

GENETICALLY MODIFIED ORGANISMS (GMOs) USE IN NIGERIA

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INTRODUCTION

Genetic modification allows selected individual genes from one organism to be inserted into another.

Genetic modification can be used to promote a desirable character or to suppress an undesirable trait.

Modern biotechnology can be used to address the problems of food and nutrition insecurity since agricultural productivity can be increased through its application.

With a fast growing world human population there is need to grow more food.

OPPORTUNITIES OFFERED BY GENETIC MODIFICATION

Genetically modified organisms (GMOS) are used in medical and biological research, production of pharmaceutical drugs, medicine and agriculture. The biggest use of GMO technology is in agriculture.

The United Nations Food and Agriculture Organisation estimates that the world will have to grow 70% more food by 2050 to keep up with population growth.

Genetic modification of crops can be used to achieve the following traits:

- Tolerance to herbicides
- Insect/pest resistance
- Bacterial, fungal and viral resistance
- Micronutrient enrichment

OPPORTUNITIES OFFERED BY GENETIC MODIFICATION contd.

Genetically modified (GM) crops are developed for high yields and high nutrient quality traits. They were first commercialised in 1996.

Some are documented to have ability to survive in harsh conditions such as drought, heat, acidic and salty soils.

A great percentage of GM crops cultivated as at today is in developed countries.

REGULATORY CONTROL ON GMOS AND PRODUCTS

The National Biotechnology Development Agency (NABDA) and are responsible for the adoption, while the National Biosafety Management Agency (NBMA) is responsible for regulation and safe use of GMOs and products.

National Biosafety Management Act, 2015 for application of biotechnology in Nigeria.

Prevent any adverse effects on human health, animals , plants and environment.

Regulation enforced to minimize risks and maximize benefits



GMO UNDER RESEARCH IN NIGERIA

contd.

- No commercialization of any of these crops yet in Nigeria.
- Political goodwill needed to support Biotechnology Research and Development and trade.

Biotechnology can be used to upgrade and transform our agriculture. Do we disregard the valuable potentials of the technology to grow economically important food/feed crops?

Decision must be based on credible science-based information.

The technology of genetic modification should be developed and applied to meet needs in relation to health, food and environment for sustainable development.

There are biosafety measures required to utilize and realise the full potential of GMOs. They should be made safe and healthy for consumers and the environment.

Toxicological tests are required to prove they pose no risks to other organisms or the environment.

Need for awareness and education of the public.



NAS STATEMENT ON GMOs

- The Nigerian Academy of Science makes scientifically–based statements on issues of interest to the nation and is in a position to review research findings on GMOs to appraise benefits or address concerns.
 - The Academy is in a position to furnish Government and the Nigerian public evidence-based scientific information on GMOs and their products.
 - Regulation must be enforced to minimize risks and maximize benefits. Claims of safety must be scientifically valid.
 - Research capacities must be strengthened to embrace GMO technology and maximize the benefits of biotechnology, particularly those related to food security and sustainable development.
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NAS STATEMENT ON GMOs contd.

- Research must continue to address the potentials of GM crops.
- Government to invest in research, create the enabling environment and put in place relevant structures geared towards development of country specific products.
- There must be continuous monitoring of the GMOs and products.
- Research in biotechnology must be adequately funded even though the cost is enormous