



Effect of Culture Media and Environmental Conditions on Mycelium Growth and Sporulation of *Chrysosporium queenslandicum*

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Abstract: The influence of various culture media and environmental factors play an imperative role in the growth of mycelia and sporulation of keratinophilic fungi. Fungi grow up best at optimal temperature, pH, humidity and culture media. The extremely high and low temperature, as well as pHs, reduce the growth. The study was aimed at determining the effect of optimal parameters (incubation temperature, pH and culture media) for the mycelium growth and sporulation of *Chrysosporium queenslandicum* (KU560575) isolated from the poultry farm of Rajasthan. The fungus was identified by morphological and molecular characteristics of the ITS1-5.8S-ITS2 rDNA region. The growth and sporulation was evaluated on different temperature regimes i.e. 5, 15, 25, 35, 45, 55 °C, pH 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0 and culture media i.e. Sabouraud's dextrose broth (SDB), Richard's synthetic broth (RSB), Czapekdox broth (CDB), Mannitol salt broth (MSB), Yeast extract broth (YEB), Malt extract broth (MEB). *C. queenslandicum* showed their maximum mycelium growth at 25°C (1.321±0.08 gm) with the best sporulation at 25-35°C. On the other hand, in the relation to pH maximum growth and best sporulation was recorded at pH 7.0 (1.459±0.05 gm). The fungus grew maximum on MEB (1.007±0.02 gm) followed by SDB (0.807±0.08 gm), but least grew on the YEB.

Key words: Environmental factors, keratinophilic fungi, *Chrysosporium queenslandicum*.

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