

Problems facing Bioprocessing in West Africa

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Abstract

Bioprocessing is the production or any process that uses living cell or their components to produce desired products. Bioprocess engineering has led to many discoveries with aimed at improving the overall quality of living of any society. The most important is the discovering of the cultivation of genetically modified food. In west africa in particular, food security is currently threatened by several factors ranging from natural systems that caused environmental deterioration such as floods and drought to anthropogenic exacerbations ranging from poor land and Agricultural management policies, the increase in economic and social inequality, strife, terrorism, civic unrest and rapid population growth and demographic changes. Poor food security in west africa is mostly associated with malnutrition and corresponding loss in human capital productivity in the region. And as a result one in four person in west africa is undernourished, hence the growth of genetically modified foods has seen an exponential increase not only in west africa but worldwide. Today bioprocess engineering has led to the improvement of the living standard of the west african countries, improves the agricultural sector and provides enough food for every household.

animals lack the potential to synthesize maximum of the vitamins, microorganism have inherent ability to provide those metabolites. With contemporary lifestyle, consumers are becoming more fitness conscious and discerned in their food choices. In this kind of situation, riboflavin-offering LAB offer a clean gain over chemical synthesis through growing the nutritional price of food. The riboflavin biosynthesis in bacteria turned into analysed the usage of comparative analysis of genes, operons and regulatory elements.

Chemical synthesis of a diet is being replaced by fermentation processes due to financial and environmental considerations of the latter. Besides the monetary advantages, additional blessings of the microbial synthesis include the use of renewable sources, environmental-friendly approach and superior nice of the final. version for law of riboflavin biosynthesis is primarily based at the formation of opportunity RNA structure regarding the RFN element (a mononucleotide riboswitch is surprisingly conserved RNA element this is discovered frequently inside the 5' untranslated location of prokaryotic mRNA that encodes for FMN biosynthesis and shipping proteins that is utilized in a later step (lumazine synthase). The 2d and 1/3 enzymatic

steps(deamination of the pyrimidine ring of structure and the subsequent discount of the ribosyl side-chain) are controlled by way of some other bi-practical enzyme encoded by means of the first gene of the operon ribG The penultimate step in riboflavin biosynthesis, is catalysed by means of lumazine synthase, the fabricated from the closing rib gene, ribHSo far, records available on entire genomes of numerous microbes has made it clear that riboflavin-producing ability is identified to be strain or subspecies specific. Thus, it may be an attractive technique to bioprospect prolific riboflavin-producing traces from their diversified natural niche and further decorate their capacity to provide this important vitamin with the aid of microbiological and biotechnological interventions.

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