

Peanut Oil Cake: A Novel Substrate for Enhanced Cell Growth and Prodigiosin Production from *Serratia marcescens* CF-53

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ABSTRACT:

Different agro-wastes such as peanut oil cake (POC), coconut oil cake (COC), sesame oil cake (SOC), safflower seed oil cake (SFOC) and cotton seed oil cake (CSOC) were screened for prodigiosin production through fermentation employing *Serratia marcescens*-CF-53. POC was highly beneficial for the pigment production. Fermentation parameters have been standardized; maximum amount of pigment was obtained (~40 mg ml⁻¹) in POC extract at 30°C for 42 h using 8% inoculum density (1X10⁷cell/ml) compared to PG broth (14.2 mg ml⁻¹). The pigment yield was almost three fold higher than that of the PG broth. Use of POC extract as a raw material for pigment production could be of great commercial significance. This report appears to be the first one on prodigiosin production using POC as a substrate.

Keywords:

Serratia marcescens, red pigment, prodigiosin, pea nut oil cake, fermentation.