



Production of Natural Dye by Solid State Fermentation

**S.Sharmila*, E.Kowsalya, R.Kamalambigeswari,S.Preetha, M.Dinesh,
B.Shrivatsan, ShaikSadik and L.Jeyanthi Rebecca**

**Department of Industrial Biotechnology, Bharath University, Selaiyur,
Chennai-600073, India**

Abstract:Dye is an intensely colored complex organic substance used for colouring other materials. They can be synthesized artificially or obtained from natural products. Natural colours are also called biocolours since they are extracted from biological materials like fruits, vegetables, seeds, roots, insects and microorganisms. In this study, microbial fermentation using macro algae as substrate was utilized to extract dye. Different macro algae such as *Chaetomorphaantennia*, *Gracilariacorticota* and *Ulvafasciata* were collected from Kovalam, Mahabalipuram, Tamil Nadu and were used as a substrate for fermentation. *Aspergillusniger* was used as an inoculum for fermentation. SSF was carried out for 10 days and the dye was extracted. Quality of the colour was analysed by adding fixative and non fixative at different time intervals. Results revealed that the colour intensity was more in the addition of fixative. Different pigments such as chlorophyll a (20.625 mg/l) was found more in *U.fasciata*, chlorophyll b (12.486 mg/l) was to be more in *G.corticata* and high amount of total carotene was found in (14.701mg/l) in *C.antennina* and least was found in *U.fasciata*(3.39 mg/l). Among all seaweed substrates, *C.antennina* was found to be the good one to impart colour.

Keywords:Dye, *Chaetomorphaantennia*, *Gracilariacorticota*, *Ulvafasciata*, *A.niger*, SSF.

S.Sharmila et al//International Journal of ChemTech Research, 2017,10(4): 219-225.
