

ISOLATION OF BACTERIA FROM CASING MATERIAL OF BUTTON MUSHROOM (*AGARICUS BISPORUS*) AND THEIR BIOCONTROL PROPERTIES

Büchner Rita, Borbély Evelin Ilona, Kredics László, Hatvani Lóránt, Vágvölgyi Csaba.

University of Szeged, Faculty of Science and Informatics, Department of Microbiology

The white button mushroom (*Agaricus bisporus*) is the most popular cultivated mushroom in Hungary. During its cultivation, many pathogens and pests may occur that can lead to yield reduction. Adult flies contribute to the spreading of bacteria and fungi as vectors, but the greatest damage is caused by the larvae feeding in the mushroom growing material. Some fly species feed on the young, growing mycelia or cause direct damage to the fruiting bodies, while others on the organic matter in the compost. The use of chemicals in mushroom cultivation is highly regulated in the EU due to the accumulation of chemical residues in food and their negative impact on the environment. Instead of chemical control, biological control could be an alternative strategy against mushroom flies. A total of 80 bacterial strains were isolated from the casing material derived from a white button mushroom growing facility. The strains were tested in dual plate assays to examine their effect on the growth of white button mushroom. The strains that least inhibited the growth of white button mushroom were selected for further examination. Bacterial suspensions were tested against larvae of *Lycoriella sativae* in a Panasonic Versatile Environmental Test Chamber. Larvae used in the tests were reared in 300 mL glass jars, on peat with the addition of oatmeal and yeast as the food source. The biocontrol properties of the bacteria were determined by counting the number of live adult flies. Most efficient biocontrol strains were E10, E13, E20.

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