146	
83.	Bellina Silinda	Meadowlands Farming	082 862 9282	
84.	Duifie Johnstone	Meadowlands Farming	073 355 6160	
85.	Colleen Nthodi	Meadowlands Farming	011-936 5053	
86.	P. W. Seemela	Meadowlands Farming	011-936 4135	
87.	Rufus Nefotoni	Meadowlands Farming	011-536 1515	
88.	Thabeni Mahamme	Meadowlands Farming		185A zone 5
89.	Happiness Mamuse	Meadowlands Farming		798A zone 5
90.	Linda Zici-dep chair	Meadowlands Farming	011-936 7346	
91.	Percillia Segole-chair	Meadowlands Farming	082 957 6981	
92.	Prudence Moses	Meadowlands Farming	084 733 4362	
93.	Abel Malungane-PRO	Meadowlands Farming		
94.	Phillip Manamela-chair	Meadowlands Farming	073 636 7130	
95.	Joyce Twala-secretary	Meadowlands Farming		
96.	Kedibone Bopape-dep secretary	Meadowlands Farming	072 450 5667	
97.	Dipuo Morebodi	Meadowlands Farming		
98.	Peter	Meadowlands Farming		
99.	Violet Baloyi-dep chair	Meadowlands Farming		
100.	Phetheni Mangama	Meadowlands Farming	072 399 2965	
101.	Leah Motshegwo-dep ch	Meadowlands Farming	073 408 1591	
102.	Ellen Khalo	Meadowlands Farming	082 928 9394	

**Orlando Farmers  
Soweto, Gauteng  
BIOTECHNOLOGY INFORMATION DAY  
29 July 2004**

<b>No.</b>	<b>Names</b>	<b>Organisation</b>	<b>Contact numbers</b>
1.	Gladys Ndebele	Twelang Pele	
2.	Emily Mahlangu	Twelang Pele	011-945 5617
3.	Doris Peters	Twelang Pele	
4.	Lengoane Kgosi	Twelang Pele	
5.	Joyce Ramapepe	Twelang Pele	
6.	Paulina Goliath	Twelang Pele	
7.	Ida Matshava	Twelang Pele	
8.	Violet Siboto	Hands of Prayer	011-935 8339
9.	Elsie Mkhabela	Hands of Prayer	
10.	Kate Miya	Hands of Prayer	011-935 7375
11.	Maria Gwambe	Hands of Prayer	072 457 5705
12.	Sibongile Molapo	Hands of Prayer	
13.	Paulina Tsambo	Hands of Prayer	011-935 7325
14.	Meltah Mazibuko	Hands of Prayer	011-935 2368
15.	Magdeline Mathole	Hands of Prayer	072 491 4030
16.	Ntombovuyo Ntloko	Hands of Prayer	073 287 0366
17.	Lulama Nxamashe	Hands of Prayer	073 473 0528
		Lonwabo Project	
19.	Eliem Mashale	Lonwabo Project	072 284 8275
20.	Matomo Molale	Ntwanano Project	
21.	Mirriam Nkomo	Ntwanano Project	011-945 2470
22.	Elizabeth Mlaba	Ntwanano Project	
23.	Ella Baloyi	Ntwanano Project	073 391 6960
24.	Simon Mlaudzi	Ntwanano Project	
25.	Ruth M. Mashego	Ntwanano Project	011-945 2470
26.	Catherine Mkosi	Ntwanano Project	073 408 7597
27.	Martha Khumalo	Ntwanano Project	
28.	Emylta Mahlangu	Ntwanano Project	011-945 5617
29.	Julius Mashego	Ntwanano Project	082 721 3492
30.	Alfred Moloi	Happy D	072 651 5437
31.	Happy Makhaye	Happy D	
32.	Thuli Mdakane	Happy D	
33.	Prudence Moses	Meadowlands Farming Project	084 733 4362
34.	Percillia Segole	Meadowlands Farming Project	082 957 6981
35.	George Dickson	Eldorado Park FG	073 305 9527

36.	Patrick Kamabale	Mithi Community Development Project	072 942 1884
37.	Ida Matshanda	Mithi Community Development Project	011-982 7035
38.	Robert Williams	Concerned Residents Committee	082 483 9221
39.	Alexa Margolis	Concerned Residents Committee	
40.	Winnie Serobe	Ikageng	011-985 8026
41.	Alice Seboa	Imbali Enhle	011-984 2603
42.	Theo Jordan	Region 10 Development Centre	072 569 9900
43.	Mapule Sebone	Region 10 Development Centre	011-935 1096
44.	Dan Motshabi	HPCP	011-935 7821
45.	Percy Martin	HPCP	083 537 6566
46.	Gideon Dickson	SMCDF & EPFG	073 305 9527
47.	Nomgqibelo Mpusi	Region 10 Development Centre	011-935 1096
48.	Pamela Thusi	Thlokomelo HBC	083 717 0784
49.	Nokubonga Kufa	Thlokomelo HBC	082 518 0236
50.	Tsuepiso Moloelane	Thlokomelo HBC	084 271 3763
51.	Grace Modige	Ntlantla	083 580 8091
52.	Nandipha Moloji	Ntlantla	011-938 2767
53.	Ntsiki Ndawo	Ntlantla	083 530 2541
54.	Ida Sithole	Ntlantla	011-982 3570
55.	Sutherland Shegoan	Mavuapula Farming Project	011-939 2684
56.	Alan Jones	Eldo's Disabled	082 625 8677
57.	Maureen Moloto	Region 10 Development Centre	083 289 7902
58.	Nthabiseng More	Region 10 Development Centre	083 370 1920
59.	Joseph Kekana	Mphatlatsang Farmers	082 957 6981
60.	David Serobe		

