RESEARCH ARTICLE

ISOLATION AND CHARACTERIZATION OF VARIOUS FUNGAL STRAINS AS PRIMARY COLONISER FROM WHEAT STRAW AT VARYING NITROGEN CONCENTRATIONS

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Abstract: The present study was undertaken with an aim to search for the fungal strains, which have the potential to efficiently decompose wheat straw with high C:N ratios. Identification and characterization of these microbial species is important to study their decomposition potential for use in soil fertility management. A total 19 strains of fungal primary colonizers were isolated from a sample of wheat straw. Out of these, one belonged to Zygomycota while the remaining 18 belonged to Deuteromycota. *Alternaria, Aspergillus, Cladosporium, Helminthosporium, Stachybotrys, Fusarium* and *Penicillium* were the most frequently isolated genera at low nitrogen concentration. Isolated strains at low nitrogen concentration seem to be the most probable candidates, as initial primary bio inoculants, for hastening the decomposition of wheat straw. The results of this study suggest the possibility of utilizing fungal inoculants as an integrated component of microbe-based strategies for biotechnological management of wheat straw.

Keywords: Wheat Straw, Microorganisms, Isolation, Decomposition, Serial dilution, Fertilizers

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