



International Journal of Advanced Research in Biology, Engineering, Science and Technology (IJARBEST)

Vol. 2, Special Issue 8, February 2016 in association with

KAMARAJ COLLEGE OF ENGINEERING AND TECHNOLOGY, VIRUDHUNAGAR

DEPARTMENT OF BIOTECHNOLOGY

ORGANIZES

DBT, NEW DELHI SPONSORED NATIONAL LEVEL CONFERENCE ON CONTEMPORARY TRENDS IN  
BIOENERGY AND GREEN TECHNOLOGY: CHALLENGES AND OPPORTUNITIES [ORA-2016]

(25-26<sup>TH</sup> FEBRUARY 2016)

# Microbial Production of Pigments and Its Application in Textile Dying Industries

A. Seenivasan<sup>1\*</sup>, R. Shyam Kumar<sup>2</sup>, I. Ganesh Moorthy<sup>2</sup>

<sup>1</sup>Department of Biotechnology, National Institute of Technology Raipur, G. E. Road, Raipur, Chhattisgarh – 492010, India

<sup>2</sup>Department of Biotechnology, Kamaraj College of Engineering and Technology, Virudhunagar-626001, Tamilnadu, India

\* Corresponding Author: E-mail: [aseenivasan.bt@nitrr.ac.in](mailto:aseenivasan.bt@nitrr.ac.in)

## Abstract

India is one of the top most textile hubs all round the world exporting to different countries. According to Exprocil, the capacity of export of textile and clothing was \$ 41.4 bn in 2014-15 which was \$ 39.3 bn in 2013-14. It indicates the increasing trend of textile business. In the same time, it also alerts us to know the massive use of textile dyes and pigments used in the colouring of textile. Most of the dyes were released into aquifers without proper treatment, which created enormous problems to the environment. As a substitute to conventional the dyes, pigments from microorganism has also been served as colouring molecule. The major advantage of the pigments is that they are potentially safe and eco-friendly due to its biodegradability. Hence, there is more scope for the manufacturing of pigments from microorganism, especially from fungi, *Monascus purpureus*. However, there are many challenges in using the pigments for textile applications, via., functional alteration to bind the fabric and finding of effective modulator to strengthen the dying property. The second task is enhance the production of pigments from fungi by finding its optimum conditions such as process parameters (pH, temperature and agitation rate) and physic-chemical parameters (spore age and count, age of inoculum, medium component). This study has more scope and definitely could act as a substitute to the conventional dyes and pigments.

**Keywords:** Pigments, Textile dying, Fungi, Process improvement

Research at its Best !!!