



# Status and experiences related to the implementation of GMO legislation in Egypt

# Biosafety - History

1990: EC Directives on GMOs

1992: UNCED, Rio De Janeiro 1992: Agenda 21

- Outcome of the United Nations Conference on Environment and Development (Rio De Janeiro, 1992)
- Chapter 16: “Environmentally sound management of modern biotechnology”

# Biosafety - History

## Agenda 21, Chapter 16:

- Biotechnology can make a significant contribution to the sustainable agricultural production, health care and to environmental protection
- Given the relatively limited experience: need for internationally agreed principles on risk assessment.
- > Agreement to enhance international collaboration to maximise benefits and limiting risks of biotechnology

# Biosafety - History

## The Convention on Biological Diversity (1992):

- Article 8: “*In situ conservation of biodiversity*”  
  
Art. 8.g: Develop National Biosafety Systems
- Art. 19: “*Handling biotechnology and distribution of its benefits*”
  - Art.19.1 and 19.2: promote and advance priority access to the results and benefits arising from biotechnologies
  - 19.3: Consider a protocol on biosafety

# Biosafety - History

## The Cartagena Protocol on Biosafety (CPB, 2000).

- Procedures for transboundary movement of living modified organisms **in absence of national regulations**
- Agreed principles and methodology for risk assessment
- Mechanism for information sharing - Biosafety Clearing House

# National Biosafety Systems

National Biosafety Systems vary from country to country, but usually have a number of common components:

- A policy on biotechnology, including biosafety
- Regulatory framework for biosafety
- Mechanism to handle requests for permits
- Enforcement and monitoring
- Public information and public participation



# The Regulatory Framework of Egypt

## History:

**1992:** Adoption of the Biodiversity Convention (CBD)

**1994:** Egypt ratifies CBD

**1995:** Egypt one of the first developing countries to implement article 8.g of the CBD:

- Decree 85 (1995): Establishing the NBC
- Decree 136 (1995): Establishing obligation to obtain permit of NBC for any activity with GMOs

# The Regulatory Framework of Egypt

- 1997:** Decree 242, requiring approval by the SCFS for the import of GMOs for food.
- 1998:** Decree 1648, protocol for GM seed registration
- 2003:** Egypt ratifies Cartagena Protocol (CPB)
- 2006:** Decree 767 established the National Competent Authority for the functions of the CPB.
- 2007:** Decree 19 nominated new members and the Secretariat of the NBC



# Egypt - Current situation

## Environmental safety

- contained use, experimental releases, products
- NBC, Decrees 85, 136,

## Food Safety:

- Products intended for food
- Supreme Council on Food Safety, Decree 242.

## Variety registration:

- Seed for cultivation
- Variety Committee - after OK NBC and SCFS.

# National Biosafety System

## National Biosafety Committee (NBC)

## Institutional Biosafety Committee (IBC)

## Biosafety Guidelines

- Members of NBC
- Activities of NBC
- (PI) Principal Investigator

- Members of IBC
- Activities of IBC
- (BSO) Biological Safety Officer

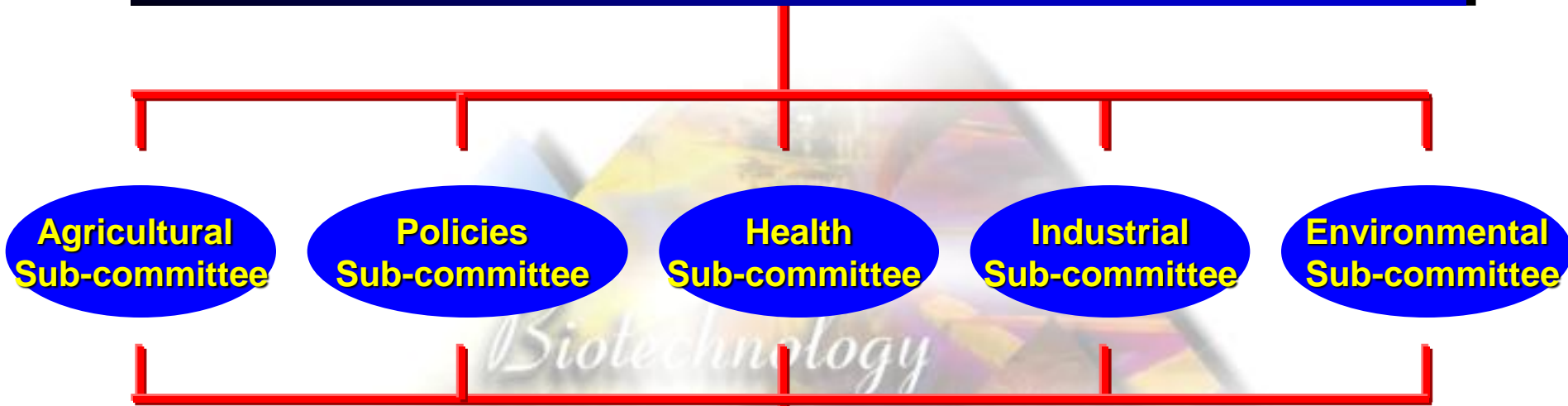
### For:

