

عنوان مقاله:

BIOCONVERSION OF CHEESE WHEY TO BIOMASS AND BIOPROTEIN BY YEAST CULTURES

محل انتشار:

اولین کنفرانس بین المللی و چهارمین کنفرانس ملی بازیافت مواد آلی در کشاورزی (سال: 1390)

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خلاصه مقاله:

This research emphasizes on bioconversion of cheese whey by using of six yeast strains culture. Cheese whey, in Iran and Azerbaijan republic, is treated as a waste and discharged in nature approximately without any treatment which creates pollution problems. It is a by-product of the dairy industry and contains usually high levels of lactose (4-6%), low levels of nitrogenous compounds and small amounts of vitamins and minerals. Lactose, the main nutrient in cheese whey, can be economically utilized by its conversion to biomass and bioprotein. For this purpose, 6 yeast strains: *Trichosporon pullulans*, *Candida curvata*, *Cryptococcus podzolicus*, *Bullera oryza*, *Cryptococcus laurentii* and *Cryptococcus flavus* were chosen among isolated yeasts from natural habitats in different forest ecosystems, for their growth and single cell protein content on cheese whey. These yeast strains were tested for their ability to produce SCP from cheese whey. Among these strains, *Cryptococcus laurentii* had the most SCP production from whey with the yield of 18.84 ± 0.50 g/lit. The enrichment of cheese whey by minerals as nitrogen source increased biomass yield. Preliminary tests in our laboratory showed that among the chosen yeasts in this survey, 2 yeast strains (*Cryptococcus laurentii* and *Cryptococcus flavus* respectively) as shown in the text had relatively high biomass production when cultivated on cheese whey. They were further grown on sterilized, non-sterilized and enrichment fresh sweet cheese whey

کلمات کلیدی:

Bioprotein- cheese whey - lactose - yeast - SCP

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