Food Security and Biotechnology in Africa

This project is financed by the European Union and implemented by the ACP Secretariat

Module 4
REGULATION AND POLICY APPROACHES TO BIOTECHNOLOGY

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Module structure

- Unit 1: International regulation regimes and tailoring of national laws
- Unit 2: International Laws and Treaties affecting the Regulation of Agricultural Biotechnology
- Unit 3: Risk and safety of genetically modified organism
- Unit 4: Regulating the process and products of genetic modification
- **Unit 5: Consumer rights and labeling**
- Unit 6: Politicization, scientization, and democratization in the debate on biotechnology

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Objective of module 4

To provide students with a broad understanding of international policy and regulation regimes including other agreements that govern the use of biotechnology and how these offer the framework for the development of national biosafety systems and to also expose students to various issues underlying the use and management of biotechnology

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4.5 Unit 5 Consumer Rights and Labelling (3 Hours)

For details see the corresponding course notes

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Outline of Unit 5

- Objectives
- Introduction
- What is labeling?
- Status of labeling worldwide
- Labeling in the US
- Threshold for labeling
- Organizations that address issues related to labeling
- Labeling regulations
- Controversies
- Conclusion
- Group discussion questions

Objectives of Unit 5

- Understand what constitutes rights of the consumer with respect to the use of biotechnology and its products
- Highlight why labeling of GM products is required in certain jurisdictions and controversies surrounding this issue

Introduction

Why rights for consumers?

- Consumers should be ensured the right to choose between products with or without genetic engineering. Freedom of choice is the widely accepted cornerstone of for e.g. the EU's policies on genetic engineering
  - Concerns/perceptions
    - It has been shown that most individuals do not possess "sufficient knowledge" on the risks and benefits of new and unfamiliar technologies such as Genetically modified (GM) foods (Costa-Font & Mossialos, 2005a)
    - Individuals exposure to information on such technologies comes from a variety of information sources, some which have a genuine effect in shaping individuals perceptions of benefit – or usefulness and risk – or expected harm, which ultimately determine product acceptance or rejection (Costa-Font & Mossialos, 2005b)

Introduction

- Thus public concerns over GM foods relies more on the perceived limited benefits rather than on any appreciable risks connected with the technology and paradoxically, even though many perceive some benefits, these are less intense than the perceived risks (Gaskell et al., 2004)

- Some benefit related questions that consumers ask include:
  - Are alternatives available that provide greater agronomic, economic, social, and ecological benefits?
  - Do GM crop prevent some specific harm to humans or ecosystems, e.g., does it reduce pesticide use?

Introduction

- Does the GM crop help solve an existing environmental problem, e.g., does it produce sterile feral animals to control pests (Walker and Lonsdale 2000)
- Will the benefits of this GM organism be widely shared?
- Does the GM crop provide some specific benefit to humans or ecosystems, e.g., does it enhance human nutrition or help restore degraded land?

Introduction

- Some potential risk questions that consumers ask include:
  - Are risks minimized though good design, e.g., is it certain that genes inserted into chloroplast DNA cannot escape through pollen?
  - Has the organism been examined to determine whether genetic modifications to produce a desired trait have not also inadvertently produced risky changes?
  - In the locale of release, can the trait spread to other species, i.e., can the species hybridize with other species nearby?

Introduction

- Is a mechanism in place for surveying for possible negative effects after widespread release has occurred?
- Who and what are at risk of being negatively affected by this GM crop?
- In the locale of release, can the trait spread to other species, i.e., can the species hybridize with other species nearby?
- Do institutions exist that could mitigate the potential impacts of GM crops?

What is labeling?

Source: http://www.qualifoodacademy.com/posts/south-africa-to-amend-current-gm-labeling

- The U.S. Federal Food, Drug and Cosmetic Act (FFDCA) defines food "labeling" as all labels and other written, printed, or graphic matter upon any article or any of its containers or wrappers, or accompanying such article.
- The term 'accompanying' is interpreted liberally to mean more than physical association with the food product. It extends to posters, tags, pamphlets, circulars, booklets, brochures, instructions, websites, etc.

What is labeling?

- Whether or not to label food produced from crops that are genetically modified using recombinant DNA technology is a key issue in the ongoing debate over the risks and benefits of using biotechnology in agriculture

Source: http://www.foodnavigator-usa.com/Regulation/Federal-GMO-labeling-bill-hailed-as-true-compromise

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Status of labeling world wide

http://www.justlabelit.org/right-to-know-center/labeling-around-the-world/

Currently, 64 countries around the world require labeling of genetically modified foods. In Africa these include South Africa, Kenyaand Mali

Labeling in the US

- Unlike most other developed countries – such as 28 nations in the European Union, Japan, Australia, Brazil, Russia and even China - the U.S. has no laws requiring labeling of genetically modified foods.

Source: https://foodrevolution.org/blog/genetically-engineered-foods/obama-gmo-labeling-bill/

Labeling in the US

- The U.S. government regulates GM food technologies, but once GM crops are approved they are considered to be 'substantially equivalent' to their conventional counterparts in terms of safety – therefore no labeling is required

Labeling in the US

- The Nutrition Labeling and Education Act (NLEA), which amended the FD&C Act requires most foods to bear nutrition labeling and requires food labels that bear nutrient content claims and certain health messages to comply with specific requirements.
- The Food and Drug Administration (FDA) is responsible for assuring that foods sold in the United States are safe, wholesome and properly labeled. This applies to foods produced domestically, as well as foods from foreign countries.

