



## The application of Biotechnology in Nutrition and Food Engineering

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### Abstract

Biotechnology may simply refer to the use of living organisms to make useful products. It covers bioengineering and industrial microbiology. Biotechnology has been used for several thousand years without knowing it, in the area of food production, preservation, production of alcoholic beverages and bread. Modern biotechnology developed from the 19th century after the discovery of microbial life however it has gone far ahead to embrace genetic engineering and breeding to produce products that suit our contemporary needs. In the first half of the 20th century World War I drove the development of the first large scale fermentation processes outside of alcohol production, the acetone and butanol process. Antibiotic fermentations and modifications in the form of penicillin and then streptomycin also cropped up during the World War II improving human and animal health plus nutrition. In the 1980s, recombinant gene technology led to the production of insulin for diabetes, rennet enzyme for cheese production and genetically engineered yeast for baking. Production of vitamins, organic acids, amino acids, sweeteners, edible oils and nutritional supplements can be developed biotechnology applications. In the 2010s Advances in stem cell technology have brought about advances in new health solutions.

### Biography

Musinguzi Muhsin is the chairman of Uganda Nutrition Biotechnology Council, holds a PhD in Nutrition, a masters degree in nutrition and a bachelors in food science and technology. USA. He with over 80 publications in both peer reviewed journals and media publications



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