- Laboratories
- Containment Greenhouse
- Small-scale field trials

# **National Biosafety Committee Members**

- **Representative(s) from the Ministries of:**  
***Agriculture , Health, Industry, Education ,  
Scientific Research , Environment***
- **Representative/s from the private sector.**
- **Non-Technical Members (Community Interest).**
- **Policy Makers and Designers.**

# National Biosafety Sub-Committees



**Institutional Biosafety Committees**

**Institutions**

# Steps for Commercial Release of Genetically Engineered Plants in Egypt

**Submit Permit Application**

1

**National Biosafety Committee**

2

**Issue  
importation  
permit**

2'

**Supreme Committee  
For Food Safety**

3

**Seed  
Registration  
Committee**

4

**Ministry of Health**

**Ministry of Agriculture**

5

**Assign inspectors from relevant Institutes**

6

**Inspect to ensure compliance**

**Applicant request for registration**

7

**Commercial Release**

8



# **Permits Issued by the National Biosafety Committee – NBC**

## **By Crop**



# Scale of treatments for permits Issued by the NBC

Crop Scale	Tomato	Sug. Cane	Cotton	Corn	Squash	Rice	Melon	Qantaloupe	Banana	Wheat	Cucumber	Potato	Total
Release to the BioContainment	1	1	2	2	8	1	2	3	2	4	1	7	34
Release to Open field	2	-	2	6	8	-	1	-	-	5	1	7	32
Placing on the Market	-	-	-	1	-	-	-	-	-	-	-	-	1
Total	3	1	4	9	16	1	3	3	2	9	2	14	67

Application no.:

## PERMIT APPLICATION FOR GENETICALLY MODIFIED ORGANISMS GMO's

Applicant Name:

Address:

Telephone No.:

mark one of the following in these coming questions

Permit request for:

<input type="checkbox"/>	Limited movement
<input type="checkbox"/>	Limited importation
<input type="checkbox"/>	Release to greenhouse
<input type="checkbox"/>	Release for small-scale trail

Permit for

<input type="checkbox"/>	Geneticly modified organism
<input type="checkbox"/>	Exotic materials
<input type="checkbox"/>	Transformed biological agent
<input type="checkbox"/>	Others (specify on separate paper)

Means of movement:

<input type="checkbox"/>	Mail
<input type="checkbox"/>	Common carrier
<input type="checkbox"/>	Baggage or hand carried

This is a:

<input type="checkbox"/>	New permit
<input type="checkbox"/>	Renewal permits
<input type="checkbox"/>	Supplemental permits

Date required for importation, movement or release:

Country of origin of regulated article:

Arrival destination of movement:

Number, quantity or volume of regulated article:

Any biological martial accompanying the regulated article:

Signature of applicant

Date

Donor organism (e.g. Bt, CP): -

Recipient organism (e.g. Potato clone): -

Physical state of inserted genetic material (integrated or extra chromosomal): -

Vector or vector agent: -

Give details of construct used to transform plant: -

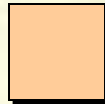
Other information (give as much details in a separate paper): -

