

MYCOFLORA OF COW DUNG USED AS ORGANIC MANURE

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ABSTRACT

*Cow dung is one of the most important sources of organic manure which is often used by local farmers due to its low cost and easy availability. It is therefore necessary to isolate and identify the mycoflora present in it so as to know whether such mycoflora are pathogenic or not. The cow dung sample used in this study was collected from some fields within the University of Ilorin Main Campus and taken to the Biology laboratory for mycoflora analysis using standard methods. Five fungal species were isolated and their pure cultures were identified as *Aspergillus niger*, *A. flavus*, *A. fumigatus*, *Saccharomyces cerevisiae* and *Mucor* sp. *A. niger*, *A. flavus* and *A. fumigatus* are pathogenic while *S. cerevisiae* and *Mucor* sp. are saprophytic. It is therefore recommended that cow dungs be properly treated so as to eliminate these pathogens from them if they are to be used as organic manure.*

KEY WORDS: cow dung, isolates, mycoflora, organic manure, pathogens.

INTRODUCTION

Manure is anything that can be added to the soil to increase its fertility and enhance plant growth (Boller & Hani, 2004). Manures contribute to the fertility of the soil due to addition of organic matter and inorganic matters such as nitrogen (Haynes, 2003). It also provides carbon and other constituents that affect soil humus content, biological activity and soil physical structure (Rono *et al.*, 2012). Manures may be organic or inorganic. Organic manures are derived from decaying material of plant or animal origin while inorganic manures, also known as fertilizers, are derived from chemical processes that are most often man-made (Boller & Hani, 2004). Cow dung is one of the most important sources of bio-fertilizer (Kesavan & Swaminathan, 2008).

The use of cow dung as organic manure increases soil organic matter content leading to improved water infiltration and water holding capacity as well as an increase in the cation exchange capacity of such soil (Kesavan & Swaminathan, 2008). Also, cow dung is a very effective manure for reducing bacterial and fungal pathogenic diseases as it suppresses mycelial growth of plant pathogenic fungi such as *Fusarium solani*, *F. oxysporum* and *Sclerotinia sclerotiorum* (Basak & Lee, 2002; Misca *et al.*, 2014). Despite the advantages of cow dung as an organic manure, some of its disadvantages include unequal distribution of essential nutrients in it, tedious nature of its collection and processing as well as the presence of some plant pathogens in some of them (Maynard, 1991).

Richardson (2001) isolated 137 ascomycetes on the dung samples of sheep, horse, cow, roe deer, rabbit and hare; these included *Phomatospora coprophila.*, *Ascophanus microsporus*, *Podospora cumula*, *Coprobria granulate*, *Ascobolus immerses*, *A. albidus*, *Podospora appendiculata*, *Thelebolus stercoreus*, *T. nanus*, *Saccobolus versicolor* and