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COMPARATIVE KINETICS AND EFFECT OF DIFFERENT MEDIA ON THE GROWTH OF THREE FOLLICOLOUS FUNGI *ALTERNARIA ALTERNATA, TRICOTHECIUM ROSEUM* AND *FUSARIUM OXYSPORIUM*

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ABSTRACT

Three follicolous fungi *Alternaria alternata, Tricothecium roseum and Fusarium oxysporium* were collected on different hosts from different locations in South Kashmir(India) and their comparative growth kinetics and effect on growth was observed using different growth media- modified PotatoDextrose Agar(PDA with added Biotin), 6-Benzyl Amino Purine (6-BAP, Kinetin) and Malt Extract Agar (MEA). Responses to the media appeared to be related both to inherent properties of the fungi and to their natural ecological behavior. The present study is concerned to analyze the comparative growth kinetics and effect of external supplement of Biotin (Vitamin H), Malt extract and Kinetin (a plant hormone) on the growth rates of three different fungi. Biotin-binding proteins (BBPs) have been identified from different organisms including bacteria, birds, amphibians, and recently also in fungi. BBPs have been suggested as broad range antimicrobial agents by forming a biotin-free zone. Besides its antimicrobial and insecticidal activity and the recent evidence for a protein-mediated defense of fungi against predators and parasites it also shows profound effect on the fungal growth of certain species.

The effect of plant growth regulators have been intensively investigated especially in rusts. Many reports have noted a positive relationship between changes in fungus morphology and exogenously applied growth regulators. Different fungi respond differently to exogenously added vitamin (Biotin) and plant growth hormone (Kinetin) media. Maximum growth rate shown by different logistic and exponential curves corresponds to *Alternaria alternata* on Biotin- PDA medium and minimum rate corresponds to *Tricothecium roseum* on 6-BAP medium (plant hormone medium) while as the growth of *Fusarium oxysporium* remains almost unchanged in changing the media from Biotin-PDA to 6-BAP. It reflects that biotin (added vitamin) shows predominant effect on the growth of certain fungi like *Alternaria alternata, Fusarium oxysporium* on solid culture medium in contrast to plant hormone, kinetin which shows least effect.

KEYWORDS: Follicolous Fungi, Potato Dextrose Agar, 6- Benzyl Amino Purine, Malt Extract Agar, Biotin, BBPS, Kinetin, Ecological Behavior