

GMO Analysis and Future Regulations in Georgia



Biotechnology Center of Georgia

International workshop on GMO detection and analysis
AGR 32794

Organised by the EC Joint Research Centre (JRC) and the EC Technical Assistance Information Exchange Instrument (TAIEX) in collaboration with
Tübitak Marmara Araştırma Merkezi
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PRESENTATION

GMO Analysis and Future Regulations in Georgia



PRESENTATION OVERVIEW

- DEPARTMENTS OF THE BIOTECHNOLOGY CENTER
- MEMBERSHIPS
- MAJOR AREAS OF OUR RESEARCH
- GMO/REGULATIONS/DETECTION/LABELING
- SUSTAINABLE DEVELOPMENT AND BIO-SAFETY
- FOOD SAFETY, HACCP
- CONCLUSIONS



Our scope of work

- Labeling provision(s) in place regarding GM food, feed, seed and/or environment;
- Dedicated governmental body and/or competent authority responsible for GMO labeling provisions;
- Laboratories already established in Georgia;
- Experiences with enforcement;
- Is control exclusively done for public authorities or also for private companies?

BIOTECHNOLOGY CENTER DEPARTMENTS:

- PLANTS AND ANIMALS REPRODUCTION AND GENES BANK DEPARTMENT
- BIO SAFETY, BIOCONTROLE AND MICROBIOLOGY DEPARTMENT
- FOOD SECURITY, EXPERTISE AND STANDARDS DEPARTMENT
- TISSUE CULTURES AND BIOINFORMATICS TECHNICAL DEPARTMENT
- PLANTS BIODIVERSITY CONSERVATION AND CLIMATE CHANGE RESEARCH DEPARTMENT
- CENTER FOR INTERNATIONAL RELATIONS



MEMBERSHIPS:

Biotechnology Center became in Membership next International Organizations and networks:

- IBMA- International Biocontrol Manufacturers Association
- The European Society of Agricultural Engineers (EurAgEng)
- The European Association of Agricultural Economists (EAAE)
- Countdown 2010
- Individual Membership of European Biotechnology Federation, EFB



MAJOR AREAS OF OUR RESEARCH

- Biosafety, Food Safety, Environmental Biology, Microbiology, Biochemistry, Tissue Culture, Medical Plants and Aroma Plants, Biocontrol, Bioinformatics.
- Biomass, Bio-ethanol, Biodiversity Conservation, Genes Bank, BioEthics.
- Fruits and Vegetables Keeping, *in vitro* and *in vivo* virus free potato seed production



in vitro LABORATORY



PARTNER AND DONOR ORGANIZATIONS

Italia Pegasus Institute (SPA)

FAO

Egyptian National Research Center (ENRA)

Georgian State Agricultural University (GSAU)

Georgian Institute of Forest

Georgian National Scientific Foundation (GNSF)

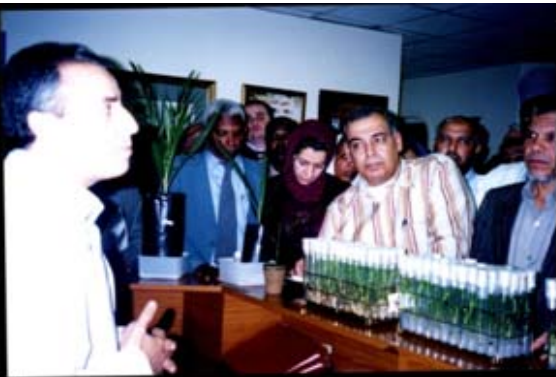
Academy for European Management GmbH

Euro Science



BIOTECHNOLOGY CENTER (EX NAME- INSTITUTE OF AGRIBIOTECHNOLOGY)

Worked on GMO Potato produced by Monsanto Co, between 1994-1996 Years in Georgia and primary product was from NatureMark's New Leaf Russet Burbank. New Leaf Burbank seed potato was planted in Georgia providing natural protection from the Colorado potato beetle.



CHALLENGES OF BIO AND FOOD SAFE AND SECURE AGRICULTURE OF GEORGIA AND FUTURE PROSPECTS:

- **Detection.** The purpose of detection is to determine whether a sample contains GMOs. For this objective, a screening method can be used resulting in a positive/negative statement. The screening methods are usually based on the polymerase chain reaction (PCR).
- **Identification.** If there is a positive detection of GMOs, further analysis is required to discover which GMO it is and thus whether the GMO is approved within the EU. The only analytical methods, which unequivocally may enable identification of each GMO variety are methods based on PCR.
- **Quantification.** If a product has been shown to contain GMO(s), the next step is to assess compliance with the 1% threshold level (or the 0.3 or 0.5% level, respectively for seeds) by the determination of the exact amount of each of the GMOs present in the sample. Typically quantification is performed using semi-quantitative PCR or Real-time PCR/an ELISA method .

