

Research Article

Status of Yellow Mould Diseases of White Button Mushroom in Haryana and Its Management

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Abstract

The causal organisms of yellow mould diseases encountered in seasonal button mushroom farms were found to be *Myceliophthora lutea*, *Sepedonium chrysopermum* and *S. maheshwarianum*. Although all these yellow mould causing organisms were found to reduce the mushroom yield, but *M. lutea* was the most devastating fungus causing complete crop failure depending upon the stages of the infection. When *M. lutea* was inoculated at spawning it caused 100 per cent crop loss whereas if inoculated at casing it caused 42 per cent loss. In case of *S. chrysopermum* and *S. maheshwarianum* they caused 75-80 per cent crop losses, at spawning and 27 per cent at casing. Under seasonal conditions, casing is normally chemically pasteurized and causes the problems of fungicidal residue in the mushrooms. As an alternative, solarised casing soil showed drastically reduced fungal counts in comparison to control and also the dominant fungi encountered in solarised casing were mainly thermotolerant. It was also observed that addition of 0.5 per cent phosphate gave 98 per cent increase in yield in comparison to untreated inoculated control and 33 per cent over untreated un-inoculated control. It was observed that the disease could not establish in any of the treated bags. It was also found that maximum growth inhibition of test fungi were attained with extract of *Cannabis sativa* without affecting the growth of *A. bisporus* when added in malt extract agar medium @ 5 per cent. It can be concluded from the present investigations that to minimize that cost involved in steam pasteurization, solarisation of casing soil may be a good alternative along with addition of P₂O₅ (0.5%) in compost to prevent crop losses due to yellow mould syndrome. Moreover, *Cannabis sativa* also showed anti-fungal activity against yellow mould pathogens, therefore they may be recommended to the mushroom growers for the management of yellow mould syndrome in white button mushroom.

Key words: Crop loss, management, phosphate level, solarisation, yellow mould syndrome

Citation: Sharma VP, Kamal Shwet and Kumar Anil. 2019. Status of yellow mould diseases of white button mushroom in Haryana and its management. *J Mycol Pl Pathol* 49 (4): 385-393