**FOR OFFICIAL USE ONLY**

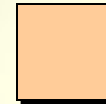
**PERMIT APPROVAL**

**NATIONAL BIOSAFETY COMMITTEE – EGYPT**

Application No: -



Approved

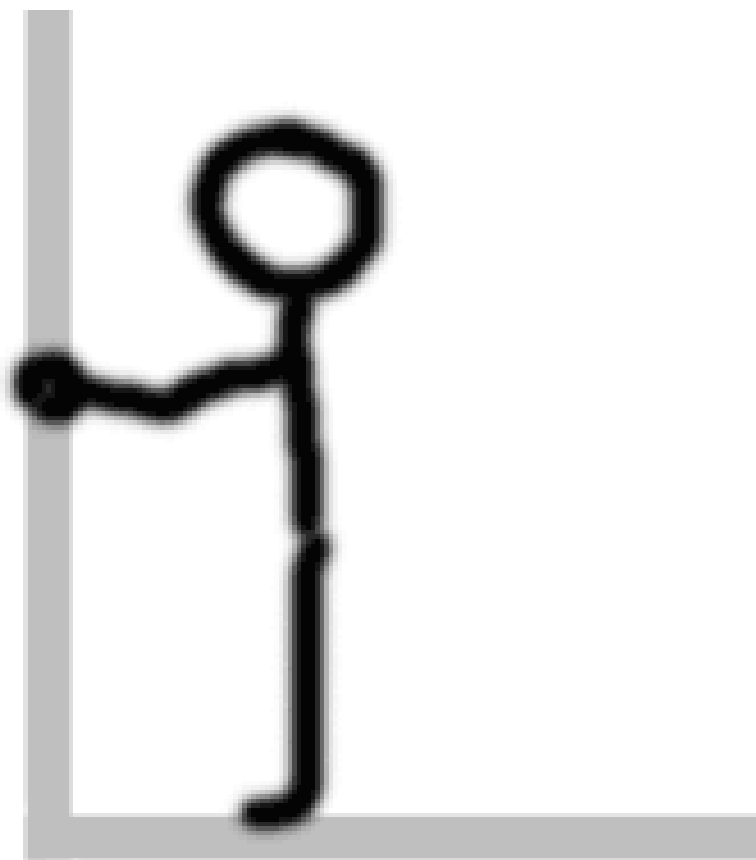


Rejected

If rejected, reasons why: -

**Minister of Agriculture & Land Reclamation**  
**CHAIRMAN NBC - EGYPT**

Date





# **WHY**

*Biotechnology*

# **The journey**

*safety*

# **starts**

# **Effect of *Bt*-corn hybrids (MON 810) on the yield performance in Egypt**

**Magdy A. Massoud**

**Department of Plant Protection, Faculty of Agriculture, Saba Basha, University of Alexandria, Egypt**

E-mail: [magdymassoud@yahoo.com](mailto:magdymassoud@yahoo.com)

- In 2004 plant disease institute showed 100% absence of late wilt disease .
- In 2004 crop protection institute showed 100% resistance to all 3 borers .
- In 2004 AGERI showed adequate gene expression in plant parts and finger printed .
- In 2005 corn department of field crops research institute showed 41% increase in yield .
- In 2005 Agricultural economics institute showed 110% increase in net income .
- In 2007 Regional laboratory for feed showed absence of fumensin compared with conventional.
- In 2007 in 7 locations natural enemies were shown to be equal or more when Bt was planted.



## **Monitoring and remedial action plans :**

### **A) Market Surveillance of YieldGard market penetration :**

- Detailed information has been given to NBC regarding 2008 distribution on 21/12/2008 .
- CASC has a full Picture of distribution by its mandate .

### **B) In fields monitoring in 2008 in accordance with a specific form**



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97	100%	100%
98	100%	100%
99	100%	100%
100	100%	100%

[illegible]



FINE SEEDS INTERNATIONAL s.a.s.

فاين سيدز انترناشيونال

تقاوى أذرة شامية

هجين فردى أصفر

عجيب واي جى

مقاوم للثاقبات - معدل وراثياً

إنتاج وتوزيع شركة فاين سيدز انترناشيونال ش.م.م

١٠ ميدان أبو الشامين - المحسوزة - الجيزة

ت ٣٣٠٥٠٠٨٩ ف ٣٣٠٤٤٠٦

محطة الفرقة، مدينة الصادق الصناعية، المنطقة الخامسة - قنطرة

تليفون ٢٦٠١٠٦٣ (٠٤٨)

الوزن الصافى ٢ كجم

تحذير: التقاوى معاملة بالمبيدات الكيماوية

إنتاج عام :

رقم اللوحة :