FOOD SAFETY

FOOD CHAIN PROBLEMS (FEED SAFETY, ZOOONOTIC DISEASE, PESTICIDES, MYCOTOXINS...)
TRANSBOUNDARY ANIMAL DISEASES, PLANT PESTS

THE AGRICULTURE SECTOR IN GEORGIA MUST BE RESPONSIBLE FOR:

- ENSURING GOOD AGRICULTURAL PRACTICES
- DEVELOPMENT AND ENFORCEMENT OF FOOD QUALITY STANDARDS;
- LABELING STANDARDS
- IMPORTS AND EXPORTS
- REGISTRATION OF GENETICALLY MODIFIED ORGANISMS (GMOS);
- DEVELOPMENT OF FOOD SAFETY AND NUTRITION STANDARDS;
- FOOD HYGIENE ISSUES (EXCLUDING ABATTOIRS);
- ASPECTS OF FOOD LABELING; (LAW WILL BE RULED BY 31 DECEMBER 2009)
- CERTAIN IMPORT ACTIVITIES
- THE HAZARD ANALYSIS AND CRITICAL CONTROL POINT (HACCP)

FOLLOW UP RESEARCH ACTIVITIES

- 1. FOLLOW-UP RESEARCH ACTIVITIES ON THE WHOLE FOOD SYSTEM ARE URGENTLY NEEDED FOR FP7. ENPI
- 2. COMPREHENSIVE AND EXPLORATIVE SCENARIO STUDIES ARE CALLED FOR FP7, EU RESEARCH AREA
- 3. FOLLOW-UP STUDIES SHOULD INCLUDE ALL RELEVANT STAKEHOLDERS
- 4. HEALTH AND SUSTAINABILITY REQUIRE DUE ATTENTION
- 5. AN IMPORTANT ELEMENT OF FOLLOW-UP STUDIES IS EDUCATION
- 6. COOPERATION WITH ONGOING ACTIVITIES

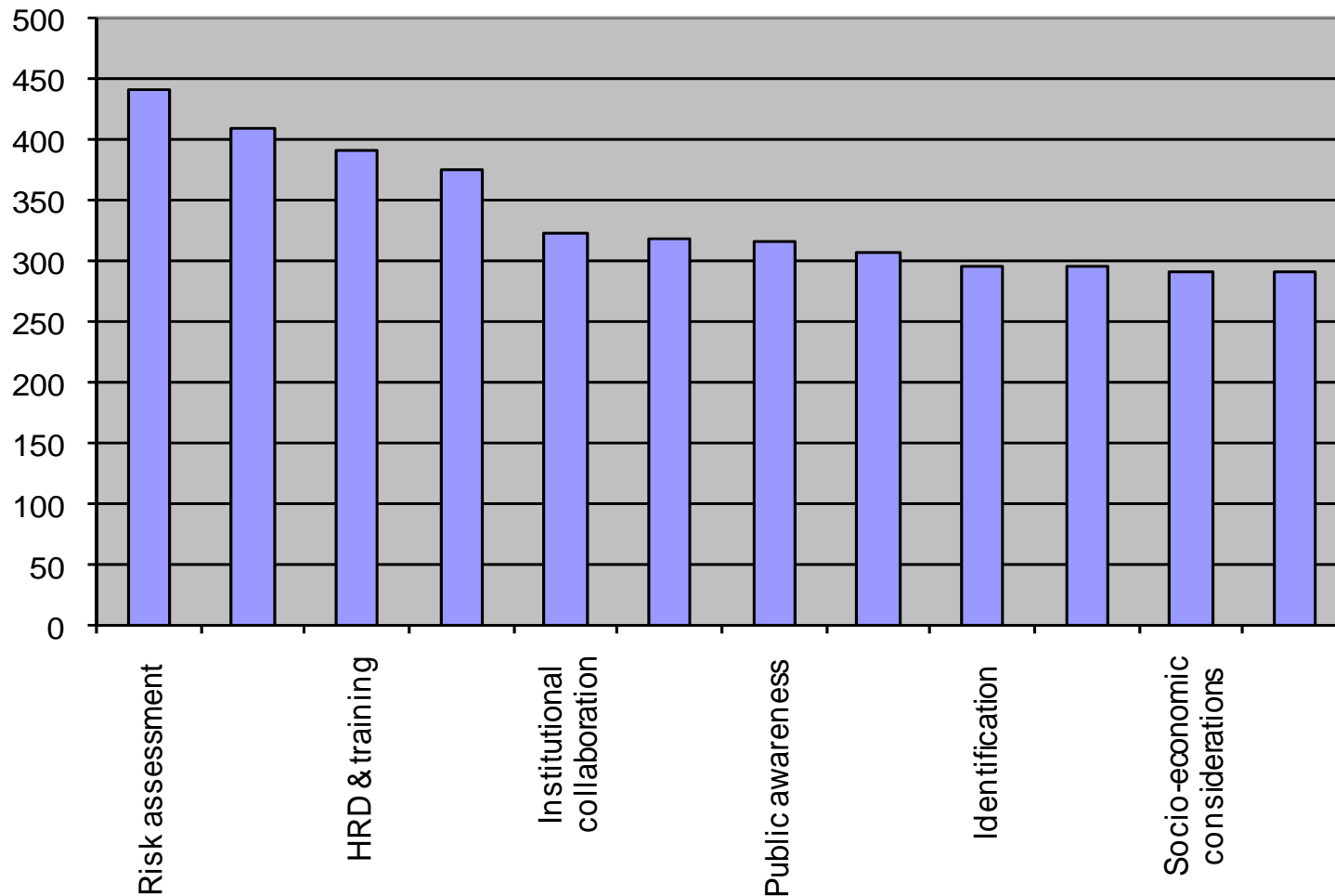
RISKS AND RISKS EVALUATION AND MANAGEMENT

