

Antioxidant Activity of *Monascus* sp. Fermented With *Morinda citrifolia*

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ABSTRACT

Antioxidant plays an important role in maintaining the human health towards preventing and treating diseases. Antioxidant is widely used in dietary supplements and has been investigated for the prevention of diseases such as cancer, coronary heart disease and even altitude sickness. Meanwhile, attractive food colorant is important to increase the attraction to the food, which is a normal human behavioral response. The main objective of this research was to study capability of *Monascus purpureus* fermented with *Morinda citrifolia* (MC) for antioxidant and pigment production by using solid state fermentation (SSF). In this work, three factors were studied. The factors were moisture content of the substrate, strains of *Monascus purpureus* species (FTC 5356 & FTC 5357) and ratio of seed to flesh of MC. Finding shows that supplementation of strain FTC 5356 with initial pH 6 and initial moisture content of 55% were the optimum condition for producing high yield of antioxidant and red pigment with the value of 0.4243 mg GAE L⁻¹ and 5.15 Au/g, respectively. From the result obtained, it shows that the antioxidant value increased after fermented with *Monascus purpureus*, although it is known that MC is a natural antioxidant. Thus, it proves that the strain of *Monascus purpureus* were able to produce high rate of pigment with enriched of antioxidant properties.

KEYWORDS: Antioxidant; Food colorant; *Morinda citrifolia*; *Monascus*