

SEMINAR-V

TRADITIONAL IMPROVEMENT, GENETIC ENGINEERING AND ORGANIC FARMING

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Executive Summary

Genetic Engineering (GE) is a technique of combining plant, animal, bacteria, virus and/or even human genes that do not occur through cross breeding. It's a technique genetics and biotechnology used to cut up and join together genetic materials to introduce the hybrid DNA into another organism to change character(s). After the discovery of double helical structure and composition of DNA, it was realized that segments of DNA determine characters and pass through one generation of the next. Biochemists and biotechnologists have techniques of genetic modification through GE; products are called transgenic organisms or GMO. In 1996 first GE tomatoes in Canada. Last 25 yrs Canada has been growing GE products namely canola, corn, potatoes, soybean, sugar beets. In addition, Alpha alpha, Apples, Cottons, Sugarcane, Eggplant, Papaya, Squash are grown around the world. To determine organic products - price look up (PLU) code and seal on the product, a five digit number starts with 9 is organic, a four digit code starts with 4 means conventionally grown, a five digit code starts with 8 is GMO. Limitations of organic farming are labour intensive, low yield, very expensive products, expensive marketing because of small amount product. Many grocery stores sell ordinary products as organic. In Bangladesh 0.177 million ha under organic production. Advantages of organic products are better in quality, environment friendly, keeps the soil healthy in good condition. Thousands of varieties developed using conventional breeding techniques. All these varieties are very high demanding of fertilizer, irrigation, pesticides and management. Many barriers in transferring interspecific or intergeneric gene. These genes produce protein, protein to enzymes and enzymatic reaction express different characters. Today's Breeders are pretty well equipped to increase profitability of farm products using biotechnological techniques, safety issues of GE foods. More than 80 GM foods approved for sale. 75% of processed foods with GE products, from chips to soda, 70% of GE products are animal feed, no illness reported because of GE food, 900 research findings around the world explored and no evidence of risk to human health or environment. 22% yield increase w/68% increased farmers portis, organic manure, green manure, bone meal, crop rotation, companion planting, biological control, insect redators, Naturally occuring pyrethrin and rotenone. Conclusions may be drown as considering world acreage, yield, labour cost, affordability of general people and 9 billion population in 2050 when 70% more food will be required.

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