**Meadowlands Farming Project Farmers**  
**Soweto, Gauteng**  
**BIOTECHNOLOGY INFORMATION DAY**  
**13 August 2004**

<b>No.</b>	<b>Names</b>	<b>Organisation</b>	<b>Contact numbers</b>	<b>E-mail/Address</b>
1.	Richard Maema	Meadowlands Farming	073 229 2563	529B, zone 2
2.	Lebohang Kotsi	Meadowlands Farming		224C zone 2
3.	Joseph Ngobeni	Meadowlands Farming	011-988 1857	
4.	Alfred muthubi	Meadowlands Farming		843B zone 6
5.	Irvin Masindi	Meadowlands Farming	011-939 4532	159 zone 6
6.	Nomthandazo Mazibuko	Meadowlands Farming	072 703 4526	706B zone 1
7.	Takalani	Meadowlands Farming	083 473 8689	196A zone 4
8.	Susan Masina	Meadowlands Farming	011-536 0759	351B zone 3
9.	Daniel Maida	Meadowlands Farming	011-982 2174	764F zone 5
10.	Henry Masoeu	Meadowlands Farming	011-982 2174	764F zone 5
11.	David Matlou	Meadowlands Farming	011-982 2174	764F zone 5
12.	Patrick Mellalose	Meadowlands Farming	072 399 2965	216B zone 1
13.	Abel Macungare	Meadowlands Farming		297A zone 10
14.	Ephraim Mosiah	Meadowlands Farming	041-936 6834	609A zone 2
15.	Julia Sekhobe	Meadowlands Farming	072 472 0000	164B zone 2
16.	Priscilla Everson	Moral Regeneration	083 571 7786	
17.	Joyce Twala	Meadowlands Farming	073 576 7443	
18.	Peter M Muntswa	Meadowlands Farming		
		Meadowlands Farming	072 399 2965	
20.	Violet Baloyi	Meadowlands Farming	072 399 2965	
21.	Cynthia Bila	Meadowlands Farming		
22.	Leah Mottswega	Meadowlands Farming	073 408 1591	
23.	Alfred Tola	Meadowlands Farming	011-939 1737	
24.	Dinah Merc	Meadowlands Farming	011-939 1737	
25.	Phillip Monamela	Meadowlands Farming	083 576 4595	
26.	Boitumelo Jotwe	Meadowlands Farming		
27.	Maki Maamoe	Meadowlands Farming	011-939 1138	
28.	Gertrude Mthembu	Meadowlands Farming	011-988 2002	
29.	Kedibone Bopape	Meadowlands Farming	072 450 5667	
30.	Kenneth Ngubane	Meadowlands Farming	011-936 8136	
31.	Dipuo Morebudi	Meadowlands Farming	011-988 6019	
32.	Junior J Mataboge	Meadowlands Farming	082 404 5662	
33.	Carol Dyantyi	Ikageng -Itereleng AM	072 521 7230	mbuyas@telkomsa.net
34.	Mojaki Mzotiyo	Lejoelepsua Primary	011-939 3516	
35.	Mpho Masedi	Lejoelepsua Promary	011-988 7300	
36.	Lindi Zici	Meadowlands Farming	011-936 7346	8306 O/W

37.	Priscilla Lushaba	Meadowlands Farming	072 565 7936	
38.	Joseph Montsi	Meadowlands Farming	082 425 2800	
39.	Yvonne Nobela	Meadowlands Farming	084 791 8745	
40.	Khathutsele Mulaudzi	Meadowlands Farming	011-939 3715	
41.	Winnie Serobe	Ikageng	011-985 8026	
42.	Moline D. Nwosa	Meadowlands Farming	011-536 1986	
43.	Dorothy Thantsa	Meadowlands Farming	011-989 0860	
44.	Mavis Radebe	Meadowlands Farming	073 308 9525	
45.	Noma Ntshingila	Meadowlands Farming	073 308 9525	
46.	Jabulani Mtimkhulu	Meadowlands Farming	011-939 3349	
47.	Stephen Menyelwa	Meadowlands Farming	011-939 3349	
48.	Yvonne Molelekeng	Meadowlands Farming		451B zone 3
49.	Cynthia Ndubane	Meadowlands Farming		461D zone 3
50.	Joyce Njeto	Meadowlands Farming	082 583 2701	
51.	Philadelphia Kumalo	Meadowlands Farming	084 381 5005	
52.	Elizabeth Kwindi	Meadowlands Farming	011-936 3989	
53.	Martin Modise	Meadowlands Farming	011-936 1199	
54.	Caroline Modise	Meadowlands Farming	011-536 1199	
55.	Simangele Moloji	Meadowlands Farming	072 430 7846	
56.	Milicent Moloji	Meadowlands Farming	072 430 7846	
57.	Yoliswa Booi	Meadowlands Farming	072 489 2326	
58.	Maureen Dlamini	Meadowlands Farming	011-936 0325	
59.	Catherine Msimango	Meadowlands Farming	072 496 7287	
60.	Ivy Makuma	Meadowlands Farming	072 496 7287	
61.	Bellina Silinda	Meadowlands Farming	082 862 9282	
62.	Molemogi Zondi	Meadowlands Farming	073 617 8546	
63.	Maria Sekgothe	Meadowlands Farming	011-936 9414	
64.	Josephine Matjie	Meadowlands Farming	011-936 5338	
65.	Lydia Mthembu	Meadowlands Farming		
66.	Mabel Madibane	Meadowlands Farming	082 799 3215	
67.	Sonia Madisane	Meadowlands Farming	011-989 2319	
68.	Gloria Masoabi	Meadowlands Farming	011-936 4567	
69.	Daphney Johnstone	Meadowlands Farming	073 355 6160	
70.	Roselyn Zondi	Meadowlands Farming	011-939 3970	
71.	Thabisile Ntuli	Meadowlands Farming	082 391 1611	
72.	Patience Mgojo	Meadowlands Farming		697A zone 5
73.	Merriet Sebatlelo	Meadowlands Farming	011-936 4503	
74.	Amykelani Macebele	Meadowlands Farming	072 694 0614	
75.	Macy Chauke	Meadowlands Farming	072 602 8563	
76.	Cynthia Sibeko	Meadowlands Farming	072 782 8417	
77.	Mante Ramokgopa	Meadowlands Farming	011-936 5053	