الحماية من ثقبان الذرة<sup>®</sup>

**YELLOW SEED CORN  
AJEEB Y.G.**

**MON - 00810 - 6**

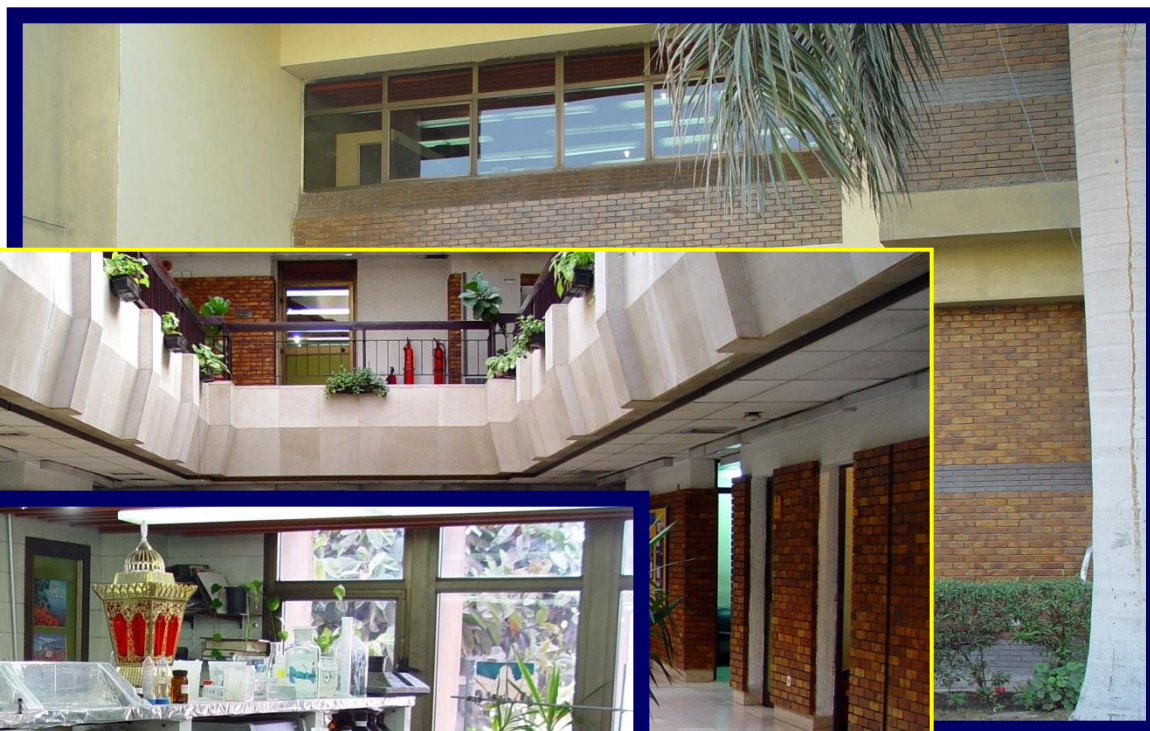
بتصريح من شركة مونسانتو العالمية

**NET WEIGHT 2 KGS.**

**CAUTION : SEEDS ARE TREATED WITH CHEMICALS**







17 well – equipped  
LABORATORIES

**AGERI**  
**Main Building**

# D- Laboratory bio assay of larve from 3 borers to determine

## Report

**Baseline study of Cry1Ab susceptibility in populations of  
*Ostrinia nubilalis* (ECB)**

- Results for 2007 -

## Date

30/07/2008

## Testing Facility

BTL Bio-Test Labor GmbH Sagerheide  
Birkenallee 19  
D-18184 Sagerheide  
Germany

## Sponsor

Monsanto International Sarl  
Rue des Vignerons 1A  
CH-1110 Morges  
Switzerland

Author and study director:

Dr. Thomas Thieme

Monitor:

Mr. Guy Blache



## **Education and Training- EBIC :**

- The private company has given 3 sessions of training to all its employees in class and in field during 2007 & 2008 (60 employees) .
- The private company involved CASC in part of the training connected with quality of production .
- The private company gave training to directors of extension in AGERI (twice) .
- The private company gave training sessions in 36 markaz in 11 governorates to extension engineers .
- The private company has published and distributed an exhaustive user guide in sufficient quantities (10,000) :
  - Refuge .
  - Pollen movement .
  - Basic information .





موقع تجربه  
پایه وای جی  
لم یسجل بعد  
ای اصفه  
قبات



# الإرشاد الزراعي

## بموجب قانون الزراعة



محافظة المزارعة  
الإرشاد الزراعي

أنوية مشددة بالبيوتكنولوجي

Product	Use
Insulin	Diabetes
Interferon	Cancer
Interleukin	Cancer
Human growth hormone	Dwarfism
Neuroleptic problems	Pain

٢٠٢٠ م  
مقاوم للثقبات

## **Remedial action when resistance develops :**

- 1- Steps to confirm resistance .
- 2- Notify NBC .
- 3- Notify growers .
- 4- Recommend to all involved alternative methods .
- 5- Submit a modified long term resistance plan.
- 6- Increase monitoring .
- 7- Intensify IPM .
- 8- Voluntary withdrawal of product .





*Thank You*