



## **Bioutilization of Agro-Industrial Waste to Produce Biopigment using *Monascus Purpureus* MTCC 369 by Solid State Fermentation**

**Rachna Sehrawat, Kumar Sandeep, Khalid Bashir, Kumar Satya Prakash,  
Tanya L Swer and Anit Kumar\***

*National Institute of Food Technology Entrepreneurship and Management, Kundli, Haryana-131 028, India*  
\*E-mail: aks.kumar6@gmail.com

---

**Abstract:** The main objective of the study was to optimize media and process parameters for biopigments extraction using *Monascus purpureus* MTCC 369 by solid state fermentation. Among different carbon substrates (wheat bran, rice bran, sweet potato peel powder, potato peel powder, kinnow peel powder), sweet potato peel powder (8%) was best source and among nitrogen sources (pea pod, taro leaves, soy okara, corn steep liquor faba beans hull and peptone), pea pod (4%) was best substrate with 55% moisture content. Biopigment production was carried out using solid state fermentation. To the selected substrates of 0.25 mm particle size, optimized salt solution of 3% (pH 5.5) was supplemented and it was fermented for 11 days at 30°C resulted in significant accumulation of pigment when extracted with ethanol (90%). After optimization of all media components (carbon and nitrogen substrates) and process parameters (particle size, moisture content, salt concentration, pH, temperature and incubation time) maximum yield obtained was 17.90 CVU/g using one-factor-at-a-time-technique.

**Key Words:** Biopigment, Agro-industrial waste, *Monascus purpureus*, Solid state fermentation

---