78.	Wilhemina Motsitsi	Meadowlands Farming	083 365 6097	
79.	Joseph Cungwa	Meadowlands Farming	011-939 2599	
80.	Nobesuthu Khulwa	Meadowlands Farming	073 580 2453	
81.	Vhulanani Mudau	Meadowlands Farming	073 486 4823	
82.	Mothusi Dipholo	Meadowlands Farming	011-536 1371	
83.	Poppy Thekiso	Lejoelepsua Primary	011-939 3516	
84.	Philemon Mekwa	Muruo Agrarian Farming	011-536 1371	
85.	Rose Maluleke	Meadowlands Farming	073 406 7772	
86.	Mirriam Moeketsi	Makekule	072 825 5177	
87.	Percillia Segole	Meadowlands Farming	082 957 6981	
88.	Prudence Moses	Meadowlands Farming	084 733 4362	
89.	Alphina Rabotapi	Meadowlands Farming	011-936 9146	
90.	Dennis Nakedi	Meadowlands Farming	011-936 3171	
91.	Philemon Mekwa	Phiri	011-984 0337	
92.	Motlasi Metsine	Meadowlands Farming	011-936 3172	
93.	Mary Mashigo	Meadowlands Farming		208B zone 1
94.	Oupa Nkosi	Meadowlands Farming		3810 Xoba str, Orlando W
95.	Lesnel Sithole	Meadowlands Farming		135B zone 5
96.	Solomzi Mtshinya	Meadowlands Farming		708B zone 3
97.	Martin Manoka	Meadowlands Farming		376A zone 3
98.	Johannes Sepenci	Meadowlands Farming		376B zone 3
99.	Aaron Ramtsane	Meadowlands Farming		391D zone 3
100.	Nelly Makhudu	Meadowlands Farming		662A zone 2
101.	Jerminah Malouti	Meadowlands Farming		659B zone 2
102.	Doreen Mngomezulu	Meadowlands Farming	073 132 7008	109F zone 5
103.	Phillip Nkosi	Meadowlands Farming		183B zone 7
104.	Maureen Mazibuko	Meadowlands Farming		204A zone 7
105.	Tshidi Molapo	Meadowlands Farming	084 337 2644	
106.	Rosemary Kgamedi	Meadowlands Farming	082 628 9394	
107.	Ellen Khalo	Meadowlands Farming	082 628 9394	
108.	Simon Mnisi	Meadowlands Farming	011-939 4077	
109.	Mary Mkhwanazi	Meadowlands Farming	011-936 8138	
110.	Paula Sekete	Meadowlands Farming	011-939 4455	
111.	Berlina Bogatsoe	Meadowlands Farming	082 686 8695	
112.	Isabel Tshilwane	Meadowlands Farming	011-936 4690	
113.	Violet Makgwe	Meadowlands Farming	011-939 4455	
114.	Joyce Motlhajoe	Meadowlands Farming	011-936 7441	
115.	Margaret Gwala	Meadowlands Farming	072 154 7077	
116.	Flora Kgasoane	Meadowlands Farming		754B zone 3
117.	Tshegofatso Mashabela	Meadowlands Farming		754B zone 3
118.	Johanna Rampai	Meadowlands Farming	011-936 3654	

119.	Amanda Lekwana	Meadowlands Farming	011-936 1686	
120.	Patricia Koti	Meadowlands Farming	011-936 3307	
121.	Thabea Mohammed	Meadowlands Farming		185A zone 5
122.	Salaminah Petlele	Meadowlands Farming	011-939 2350	483D zone 2
123.	Khulani Ntuli	Meadowlands Farming	011-936 8853	678G zone 5
124.	Derrick Makhaya	Meadowlands Farming	011-936 0497	702A zone 1
125.	Johannes Motsape	Meadowlands Farming	011-936 8853	695B zone 1
126.	Dan Mbhele	Meadowlands Farming	011-988 5253	761A zone 10
127.	Daniel Bopape	Meadowlands Farming	082 450 5667	265A zone 3
128.	Desiree Lalle	Meadowlands Farming	072 703 4526	64A zone 1
129.	Tshidi Tlade	Meadowlands Farming	073 471 3739	63B zone 1
130.	Elizabeth Makgoe	Meadowlands Farming	011 936 5649	672 zone 8
131.	Lillian Mothobi	Meadowlands Farming	072 510 8897	828A zone 1
132.	Boitumelo Phoro	Meadowlands Farming	011-536 1358	191D zone 2
133.	Malebo Motsisi	Meadowlands Farming	011 936 6660	279A zone 1
134.	Kedibone Mojapelo	Meadowlands Farming		815B zone 1
135.	Joyce Diale	Meadowlands Farming		418B zone 1
136.	Annah Dlamini	Meadowlands Farming	072 913 0286	125A zone 2
137.	Susan Masike	Meadowlands Farming	011-936 0779	125A zone 2

