Biohazard Map to be released!

Field trials of GMO's – who is doing what and where in South Africa?

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Contents

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1. Background

In February 2007, the *Biohazard Map: Field Trials of GMO's in South Africa* will be released on the new ACB website. This will cover all the field trials that were in the South African environment in 2006 and will soon be updated with trials that have started in 2007. The background and details to this work follow:

2. What is happening where?

In 2006, out of South Africa's nine provinces, only the Eastern Cape has been spared field trials. Field trials have taken place, or are taking place, in all the other provinces, namely:

- Western Cape – GM potatoes
- Northern Cape – GM cotton, GM soybean
- North-West - GM maize, GM soybean, GM cotton
- Gauteng - GM maize, GM soybean, GM potato
- Limpopo – GM cotton
- Mpumalanga - GM maize, GM cotton
- Free State – GM soybean, GM maize, GM potato
- KwaZulu-Natal – GM cotton, GM sugar cane

In total, in 2006, there were 32 different field trial sites.

The traits that are being expressed in these trials are predominately "stacked" meaning that more than one trait has been engineered into the crop, e.g. insect resistance and herbicide tolerance, as has happened with many of the maize and cotton field trials. Others include insect resistance (in maize, cotton, potato, sugarcane field trials), herbicide tolerance (maize, cotton field trials), drought resistance (soybean field trials) and an antimicrobial trait (sugarcane field trials).

3. Who is doing what?

Many of the field trial applications are run by the giant GM multinationals, namely Monsanto, Delta and Pinelands (D&PL), Syngenta and Dow Agro Sciences. Two South African research institutes are also involved, the Agricultural Research Council (ARC) and South African Sugarcane Research Institute (SASRI). These multinationals and institutes with their respective GM field trial crops are given below:

- Monsanto: - GM cotton (Cotton BGRR-Flex), GM maize (Mon 810xNK603)
- D&PL: - GM cotton (Cotton RR-Flex (Mon 889130), Cotton Stacked BGIIRR-Flex)
- Syngenta: - GM cotton (Cotton Cry1AB)
- Dow Agro: - GM maize (Maize DAS 1507)
- ARC: - GM soybean (Drought resistance), GM potato (Potato Spunta G2)
- SASRI: - GM sugarcane (Sugarcane 1-2-3-3, Sugarcane pleurocidin, Sugarcane Bt)

4. The Biohazard Map

This map, which will be released in February 2007, will cover all the field trials that were in the South African environment in 2006 and will soon be updated with trials that have started in 2007. One will be able to click on a map of South Africa and then on any of the nine provinces to call up the field trials occurring in that province. Details of the town closest to the field trial, the name and details of the genetically modified organism can also be called up, e.g. *DELMAS - Monsanto's GM maize, herbicide tolerant and insect resistant traits, Mon810xNK603, permit issued for 24 October 2005 – 24 October 2006*.

There will also be a procedure where one can click on a particular crop, e.g. potatoes and then all the localities for potato field trials in South Africa in 2006 will come up.

5. What is in store for 2007?

Field trials that were approved in 2006, but have not yet been planted include GM sugarcane (viral resistance, antimicrobial traits), GM maize (herbicide tolerant and stacked traits - herbicide tolerance combined with insect resistance) and groundnut (drought resistance). During 2007, there are certain to be other applications for field trials to the registrar of the GMO Act, Department of Agriculture. If these are approved and then planted, then they will be included in future updates of the Biohazard Map.

6. Issues and concerns

a. Level of public awareness

Most South Africans do not know that they have genetically modified field trials taking place in their country. It is highly likely that most of the people in South Africa's six neighbouring states also have no knowledge of this. Considering that all of the field trials involve highly significant crops (staple foods, key agricultural crops) and that there is international concern regarding the negative environmental and socio-economic impacts of GM crops, this is of great concern.

b. Access to information

Although the Department of Agriculture (DoA) has a section on its website (www.nda.agric.za) giving details of the permits approved for each year, key information such as the locality of the field trial is not included. To obtain this information, the African Centre for Biosafety had to use the Promotion of Access to Information Act (PAIA). This is a time-consuming and costly business and the geographic information received is still at a coarse level – the nearest town to the field trial is given as the locality. This "town" locality may cover large areas of land, often of vastly different terrain and biodiversity, spanning commercial and small scale farmers' land and somewhere within this will be the field trial.

This geographic information should not be "Confidential Business Information" but should be in the public domain. The public and farmers have a right to know exactly where these field trials are taking place.

c. Field trials – getting riskier?

Field trials initially involved only one trait, e.g insect resistance. However, in 2006, the majority of field trials involved stacked genes, i.e. crops exhibiting two traits (insect resistance and herbicide tolerance).

Stacked genes increase the level of uncertainty and increase the level of risk.

d. Keeping track of the field trials

Keeping track of the field trials in South Africa is difficult for any member of civil society. Field trial permits are usually issued for one year (except in the case of crops like sugarcane and potatoes). The approved field trial permits are included with permits for contained use, trial release, general release and commodity clearance on DoA's website - during the period January-June 2006, 128 new permits were granted! It's also important to track what happens as a result of the field trial – what is the next step for the multinational or local institution? Is there post trial monitoring and if so what are the findings?

Hopefully the Biohazard Map and its updates will help keep civil society informed of some of these issues.