SPECIAL LECTURES ON INTELLECTUAL PROPERTY RIGHTS (IPR)

VENUE: HCAS, Seminar Hall,
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TOPICS:

- Intellectual Property Rights (IPR)- scope
- Impact of gene cloning and Bioethics & Patents
- Bio-safety
- Containment facilities for Genetic Engineering experiments,
- Regulations on field experiments and release of Genetically Modified Organisms
- Labeling of Genetically Modified Foods.

REPORT

DAY:1

INTELLECTUAL PROPERTY RIGHTS (IPR) – SCOPE:

Intellectual property rights comprises of copyright, patent, trade name, geographic symbol of origin, manufacturing plan, trade secrets, record protection laws, publicity rights laws, laws for the protection of plant varieties, laws for the security of semi-conductor chips (which stores information for future recovery), etc.

In addition, Intellectual property may be categorized of as industrial property and copyrights. Industrial properties include inventions (patent), property interest on minor invention (Utility model certificate) and commercial interests (Trade Marks, trade names, geographical indications, and industrial design), plant breeder rights, biodiversity, etc.

DAY:2

IMPACT OF GENE CLONING AND BIOETHICS & PATENTS

A patent is a type of intellectual property right that allows the holder of the right to exclusively make use and sell an invention after having developed an invention. Invention is a new process, machine, manufacture, or a composition of matter. It compulsorily involves an inventive step and therefore is not just a conceived derivation of the prior art. Therefore, the exclusive rights rest to the person who has got a patent right. The exclusive right, which is a true monopoly, can be claimed after being granted through an elaborate administrative process.

DAY:3

BIO-SAFETY & CONTAINMENT FACILITIES FOR GENETIC ENGINEERING EXPERIMENTS,

Biosafety, in simple terms, is used to protect from harmful incidents. In other words, **Bio-safety** is the prevention of any condition that results in as large-scale loss of biological integrity, focusing both on ecology and human health. The prevention mechanisms include the regular conduction of reviews of **biosafety** in laboratory settings, as well as the adherence to strict guidelines.

Biological containment (BC): With regard to biological containment, the vector (plasmid, organelle, or virus) for the recombinant DNA and the host (bacterial, plant, or animal cell) in which the vector is propagated in the laboratory are considered together. Therefore, any combination of vectors and hosts must be chosen or constructed to limit the infectivity of the vector to specific hosts and control the host-vector survival in the environment. These have been categorized into two levels - one that permits standard biological containment and the other, even higher that relates to normal and disabled host-vector systems respectively.

Physical Containment (PC): The primary objective of physical containment is to confine recombinant organisms and prevent its exposure to the worker and the environment to. Physical containment is achieved by the use of i) Laboratory Practice, ii) Containment Equipment, and iii) Special Laboratory Design. Physical containment is provided by good microbiological techniques and the use of appropriate safety equipment, also known as the Primary Containment.

The protection of the environment from exposure to harmful agents, is provided by a combination of facility design and operational practices, which is commonly referred to as Secondary Containment.

Elements of Containment: The three elements of containment include laboratory practice and technique, safety equipment and facility design.

DAY 4

REGULATIONS ON FIELD EXPERIMENTS, RELEASE OF GENETICALLY MODIFIED ORGANISMS & LABELING OF GENETICALLY MODIFIED FOODS

The **regulation of genetic engineering** varies widely between different nations. Countries such as the United States, Canada, Lebanon and Egypt use substantial equivalence as the starting point when assessing safety, while countries such as those in the European Union, Brazil and China authorize GMO cultivation on a case-by-case basis. Many countries allow the import of GM food with authorization, but either do not allow its cultivation (Russia, Norway, Israel) or have provisions for cultivation, but no GM products are yet produced (Japan, South Korea). Most countries that do not allow for GMO cultivation do permit research.

One of the key issues concerning the regulation of GM food is whether GM products should be labeled. Compulsory labeling of GMO products in the marketplace is required in 64 countries. Labeling can be mandatory up to a threshold GM content level (which varies between countries) or voluntary. However, there are concerns over its authenticity in voluntary or non mandatory labeling of GM foods. For e.g., a study investigating voluntary labeling in South Africa found that 31% of products labeled as GMO-free had a GM content that was above 1.0%. In Canada and the USA labeling of GM food is voluntary, while in Europe all food (including processed food) or feed which contains greater than 0.9% of approved GMOs must be labelled.

There is a scientific consensus that currently states that the available food derived from GM crops poses no greater risk to human health than conventional food, but that each GM food needs to be tested on a case-by-case basis before being introduced in the community. Nonetheless, members of the public are much less likely than scientists to perceive GM foods as safe. The legal and regulatory status of GM foods varies by country, with some nations banning or restricting them, and others permitting them with widely differing degrees of regulation. There is no supporting evidence to support states that the consumption of approved GM food has a detrimental effect on human health. Some scientists and advocacy groups, such as Greenpeace

and World Wildlife Fund, have however called for additional and more rigorous testing for GM food

DAY 5

CONCLUSION:

The use of genetically modified organisms allows us to meet the increasing demands of food and agriculture, besides offering a much resourceful method to improve the prevalent conditions in our environment. On one hand, we are faced with unprecedented threats to human health and environment, while on the other hand we have opportunities to change the way things are done. We need to broaden the basis for formulating the regulations concerning use of GMOs , making it all inclusive. Preventive and precautionary measures pertaining to risk assessment and management, can be taken following the post-release impacts of GMOs. Risk assessment and management can be achieved through appropriate monitoring and detection methods, in controlling the negative environmental and health impacts. Thankfully, the international biosafety regulatory frameworks are sufficiently stringent in rendering protection against genuine ascertainable risks, as well as in ensuring the appropriateness of the data necessary to conduct a risk assessment. Further, the social, economic, and ethical concerns needs to be addressed before the release and use of GM products. A precautionary approach keeps open the avenues for further development and the use of genetic engineering as a biotechnological tool.