**Kwa-Zulu Natal NAFU Farmers  
Durban, Kwa-Zulu Natal  
BIOTECHNOLOGY INFORMATION SESSION  
28 September 2004**

<b>No.</b>	<b>Name</b>	<b>Organisation</b>	<b>Contact Numbers</b>
1.	DM Buthelezi	Bayala Corp.	082 856 6637
2.	VV Mncotoma	Bayala Corp.	072 171 4602
3.	NP Zwane	Kusile Farmers	083 350 4143
4.	JL Mbhele	Msimbini Farmers	073 407 0638
5.	MA Mbatha	SACDP	072 504 6895
6.	SB Sibiya	SACDP	072 504 6895
7.	Naphtal Nzama	NCASA/NACOSSA	072 305 6741
8.	Nokubekecela Ntuli	NAFU-KZN	031 900 2701
9.	P Ntuli	NAFU-KZN	073 458 3923
10.	Zakhe Mavundla	NAFU-KZN	083 559 5922
11.	Bambisani Mngadi	NAFU-KZN	031 916 3317
12.	Sibusiso Ngobese	Umlazi Aged Agric Ass.	072 780 5651
13.	Doris Nzimande	Umlazi Farmers Ass.	031 906 1202
14.	Thandekile Moloji	Umlazi Farmers Ass.	031 907 4074
15.	Jabulile Khomo	Mbumbulu Ass.	
16.	Ntombi Ngcobo	Mbumbulu Ass.	
17.	Dr ED Vezi	Umbumbulu NAFU	073 615 3812
18.	Dr SM Buthelezi	NAFU-KZN	072 340 6825
19.	Gugu Sokhulu	Umbumbulu/ NAFU-KZN	083 394 4238
20.	IMS Mngadi	SACODEP	073 289 3838
21.	MS Adam	Ithala Bank	083 786 3597
22.	Archie Bishop	SACDP	072 504 6895
23.	Rev SB Sibiya	SACDP	072 504 6895
24.	Rev P Mfeka	SACDP	
25.	Rev Mazibuko	SACDP	
26.	P Ngongoma	NAFU-KZN	033 398 2896
27.	Bazothini Dlamini	NAFU-KZN	033 398 5473
28.	Sonny Davids	Chicken Farmer	031 322 2995
29.	L Mbanswa	NAFU-KZN	
30.	B Mboniswa	NAFU-KZN	
31.	Sibongile Mnguni	NAFU-KZN	072 147 9161
32.	Thokozani Zondi	NAFU-KZN	033 398 5229
33.	T Ngcobo	NAFU-KZN	
34.	Patricia Mthembu	NAFU-KZN	084 277 4951
35.	Elsie Njipha	NAFU-KZN	
36.	Mica Ndimande	NAFU-KZN	033 398 8982
37.	N Ndwandwe	NAFU-KZN	073 141 3737
38.	Jabu Mvelase	NAFU-KZN	033 398 0056
39.	Dolly Nzaca	NAFU-KZN	033 398 4968
40.	Luthuli Eddie	NAFU-KZN	072 092 2841

41.	Zine Zulu	NAFU-KZN	072 106 2611
42.	Nomusa Fani	Nsimbini Farmers	072 501 1972
43.	Ethel Mazwai	Nsimbini Farmers	072 417 0386
44.	Lungile Mzila	Kusile Farmers	072 729 6933
45.	Florence Cele	Nsimbini Farmers	031 900 1079
46.	Nomthandazo Lobi	Umlazi Farmers	031 909 6525
47.	FM Ngubane	Nomkhumbulwana FA	084 766 9741
48.	ES Khumalo	Umgqamfe	073 489 3302
49.	TX Magubane	NAFU-KZN	072 711 9286
50.	Nomusa Bam	Thusi Thusi	082 6800 9971
51.	Grant Westbrook	RSA LT	082 416 1240
52.	Thokozani Hlongwane	Uncles Foods	082 824 4694
53.	Mike Phungula	Uncles Foods	072 765 0418
54.	BP Dunge	Nkandla Co-op	072 387 0806
55.	Bafikile Mthethwa	Kusile Farmers	073 308 5853
56.	Dr HA Fakude	Bayala Co-op	072 347 9808
57.	Dr MM Buthelezi	NAFU-KZN	082 359 6832
58.	MA Mbatha	SACAP	072 504 6895
59.	Rev Petros Mfeka	SACAP	
60.	SB Sibiyi	SACAP	
61.	Ningi Zwane	Kusile Farmers	083 350 4143
62.	Nomthandazo Moloji	Kusile Farmers	
63.	Thandekile Moloji	Isandla	
64.	Doris Nzimande	Isandla	
65.	Sthembiso Mbele	Nsimbini Youth	083 961 8355
66.	Hlalawazi Khomo	Nsimbini Youth	
67.	Jabulani Mazibuko	SACDP Mpumalanga	
68.	Rev Petros Mfeka	SACDP Mpumalanga	
69.	Ndoda Mvuyana	Isondlo	031 907 0600
70.	Nelson Sifunda	NAFU Mpumalanga	082 642 8385
71.	Mduduzi Moloji	NAFU-KZN	
72.	Bobby Rao	ABCOR	084 500 1165
73.	EM Sithole	Dept of Agric & Env	031 302 2800
74.	SME Ntleko	Dept of Agric & Env	031 302 2800
75.	MV Majola	NAFU-KZN	072 335 4145
76.	GB Ndimande	NAFU-KZN	082 217 2649
77.	Mike Phambile	NAFU-KZN	
78.	BP Dunge	Nkandla Co-op	082 968 0337
79.	Bafikile Mthethwa	Kusile Farmers	072 387 0806
80.	Thandekile Msomi	NAFU-KZN	073 308 5853
81.	Bongi Zwane	NAFU-KZN	
82.	Mandisa Leta	NAFU-KZN	
83.	Les Hutton	Organic Farms	082 651 1111
84.	Dan Mgenge	NAFU-KZN	082 686 6541
85.	Jubilee Shimaliya	NAFU-KZN	082 047 6696

**Hammanskraal Farmers  
Makapanstad Village, North West  
BIOTECHNOLOGY INFORMATION DAY  
12 October 2004**

<b>No.</b>	<b>Name</b>	<b>Organisation</b>	<b>Contact Numbers</b>
1.	SJ Naka	Barua Kgomo	
2.	Marlin Kamane	Barua Kgomo	072 559 5617
3.	LM Masenya	Barua Kgomo	012 714 0266
4.	Hearald Letebele	Balimi Potlana	
5.	Alfred Putuka	Balimi Potlana	
6.	John Lebabye	Hlokanang	
7.	William Molefe	Hlokanang	
8.	Robert Modise	Hlokanang	
9.	Frans Baloyi	Hlokanang	
10.	HendrickTshabalala	Hlokanang	
11.	AM Ntshebele	Hlokanang	082 431 9899
12.	Joseph Mopoane	Hlokanang	
13.	A Mohozi	Hlokanang	
14.	A Safila	Hlokanang	
15.	LJ Madikane	Hlokanang	
16.	W Chochi	Hlokanang	
17.	A Putuka	Hlokanang	
18.	Jacob Choba	Hlokanang	
19.	L Lukatjele	Hlokanang	
20.	MA Mabunda	Mabunda Syndicate	
21.	Frans Makoka	Mabunda Syndicate	
22.	Mabel Mashishi	Thusanang	
23.	Jacob Napo	Thusanang	
24.	Silbert Leballo	DoACET	083 367 9652
25.	Audrey Monaedi	Vet Services	073 537 0307
26.	KCV Kgotsane	Vet Services	012 717 7477
27.	MG Maneso	DoACET	083 960 9447
28.	RP Tswinya	Boplaas Farmers	072 431 9043
29.	E Vuma	Boplaas Farmers	
30.	Joseph Maleloye	Boplaas Farmers	
31.	Steph Modise	Lochnes	072 928 8035
32.	Levi Molokonwa	Molimi Potlana	082 705 5642
33.	Josiah Pasha	Tsogang	072 843 7162
34.	Jacob Ngoa	Thusang	
35.	Maria Mashishi	Thusang	
36.	RM Thobejane	DoACE	082 486 0920