- RISKS EVALUATION
- PERCEPTION
- MEASURED RISKS
- DIETS
- PROCESSED / NON PROCESSED FOOD
- MARKET ACCESS
- PHYTOSANITARY MEASURES
- ANIMAL HEALTH
- RISKS MANAGEMENT

CARTAGENA PROTOCOL: STATUS OF COMPLIANCE IN GEORGIA

1. GEORGIAN PARLIAMENT RATIFIED THE PROTOCOL ON 19 May 2008
2. MAJOR ELEMENTS THAT MERIT ATTENTION INCLUDE AIA PROCEDURE, SIMPLIFIED SYSTEM FOR AGRICULTURAL COMMODITIES, RISK ASSESSMENTS, RISK MANAGEMENT AND EMERGENCY PROCEDURES, EXPORT DOCUMENTATION, BCH, CAPACITY BUILDING, PUBLIC AWARENESS AND PARTICIPATION AND ISSUE OF NON PARTIES
3. COMPETENT AUTHORITY AND CONTACT POINTS NOTIFIED
4. RULES IN PLACE BUT HARMONIZATION REQUIRED WITH THE PROCEDURES FOR TRANSBOUNDARY MOVEMENTS

RISKS AND PUBLIC AWARENESS



LABORATORY TRAININGS, NEW EQUIPMENT, RESEARCH GRANTS CALL FOR SEARCHING CO-LABORATOR INSTITUTIONS:

- ✓ TRAINING PROGRAMMES ON GOOD LABORATORY PRACTICES FOR RESEARCHERS
- ✓ SERIES OF SEMINARS ON SPECIFIC AREAS PERTINENT TO GMO BIOSAFETY IN BOTH FOOD AND FEED SAFETY EVALUATION AND ENVIRONMENTAL RISK ASSESSMENTS
- ✓ SHORT TERM TRAINING ON DETECTION METHODS
- ✓ qPCR DIAGNOSTIC
- ✓ JOINT RESEARCH PROJECTS

BIOSAFETY AND FOOD SAFETY POLICY IN GEORGIA

- REVIEW AND UPDATE THE PROVISIONS OF NATIONAL RULES AND GUIDELINES AS WELL AS NOTIFY ADDITIONAL POLICIES/RULES/ GUIDELINES
- GUIDELINES TO BE DEVELOPED FOR HANDLING, PACKAGING AND TRANSPORT OF GMOS
- GUIDELINES TO BE DEVELOPED FOR NEW GMOS AND PRODUCTS AND NEWER APPLICATIONS OF EXISTING GMOS E.G. TRANSGENIC ANIMALS INCLUDING LIVESTOCK AND FISH, USE OF PLANTS AND ANIMALS FOR PRODUCTION OF PHARMACEUTICALS/BIOCHEMICALS
- BIOETHICS DESIGN IN GEORGIA

MANY THANKS FOR
YOUR
ATTENTION!!!

