Biotechnology aplications

Technology

Essay: Biotechnology application Applications of biotechnology in agriculture Biotechnology is generally defined as a method that utiliseslive organisms like viruses, plant cells, fungi, animal cells, bacteria as well as yeast, to create or change animals, manufactured goods, to enhance animals or plants or else to engineer microbes for certain uses. Currently biotechnology assists in meeting challenges in production of agriculture. Many new products which have been able to alter our lives have been produced by agricultural biotech (Murphy, 2011). Below are some of the applications of biotech in agriculture;

Vaccines production-Oral vaccines are the most likely solution used due to rising incidents of diseases in undeveloped countries; where by costs are extreme to extensive immunization. Hereditarily engineered food crops, oftenly fruits or vegetables, which are planned to transmit antigenic proteins arising from transferable pathogens which activates an immune response when injected. A good illustration is patient –specific vaccine for cancer treatment. Tobacco plants with RNA arising from duplicated malignant B-cells are used to make an anti-lymphoma immunization. The resulting protein is utilised in vaccinating the victim as well as boosting their immunity system apart from the cancer (Wozniak & McHugen, 2012).

Antibiotics-Sometimes, plants are utilised in production of antibiotics for animal use as well as human use. Using plants to manufacture antibiotics for human beings is less costly due to large production from plants against unit of fermentation, easiness in purification, in addition to reduced danger of contamination as compared to using culture media together with mammalian cells (Wozniak & McHugen, 2012).

Flowers-Aesthetic application for example uses transfer techniques as well as

gene recognition to improve the smell, size, colour and other flower features. Likewise, other ornamental plants like trees and shrubs have been improved through biotech. Some enhancements such as these resemble those done to crops, for instance improving cold confrontation of a tropical plant to make it adapt to northern gardens (Gaisford & Hobbs, 2001).

Production of biofuels-Agriculture as an industry generally plays a key role in the biofuels sector. Genetic engineering as well as enzyme optimization methods are used to come up with more quality feedstock for more effective change as well as advanced BTU outputs from the fuel products. Thus energy-dense and high-yielding crops can reduce relative costs related with transportation and harvesting, leading to fuel products of high value.

Reproduction of animals and plants-improvement of animal as well as plant behavior using traditional techniques such as cross-breeding, cross-pollination and grafting consumes a lot of time. Bio-tech has made life easier through genes removal or over expression, or foreign genes introduction. Marker –assisted choices methods enhances the effectiveness of animal breeding, devoid of the controversy linked to GMOs (Gaisford & Hobbs, 2001).

Crops that are Pesticide Resistance –is another use of biotech in agriculture. These crops permit farmers to selectively destroy weeds without harming their plants. For example the Monsanto urbanised technology Roundup-Ready. These plants are unaltered by glyph sate herbicide, are applied in large quantities to eliminate other plants in the field, resulting in massive savings in costs and time related to traditional tillage aimed at weed elimination.

There are other several applications of biotech in agriculture such as nutrient

supplementation aimed enhancing health of plants so as to fight diseases and manufacturing of power fibers, to name but a few. Generally, agricultural sector has been at the forefront of producing numerous new products with the potential of altering our lives for the better.

References

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