37.	S Monyebodi	DoACE	082 594 9246
38.	H Maketa	DoACE	012 717 2211
39.	MG Rammutla	Moretele Municipality	084 230 0027
40.	NC Letebele	Balimipotlana Makapanstad	072 693 6660
41.	DR Mabetwa	Balimipotlana Makapanstad	
42.	Lweas Sabalo	Balimipotlana Makapanstad	072 618 3808
43.	Stephen Molobi	Balimipotlana Makapanstad	
44.	Elias Sebola	Balimipotlana Makapanstad	
45.	Johannes Moseki	Balimipotlana Makapanstad	
46.	Peter Motwane	Balimipotlana Makapanstad	
47.	Fonica Lethole	Boplaas Farmers	012 710 0820
48.	KG Sibiya	Boplaas Farmers	072 117 7146
49.	MK Naake	Boplaas Farmers	012 714 2589
50.	Mary Letebele	Boplaas Farmers	082 728 8208
51.	Jonas Thubakaule	Boplaas Farmers	082 833 4671
52.	J Maxindi	Boplaas Farmers	072 524 9898
53.	W Maluleke	Boplaas Farmers	
54.	Monde Sibiya	Boplaas Farmers	
55.	Moagi Ramutloa	Raselatela	082 592 5019
56.	Robert Mbetse	Balemi Rou	
57.	Levy Molobi	Etsoseng Vege produce	083 985 2520
58.	HM Sehoole	Makapansatad H & C Farm	082 934 1812
59.	HM Mushi	Balemi RF Cooperative	
60.	Ezekiel Koopyane	Makapanstad Balemi	
61.	SR Lechaba	Makapanstad Balemi	
62.	Jacob Kgasa	Makapanstad Balemi	
63.	Elias Thisedi	Makapanstad Balemi	
64.	Mabidi Kamai	Makapanstad Balemi	
65.	William Mohape	Balemi Rui	
66.	Thabo Mahlangu	Agric Student	082 229 4888
67.	AM Manne	Balemi Rui	073 591 5605
68.	Jane Mokone	Balemi Rui	
69.	Esther Naka	Balemi Rui	
70.	Alice Seema	Makapanstad Balemi	083 487 7760
71.	Kate Madlala	Makapanstad Balemi	
72.	Mary Magoboya	Makapanstad Balemi	
73.	Johannah Seisedi	Tsaranang le Diro	
74.	E Makhari	Makapanstad Balemi	
75.	Sophania Morake	Makapanstad Balemi	
76.	Josephina Letlhaka	Makapanstad Balemi	
77.	Lot Sanyane	Makapanstad Balemi	
78.	Daniel Makoti	Makapanstad Balemi	

79.	Norman Maloku	Makapanstad Balemi	
80.	Peter Motswane	Makapanstad Balemi	
81.	Lemo Abele	Makapanstad Balemi	
82.	Stephen Molala	Makapanstad Balemi	
83.	Lucas Sebola	Makapanstad Balemi	
84.	Sabelo Mabena	Makapanstad Balemi	
85.	WD Chochi	Makapanstad Balemi	
86.	RJ Madibane	Makapanstad Balemi	
87.	MJ Chobane	Makapanstad Balemi	
88.	Julian Mpete	Muntukayane	
89.	Elizabeth Mobi	Makapanstad Balemi	
90.	Johannah Ntubi	Makapanstad Balemi	

**Free State NAFU Farmers  
Bloemfontein, Free State  
BIOTECHNOLOGY INFORMATION DAY  
12 October 2004**

<b>No.</b>	<b>Name</b>	<b>Organisation</b>	<b>Contact Number</b>
1.	E Mudalahothe	DoA	058 714 1430
2.	MZ Letlala	Manakang	082 639 3340
3.	S Moloko	Thabadinang	072 207 8272
4.	KE Mofokeng	Thabollo GP	
5.	SL Augug	Oliver Tambo Municipality	082 712 1829
6.	SE Majola	DoA	058 481 2169
7.	LV Zethu	Oliver Tambo Municipality	073 274 6033
8.	SS Lebele	DoA	016 976 2003
9.	Leonard Jola	NAFU	083 576 3770
10.	Rev MM Mvubu	Oliver Tambo Dev Centre	073 306 6133
11.	VN Motlounge	Knowledge Forever	083 756 9435
12.	C Klinck	DoA	051 448 5008
13.	A Mokoena	Mahatammoho Cattle	072 682 4056
14.	Edward Stuurman	Tswelopele Vege	084 964 8989
15.	MF Lekgari	Thabong Masakeng Ass	072 151 4748
16.	Eunice Stuurman	Tswelopele Vege	084 964 8989
17.	LA Mvundle	Maakeng Commonage	056 212 8141
18.	OJ Gambu	Rietlangile Farm	072 126 3958
19.	LE Motaung	Sepulo Farm	072 398 6352
20.	Paseka Witbooi	Phahameng Association	072 536 6941
21.	ZG Mchachu	NAFU, FS	083 476 1003
22.	A Mantshiyane	NAFU, FS	084 640 4185
23.	S Binga	NAFU, FS	
24.	A Manaaka	NAFU, FS	
25.	K Kgatlhanye	NAFU, FS	
26.	G Sechele	NAFU, FS	
27.	N Mbeletsane	Mantshatlala	
28.	L Ketja	Mahokai Project	073 559 3496
29.	TJ Masitlare	DoA	082 868 2447
30.	TA Makhoali	NAFU	082 228 9467
31.	KE Ramonealo	NAFU	072 572 3084
32.	JM Macia	Kganang Basotho	084 963 5268
33.	NS Nengudza	DoA	073 165 5461
34.	S Mokhethi	NAFU	083 547 4104
35.	MS Mokate	NAFU	083 531 2650
36.	FA Makhoba	NAFU	083 312 1961

