

Bioengineered Tools in Crop improvement

Pratibha Rani Deep

Department of Botany, Centurion University of Technology and Management, Odisha, India.

Corresponding may be addressed to email: pratibharani.deep@cutm.ac.in

Abstract:

Food production needs to increase to meet the demands of soaring world population. Genetically-modified (GM) crops can prove to fulfill the goal of food security than that produced by conventional methods. The added advantage of these crops is that the plants can be designed according to the needed traits and get results in short span of time. In conventional breeding two to three generation needed to get desired traits. Bioengineered Crops are source of enhanced nutrition, minerals, proteins, iron content, etc. These crops can also play a major role in enhancing health status and strengthening economical backbone of a country. These crops are designed such that they can withstand or tolerate various biotic, abiotic and harsh environmental conditions (e.g. drought, flooding, and extreme heat). Thus, advanced research challenges are to obtain high productivity with increased nutritional value utilizing the modern tools of agriculture biotechnology.

Keywords: Genetically modified, food security, nutrition, biotechnology

Introduction:

For thousands of years to improve the production of crops, man performed alteration of crops through selection, much before the creation of transgenics. Among the most serious concern for human survival on the earth at this time, is the food security and malnutrition that the developing countries are facing today. The world population is expected to reach 9.9 billion by 2050, from the current population of 7.8 billion (2020) an increase of more than 25%. The rising of population in an alarming rate is a great concern and is one of the major key contributors of malnourishment round the world. According to 2016 U.N. Food and Agricultural Organisation (FAO) report around 795 million of people are malnourished of