

Monascus spp.: a source of natural microbial color through fungal biofermentation

ABSTRACT

The search for naturally produced substitutes for chemical food colorants has led to a resurgence of interest in pigments synthesized by fungi such as *Monascus* spp. This fungus has been used in Asia for many centuries as a natural color and flavor ingredient in food and beverages. The red pigments are of particular interest, because red is the most popular food color and true natural pigments suitable for applications in food industries are difficult to obtain. As a result of recent efforts to replace synthetic food dyes with natural colorants, pigments produced by *Monascus* spp. have attracted worldwide attention. *Monascus* color, categorized as a natural color, has also been widely used as a food supplement and in traditional medicine. The major objective of this review deals with production of natural microbial color by *Monascus* spp. and addresses the parameters involved in fungal biofermentation. The fungal strains of *Monascus* spp. can be either fermented in solid state fermentation (SSF) or in submerged fermentation (SmF). SSF and SmF are two commonly used techniques during various fermentation processes. One important aspect in the development of a biofermentation process is the ability and suitability of the *Monascus* strain to be employed with a suitable medium.

Keyword: *Monascu* spp; Fungi; Biofermentation; Proliferation; Pigments