37.	DT Machaba	NAFU	
38.	D Matlala	NAFU	
39.	F Peters	NAFU	
40.	IT Mapaha	NAFU	
41.	KH Nnaka	NAFU	
42.	NJ Setshego	NAFU	082 222 3583
43.	MP Tsotetsi	NAFU	084 494 9296
44.	Themba Sicelimpilo	NAFU	073 672 0109
45.	EM Dhlamini	Tseseng CPF	083 431 4853
46.	Mapitso Motaung	Reitumetse Project	072 650 1141
47.	Dovill Manase	Welegeluk	083 967 9881
48.	Israel Mantu	DoA	082 909 2283
49.	Rebecca Sele	DoA	084 862 9408
50.	S Mofokeng		084 863 9907
51.	OJ Mothane	Masechaba Trust	072 369 5192
52.	Simon Tsolo	T Bokodo Project	082 595 7896
53.	Isaac Mabukela	T Bokodo Project	
54.	Matsie Moshadi	Ilhabaleng Vege Project	073 534 4746
55.	Lonia Koalane	Ilhabaleng Vege Project	083 466 0582
56.	Molefi Bangani	Stillegenoging Plaas	083 761 9947
57.	EM Moloji	Bochabela Land Group	083 207 3625
58.	MJ Sebakamotse	DoA	051 943 0787
59.	Tsotang Naile	Kopanang Tsasotho	084 296 5268
60.	George Madiba	DoA	056 212 3126
61.	Mary Mochekele	DoA	072 101 6776
62.	Maneo Mosoe	NAFU	072 226 3226
63.	Nonky Sebani	NAFU	073 149 4598
64.	TZ Sethuntsa	Tikwana Farmers	082 429 9020
65.	AN Buza	Tikwana Farmers	
66.	BT Ngagao	Tikwana Farmers	
67.	CF Fani	Tikwana Farmers	
68.	BL Sebela	Tikwana Farmers	053 444 7064
69.	MS Snyer	Tikwana Farmers	072 207 7464
70.	SP Manone	Tikwana Farmers	
71.	SM Sawukazi	Sawukazi Trust	082 951 1221
72.	MM Polori	Tikwana Farmers	083 451 8961
73.	S Malakene	Tikwana Farmers	058 853 3151
74.	P Ramateku	Attehang	
75.	J Makae	NAFU	051 532 1046
76.	LP Motlaong	SAF Farming	072 527 3135
77.	M Likotsi	SAF Farming	072 527 3135
78.	M Mokatsa	Attehang	
79.	SA Pholo	Magakajane Project	
80.	MZ Mokhathi	Mokhathi Family Trust	057 722 3011
81.	SG Stuurman	Thusanang Farmers	072 992 8390

82.	Selinah Shopho	NAFU	083 741 2894
83.	IT Matsheka	Botlhabelo Feed Lot	083 977 3179
84.	EK Motse	Botlhabelo Feed Lot	083 987 2514
85.	LHH Keikelame	B8T Top Five	082 341 6474
86.	MB Fixane	Fixane Trust	072 568 6185
87.	NP Mokoena	Mokoena Family Trust	073 159 1960
88.	RJ Makate	Goedehoop Farmers	082 904 4951
89.	LP Mokone	Sisonke Trust	083 422 3536
90.	RP Selemakoro	Reahola Project	073 301 8963
91.	MR Mphoso	Iketsetseng Project	072 232 1499
92.	NJ Hlutwa	Tshepong Farm	051 534 1391
93.	IM Matsitso	Makgoka Milling	073 429 0313
94.	KS Ntsheng	Banabantseng Farmers	073 059 3290
95.	SM Motepe	Banabantseng Farmers	082 227 8355
96.	Bunubu Motepe	Banabantseng Farmers	
97.	CN Fans	Vukani Project	083 531 3570
98.	Gertrude Mokoena	Mokoena Family Trust	073 367 9847
99.	ME Phekonyane	Midland II Farm	082 433 1693
100.	SG Mogotsi	Mogotsa Farming Trust	084 724 7809
101.	MS Tsiake	Botlhabelo Feeds	082 722 0905
102.	ZG Machachu	Magakajane Farming Project	083 476 1003
103.	AI Maja	Maja Trust	072 486 3780
104.	Annie Mokoena	Mahatammong Cattle	072 682 4056
105.	DJ Dumako	Maokeng Community	056 214 3105
106.	Abel Thakamakhae	Lesofoneer Farmers	057 574 6025
107.	R Mothe	Mothe Projects	084 727 0636
108.	I Morwe	Sasol Commonage	082 951 8815
109.	MS Makate	Sasol Commonage	083 531 2605
110.	DL Pule	Pietoriusrus Farms	083 393 1423
111.	J Kabuza	NAFU	084 420 3431
112.	Hendric Manyengesa	NAFU, Bochabelo	072 307 2417
113.	Stanley Tafane	NAFU, Bochabelo	082 470 2456
114.	JH Mosake	NAFU, Bochabelo	082 473 0605
115.	OJ Mothiane	Masechaba Trust	072 369 5192
116.	SM Moloko	Thabodimahla	072 207 8272
117.	SJ Wittes	Wittes Trust	082 705 7409
118.	TM Nikelo	Nikelo CPA	083 945 8047
119.	TF Mahlelehlele	NERPO/NAFU	082 759 1964
120.	L Ndweni	NERPO/NAFU	051 353 4541
121.	LHH Keikelame	Top Five	082 341 6474
122.	ME Phekolwane	Midland	082 433 1693
123.	MS Rannyama	NAFU	083 521 3649
124.	R Seyaka	NAFU	
125.	N Dube	NAFU	

