

Effect of solid state fermentation on nutritive values of rice by *Monascus* spp.

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ABSTRACT : The aim of this work was to investigate the effect of solid-state fermentation on nutritional properties of Rice meal. In this study autoclaved whole grain and broken grain of Rice (*Oryza sativa*) were inoculated with *Monascus purpures* (6×10^5 spores/mL) and undergoes solid state fermentation under incubator up to 10-11 days at 30°C and 15 % moisture. Fermentation of both whole and broken grain of Rice has resulted in a significant increase in moisture, protein, and Ash, at the end of the period. Ash content of the fermented product was almost twice as that of the unfermented Rice in all of the samples. Fiber content, crude fat and carbohydrates level of the fermented product was reduced. Significant result in nutritive value of rice was found by SSF (Solid State Fermentation) analysis which reflected increased moisture 13.32%, protein 29.62%, but decreased fat 27%, fiber 0.28% and carbohydrate 11.32% at 0.5 significant levels. In conclusion, the results of this study suggest that Solid State fermentation by *Monascus purpures* is promising technology for enhancing the nutritive value and obtaining the natural pigment.

Key Words: Solid state fermentation, biopigment, autoclaving, rice.