Threshold for labeling

- Thresholds and quality criteria have a long precedent in agriculture and food production and are routinely used to delineate different product categories.
- These kinds of thresholds and product criteria are by no means statements on the safety of the product. This is the case for GMO labelling thresholds.
- During the production, transportation, and processing of agricultural products, a small amount of mixing between different fields and different shipments is difficult to prevent.
- For this reason, even when a product was intended to be completely GMO-free, traces of GMO can often still be detected in it

Threshold for labeling

- Products containing these unintentional or technically unavoidable mixtures with GM material, in the EU, do not require labeling, as long as the GM content does not exceed 0.9 percent

Organizations that address issues related to labeling

- Several international organizations do this and include:
  - the Food and Agriculture Organization (FAO)
  - Codex Alimentarius Commission (Codex)
  - the Convention on Biological Diversity (CBD)
  - and the World Trade Organization (WTO)

Labeling Regulations

- In the 64 countries that require labeling of GM foods, laws have been enacted to guide the labeling process e.g.
- Kenya - http://www.biosafetykenya.go.ke/Docs/labelling.pdf
- Even in the U.S.A where labeling is not mandatory there are laws that regulate general labeling - http://www.fda.gov/regulatoryinformation/legislation/federalfooddrugandcosmeticactfdcact/

Controversies

Mandatory vs Voluntary labeling

- Mandatory labeling of genetically modified (GM) foods has been proposed under a variety of initiatives at national and state levels but has not yet been implemented in the United States.
- Current U.S. law mandates food labeling **when there is a substantial difference in the nutritional or safety characteristics of a new food**

Controversies

- Some companies and initiatives already voluntarily provide labeling of food products to indicate presence of GM ingredients.
- Voluntary labeling hence does not require further regulatory measures.

Mandatory labeling

- Mandatory labeling requires, at a minimum, **that all food products containing any GM ingredient (above a certain threshold for trace amounts) to indicate that fact**
- Stronger mandatory labeling requirements could include identification of each specific GM ingredient and its level of content in the product
- Mandatory labeling requires further regulatory interventions including monitoring and enforcement.
- There are many arguments both for and against the mandatory labeling of GM foods

Controversies

PROPONENT POSITION

- Those in favor of labeling emphasize consumers' right to know what is in their food as an important attribute of a democratic society. Proponents typically include organic farmers, environmental groups, consumers, activists, and the natural food industry

OPPONENT POSITION

- Those against labeling are concerned about the increased cost of food and the logistical challenges of labeling with no corresponding improvement in human health or food safety. Opponents typically include agricultural and biotech interests, retailers, and the processed food industry.

Controversies

PRO-LABELING ARGUMENTS

- Mandatory labeling should be implemented because:
  - Ninety-three percent of Florida residents agree or strongly agree that GMOs should be labeled (Pounds, 2014)
  - People should have a choice in the types of products they purchase and consume
  - Consumers have a right to know about the composition of their food
  - Consumers could avoid GMOs to account for any uncertainty surrounding future health and environmental concerns
  - At least 64 other countries have established some form of mandatory labeling law (CAST, 2014)

ANTI-LABELING ARGUMENTS

- Mandatory labeling should not be implemented because:
  - There are voluntary labeling measures providing consumers with non-GMO choices
  - Consumers can purchase certified organic foods, which cannot be produced with genetically modified ingredients
  - Consumer options could decrease if retailers eliminate GMOs due to perceived consumer aversion (Carter & Gruère 2003)
  - There is no other food production process that requires labeling
  - It could be misleading to consumers, implying that GMOs pose a food safety risk when there is no evidence of harm

Controversies

PRO-LABELING ARGUMENTS

- Mandatory GMO labeling would enhance the United States' capacity to export to countries that have GMO regulations
- Voluntary labeling has not been sufficient for informing consumers about the presence of GM ingredients
- For religious or ethical reasons, some people may want to avoid eating certain products that may be introduced by GM methods

ANTI-LABELING ARGUMENTS

- Labeling is not needed to identify GMOs containing animal genes as none are currently on the market or under review.
- Food costs could rise due to labeling, monitoring, and/or food reformulation necessary to remove GM ingredients
- Costs associated with labeling of GM foods would be borne broadly by most consumers in order to fulfill the desires of some consumers

Controversies

Voluntary labeling

- Certain pieces of information are often included on food labels but are not required by law. These are added by the manufacturer or retailer voluntarily.
- Examples of additional information that may be included in a label are:
  - General – Vegetarian or vegan labeling, Country of origin (where not required) , serving suggestions
  - Nutrition – Nutrition information, Nutrition signposting for example colour codes or reference intake
  - Marketing – Marketing terms, for example fresh, pure, natural, pictures and graphics
  - Production methods – such as organic, method of slaughter, for example Halal and schehita slaughter
- Some companies and initiatives already voluntarily provide labeling of food products regarding their avoidance of GM ingredients.
- Voluntary labeling does not require further regulatory measures.

Conclusion

- Debate on possible risks of GMOs and the need or usefulness of labeling will continue to be a contentious issue as it is subject to political, economic and cultural issues

Group discussion questions

- What percentage of a GM ingredient must be present in a food before a label is required?
- Would meat, eggs, and dairy products from animals fed GM feed crops require a label?
- Would food ingredients made using GM yeast or GM enzymes require a label?
- Would food served in restaurants or other food-service establishments require a label?
- How should regulators verify claims that a food is or is not genetically modified?
- What is the economic impact of mandatory labeling?