126.	VT Kali	NAFU	
127.	GT Makgao	NAFU	
128.	Z Mafanya	NAFU	
129.	TM Nikob	NCPA	083 945 8087
130.	MT Mokoena	Reahola	073 652 9712
131.	LH Mohiali	Emaheng	073 178 1645
132.	MT Mota	NAFU	072 735 0796
133.	MSE Cholata	NAFU, Parys	083 425 7104
134.	M Mabe	SAF	072 375 2541
135.	S Ntshihlele	NAFU-Secretary, FS	053 444 2105
136.	N Nonkonyane	NAFU-Chair, FS	082 434 3643
137.	MP Mphosi	Mphosi Comm Prop Ass	083 766 0821
138.	NP Mokoena	Mokoena Family Trust	073 159 1960
139.	BV Nsalo	NAFU	072 654 5317
140.	Florence Humphries	Florence cc	082 229 6004
141.	Mr Silinda (Chief dir)	DoA	051 448 5008
142.	T Ndumo (Comm Off)	DoA	072 480 3968

## Training Course on Management of Applied R&D Projects involving GM Crops



26<sup>th</sup> - 28<sup>th</sup> October 2004

### Background

Agricultural biotechnology has rapidly moved from cutting edge research to application in a wide range of crops and production systems. One important issue, especially for the delivery of genetically modified crops (but also, to a lesser degree for other applications) is the apparent near monopoly of private sector technology developers in the delivery of new applications, and their apparent focus on products that serve commercial farmers in the industrialized world.

This is not by lack of potential applications in the developing world or in non-commercial crops, nor is there an absence of primary technical achievements for these applications. There is in fact an enormous range of agricultural biotechnology research projects which have reached the crucial stage of "Proof of Concept" (PoC) the demonstration that a particular molecular approach actually delivers a plant or animal with the desired new biological function or trait(s).

Yet most of these projects struggle to advance beyond the research success to their intended beneficiaries. Many suffer severe delays due to design decisions taken very early in research which affect the chances of the original technical breakthrough to make it to the real economy. Almost all struggle to access funding for the product development activities which are not in the traditional remit of funding bodies: addressing IPR issues, obtaining regulatory clearance for products, etc. As a result, many projects developed specifically for the South, and especially those developed by public goods research, do not seem to advance well beyond the PoC stage.

Scientists in South Africa have been involved in numerous research projects that have not necessarily resulted in commercial products. One of the limitations has been that scientists involved in public sector research do not have the requisite skills to effectively manage plant biotechnology projects. This results in limited resources being wasted on basic research that has limited commercial applications.

AfricaBio has been involved with various outreach initiatives over the last years that have been specifically aimed at scientists. These have included workshops on various areas of biotechnology and biosafety that bring together government, scientists, farmers and industry. AfricaBio has attempted to create platforms that would allow the interaction of scientists with other stakeholders to create more responsive targeted research that has application in society.

The aim of this three-day training course is to address the complexities of designing and delivering a successfully applied R&D project in agricultural biotechnology, and to provide a framework for planning, decision making and operational management of integrated agricultural biotechnology projects.

### **Workshop Overview**

The course was very interactive, which is why a targeted group of participants were invited. The aim was to keep the course as interactive and informal as possible so as to get full participation from the participants. The course was based on the fact that every integrated R&D project requires expertise in the following to be successful:

- IPR issues
- Regulatory issues
- Financial management
- Operational management
- Communication and media training
- Team building

The workshop was held at the Pioneer offices in Centurion, and it offered training on:

- Technical aspects, and the technologies needed to achieve technical success
- Access to protected technology (IPRs)
- Regulatory compliance management
- Impact analysis
- The backwards integration approach for R&D planning in research management.
- Gap analysis as a project management tool
- Managing a multidisciplinary project team
- Project funding beyond the usual boundaries of public sector research funding

- Communication issues to deliver under the institutional constraints of a public sector environment
- A practical exercise in integrated project planning, using real product designs

The workshop was compiled and implemented by Dr Willy de Greef and other key resource persons listed below. Dr de Greef, formerly of Syngenta, is an international consultant with vast experience in agricultural biotechnology and international regulatory affairs relating to biotechnology.

#### Resource persons

- Willy De Greef: Course facilitator
- Wynand van der Walt: Agricultural Consultant – IPR
- Subhash Gupta: Visiting scientific advisor USDA-APHIS
- Ken Flowers: Managing Director, Syngenta

#### Participants

Present at the workshop were 20 participants drawn from the following organizations:

- University of Witwatersrand
- University of Venda
- PlantBio
- University of Pretoria – FABI
- CSIR –BIO/CHEMTEK
- Syngenta
- ARC-Roodeplaat
- University of Cape Town
- ARC-Grain Crops Institute
- South African Sugar Research Institute (SASRI)
- Functional Genomics Platform
- AfricaBio
- IBRS

#### Discussion Issues

- The need to keep up with the changing regulatory environment. Sometimes feels like chasing moving target
- Terminator technology explained
- Regulatory environment could over compensate for products that have been approved.

- International debate on science and society
- IPR issues in the context of South African Universities. On employment, scientists hand over intellectual properties to institutions. Costs of maintaining patents. Creating patents is not incompatible with public sector research. They can be self-financing and could be a major source of funding for public sector research. Systems need to be developed for increasing patents and benefits from intellectual property
- Checklist of requirements for granting patents from genes. Genes and processes can be patented if there has been sufficient characterization
- Royalty free IP for orphan crops

### **Constraints**

Due to the targeted nature of the workshop and because of the limited amount of openings (the workshop was aimed at training 25 participants), confirmations and entry for the workshop were closed when got to our target number. Unfortunately we had several cancellations at the last minute. See attached cancellation requests (11).

