

Isolation of a kojic acid-producing fungus capable of using starch as a carbon source

ABSTRACT

A fungal strain (S33-2), able to grow on cooked starch and produce a substantially high level of kojic acid, was isolated from morning glory flower (*Bixa orellana*). The fungus was characterized and identified as *Aspergillus flavus*. The effect of different types of starch (sago, potato and corn starch) on growth of strain S33-2 and kojic acid production was examined using shake flasks. It was found that strain S33-2 grew well on all types of starch investigated. However, kojic acid production was highest when corn starch was used, with the maximum kojic acid obtained being comparable to fermentation using glucose. The highest kojic acid production (19.2 g l⁻¹) was obtained when 75 g l⁻¹ corn starch was used. This gave a yield, based on starch consumed, and an overall productivity of 0.256 g g⁻¹ and 0.04 g l⁻¹ h⁻¹, respectively.

Keyword: Kojic acid; Starch; Fungal strain (S33-2)