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Vegetable Wastes as Alternative Culture Media for the Growth of Selected Fungi

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Abstract

Culture medium is the environment which provides essential nutrients to support the growth of microorganisms in the laboratory. Potato Dextrose Agar (PDA) medium is widely used for the growth of fungi. The exorbitant cost of conventional culture media such as PDA, has limited the use of these media in schools and laboratories with less facilities. Potato Dextrose Broth (PDB) is used to grow fungi in liquid medium. This study was aimed to find out the potential of vegetable waste such as cabbage, onion, carrot, beans, beetroot and drumstick as alternative nutrient source for the growth of fungi. Nowadays, waste disposal has become a major problem. High amount of these waste materials is often improperly disposed which causes severe environmental pollution. The dumping sites of vegetable wastes promote the growth of vectors and pathogenic bacteria. Thus, the use of vegetable waste for preparing an alternative culture media for the cultivation of fungi would be a new avenue. Six different fungi were used to this study such as *Aspergillus* sp., *Fusarium* sp., *Mucor* sp., *Penicillium* sp., *Rhizopus* sp. and *Trichoderma* sp. The haemocytometer count of spores and dry weight of mycelia of different fungi after five days of inoculation were obtained. Most of the fungi showed higher growth in alternative media than Potato Dextrose Broth (PDB). According to the results, *Mucor* sp. and *Rhizopus* sp. showed higher growth in onion, *Aspergillus* sp. and *Penicillium* sp. showed higher growth in carrot. *Fusarium* sp. showed higher growth in drumstick and *Trichoderma* sp. showed higher growth in cabbage.

Keywords: Alternative media, Vegetable waste, Potato dextrose broth