### **Comments made about the course by participant**

- All the participants rated that course as excellent overall except for the quality of the course resource materials which were provided in the files. The course material was rated as good overall.
- The course provided scientist with tools for project development and management and most participants were not aware of many of the aspects presented and commented that they will be rethinking their projects
- The participants requested that the course be held once or twice a year most participants believe they still have a lot to learn
- All presentations were rated highly except for Dr Gupta, APHIS, which was too long and not relevant enough

### **Recommendations about the course from participants and trainers**

- Develop the workshop materials into a comprehensive training manual that will be a resource document to scientists in South Africa and the region.
- Institute directors and managers should be invited to future workshops since decisions on projects are in most cases in their hands.
- South African regulators should be asked to be guest speakers
- Speakers from public research institutes should also be included in the programme
- A patent lawyer and a professional communicator should be included in future programmes

- Presentations from other industry players like the one provided by Ken Flowers, Syngenta
- Information about fund raising should be included in the course
- More interaction between industry, scientists and government should be promoted in courses like these and in general
- Directories of expertise should be compiled that allow for easy reference across the sectors

## **Conclusions**

This course was extremely successful and most participants said that they have needed a course like this for a long time to ensure that they have a chance of commercializing the genetically modified crops they are working on. There is a need for further courses of this nature in South Africa and also for scientists in other African countries. The course will now be further developed and additional funding will be sort to offer the course to southern African scientists in 2005.

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## Appendix B

### AfricaBio's Monitoring & Evaluation Plan for the USAID Biotechnology Outreach for South Africa, SADC, Zambia

Strategic Objective: Increase Biotechnology awareness and understanding amongst small scale farmers, scientist and decision makers in South African.

Task / Milestone	Indicators			Due date	Responsible Person(s) & Team
	Process	Key Outcomes	Definition of key outcome indicators		
Preparatory Activities	<p>Assess that we have a workable schedule</p> <p>Assess that there is adequate resources and personnel to carry out the activities identified.</p>	Lay the foundation for the project that will guide all activities	Functional work plan and M&E plan	13/02/04	<p>J. Webster D. Keetch W. Mandivenyi R. Akanbi S. Guthrie D Makinde</p> <p>T. Kambikambi L. Mumba</p>
Developing a Database	Do a quality check of the data inputs	Resource for the region which will allow stakeholders in the SA to have access to key biotech contacts in SA.	Functional database	31/03/04	J. Webster
Material development for demonstration visit	Assess contents of material developed for correctness and fact by internal evaluators	science-based information in a format that is accessible to the target audience	Bt maize fact sheet Decision makers booklet	31/03/04	<p>J. Webster D. Keetch W. Mandivenyi R. Akanbi</p>

Task / Milestone	Indicators			Due date	Responsible Person(s) & Team
	Process	Key Outcomes	Definition of key outcome indicators		
Newsletter	Evaluate target group's opinion/ acceptance of the newsletter contents on a random basis.	An informative newsletter that gives decision makers up to date on biotech issues	Proof of distribution i.e. postage slip & distribution list	12/3/2004 30/3/2004 12/6/2004 30/6/2004 12/9/2004 30/9/2004	H. Lombard J. Webster D. Keetch W. Mandivenyi R. Akanbi
Summary survey	Assess the quality of data collected. Verify results with other surveys	Report highlighting the key issues for consumers and make suggestions for how they can be addressed by biotechnology stakeholders	Survey report for distribution and publication	31/03/04	J. Webster D. Keetch
Demonstration visits 1	Assess impact on participants with the use of an assessment form	showcase the impact of biotechnology to farming systems in the African context to Scientist, small scale farmers and journalists	50 delegates present at the demonstration visit	30/04/04	W. Mandivenyi
Demonstration visits 2	Assess impact on participants with the use of an assessment form	showcase the impact of biotechnology to farming systems in the African context to decision makers, farmers and journalists	50 delegates present at the demonstration visit	15/05/04	R. Akanbi
Communicators training workshops	Assess impact on participants with the use of an assessment form	Train competent communicators who are able to transfer science-based biotechnology information to other stakeholders from varied backgrounds	Trained communicators	09/07/04 31/08/04(SADC)	J. Webster D. Keetch A. Ngqaka P. Mahlangu W. Mandivenyi R. Akanbi

Task / Milestone	Indicators			Due date	Responsible Person(s) & Team
	Process	Key Outcomes	Definition of key outcome indicators		
Small-Scale Farmers Training	Assess impact on participants with the use of an assessment form	Biotech information transfer to small scale farmers to empower them and allow them to make informed decisions about biotech	Outreach to 600 farmers	30/11/04	Andiswa Ngqaka
Scientists outreach workshop	Assess impact on participants with the use of an assessment form	Equip local scientists with skills that will enable them to effectively manage plant biotechnology projects	25 scientists equipped with plant biotech project management skills.	15/10/04	J. Webster D. Keetch A. Ngqaka P. Mahlangu W. Mandivenyi R. Akanbi
Project Report	Assess contents for correctness and fact by internal evaluators	Show the impact of the project	Project report	31/12/04	J. Webster D. Keetch W. Mandivenyi R. Akanbi



## ***GMAC Grantee Annual Narrative Report***

Grantee  AfricaBio

Agreement No.  0127-1003-G-GA35 SA

Report for the period:

October 1, 2004 through September 30, 2005

**October 1, 2004 to December 1, 2004**

Please complete a one-two page narrative summary of your main accomplishments between October 1, 2004 – March 30, 2005. To prevent you from re-inventing the wheel, it is recommended that you work through the two narrative reports that you are required to submit to Mega-Tech for the specified reporting period and capture essential accomplishments related to your milestones.

All milestones and deliverables scheduled for this quarter have been completed. The development and printing of the last newsletter from tasks two scheduled for printing and distribution during this quarter was completed within the specified period. The small scale farmer's outreach and the scientist outreach workshop scheduled for this quarter were all timely completed. The final project report and the database was also finalised in this quarter.

The project has already shown an impact, most especially amongst the small scale farmers that participated in the outreach programme as well as the Scientist and key decision makers that were reached by the project.

The materials and newsletter developed for this project will have benefit to at least 2000 decision makers, scientist and small scale farmers in South Africa.

Please note that we completed all the milestones and deliverables by 31 December 2004 for this project.

In my capacity as the grantee agent, I hereby certify that to the best of my knowledge, the above information is accurate.

Authorised Signature: \_\_\_\_\_

Date: \_\_\_\_\_