Student Project paper for Final Class

Universityof Baghdad	Al-khawarizmi college of eng.	Biochemical engineering Dept.	Project index:1	Date25-6-2012
Prpject Name	Monosodium glutamate Production			
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Aim of work

To produce monosodium glutamate and a comprehensive study of fermenter (what is happening of reactions and knowledge behavior of substrate , output and cells) and study the rest of the industrial units during material @energy balance

Summary

(MSG) is the sodium salt of the non-essential amino acid glutamic acid. Glutamic acid is one of the most abundant amino acids found in nature and exists both as free glutamate and bound with other amino acids into protein. Animal proteins may contain about 11 to 22% by weight of glutamic acid, with plant proteins containing as much as 40% glutamate . Glutamate is thus found in a wide variety of foods, and in its free form, where it has been shown to have a flavour enhancing effect, is also present in relatively high concentrations is some foods such as tomatoes, mushrooms, peas and certain cheeses. As a result of its flavour enhancing effects, glutamate is often deliberately added to foods – either as the purified monosodium salt (MSG) or as a component of a mix of amino acids and small peptides resulting from the acid or enzymatic hydrolysis of proteins (e.g.hydrolysed vegetable protein or HVP)

As for the project, the theoretical first includes the kinetic terms is to find equations for the acid has been working on them in the program MATLAB using the simulink in order to clarify the behavior of the cells and substrate and the product, but found after work and find the graphic shown conduct that the behavior resulting from the drawing does not similar to the work because of the inability equations earlier about it so the program was used to illustrate the behavior statistica in this program are designed to find the constants and equations are then selected appropriate behavior and the perfect after work on more than the quality of kinetic and create a drawing. As for the material @ energy balance has been working on them in the program using the MATLAB prompt to use fsolve program was also excel

Discussion

I have found that in the world are producing one million tons per year of mono and in some years reached 2 million tons and more because this production higher due to use in many applications, including food, pharmaceutical, industrial, and found to be using it and its derivatives applications variety, for example Arginine glutamate is used in pharmaceuticals, cosmetics, either derivative The dibutylamine of the *N-acyl-glutamate gelatinizes* nonpolar oils and can be used as a recovering agent for marine-oil spills.