How genetically modified organisms (GMOs) are transforming agriculture?

Humans have used traditional breeding methods to change plant and animal genomes for many years. Most seen examples of GMOs are food plants. Most of the advantages of genetic engineering in agriculture are increased crop yields, reduced food or drug production costs, reduced pesticide requirements, increased nutrient composition and quality of food, resistance to pests and disease, increased the security of food, and medical benefits for the increasing human number of the world. Advances have also been made in the development of crops that mature more quickly and tolerate some elements like aluminum, boron and minerals like salt and environmental conditions drought, frost and other environmental stressors. There are some of the benefits of genetically modified organisms like resistance to insects, tolerance to herbicide, changed fatty acid composition and resistance to virus. As a result, GMO is beneficial for agriculture except changes made on plants etc.. have some bad effects on human body.

How antibiotic resistance evolves?

Bacterial infections have been a significant cause of disease and death for the majority of human history. Antibiotic development has provided a simple and effective cure for bacterial infections and since then antibiotics have had tremendous effects on human health and longevity.

Pathogenic bacteria can acquire genes with antibiotic resistance (ABR) through two main horizontal gene transfer (HGT) mechanisms: conjugation and transduction. Compensatory mutations reduce the health costs by ABR genes, helping to regulate them.