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Production of exopolysaccharide by endophytic *Stemphylium* sp.

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ABSTRACT

A potent endophytic fungus, *Stemphylium* sp., was selected for exopolysaccharide production. Maximum mycelial growth and exopolysaccharide production was found at pH 6.0. Highest mycelial growth and exopolysaccharide production were observed in the medium containing sucrose as the sole carbon source. Among the various metal ions examined, both $Mg^{++}$and Na^{+} had a beneficial effect on mycelial growth, whereas maximum exopolysaccharide production was achieved in the medium containing Mg^{++}. Among different nitrogen sources, yeast extract and NH_4NO_3 were found favorable for mycelial growth, and maximum exopolysaccharide production was achieved when yeast extract was used as a nitrogen source. SEM of the fungal pellet showed morphological variation at pH 5.5 of the medium. Paper chromatography of the hydrolyzed polysaccharide showed that the exopolysaccharide produced by *Stemphylium* sp. is a heteropolysaccharide of glucose and mannose unit. The sugar is manno-glucan type.

Key words: Exopolysaccharide, fungi, optimization, *Stemphylium*.