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ORIGINAL PAPER

ANTIFUNGAL ACTIVITY OF LENTINULA EDODES EXTRACTS AGAINST PHYTOPHTHORA INFESTANS PHYTOPATHOGENIC FUNGI

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Abstract: **Phytophthora infestans** is an oomycete that is responsible for the late blight disease of potatoes and tomatoes and othe**r**several plant species. Late blight affects foliage of both potato and tomato as well as potato tubers and tomato fruit. Disease management during the production of vegetable crops has become a major concern in all over the world. In last years the biological control of tomato and potato late blight has attracted much attention. The objectives of this study wereto present preliminary experimental researches consisting in testing of the treatements based on Lentinula edodes (Shiitake) extractsapplied to Lycopersicon esculentum Mill. in order to disturb the activity of Phytophthora infestans fungi.The treatements have been made using aqueous extractof Lentinula edodes (Shiitake). The vegetal biological material consisted of Lycopersicon esculentum Mill. plantlets, cultivated in vitro or ex vitro, inoculated with Phytophthora infestans. After the infection has become active, the treatements based on Lentinula edodes (Shiitake), in different concentrations (2 %, 4 % or 6 %), have been applied to the planlets, to test their influence on the activity of Phytophthora infestans fungi.The best experimental results have been noticed for the experimental variant which used the treatement based on aqueous extract of Lentinula edodes (Shiitake), 6 % concentration, used on Lycopersicon esculentum Mill. plantlets of Elisabeta variety, obtained and infected with Phytophthora infestans in ex vitro conditions.

Key words: Shiitake, Lycopersicon esculentum Mill., aqueous extract, in vitro, ex vitro.

Introduction

Late blight caused by *Phytophthora infestans* is one of the most serious disease to tomato production (K. LAMSAL& al., 2013[1]). Control of plant disease is mostly based on cultural practices, chemical treatments or genetic resistance in host plants (R. C. SHATTOCK, 2002[2], R. N. STRANGE, 1993 [3],H. TRAN& al., 2007 [4]). Biocontrol of late blight using several antagonistic microorganisms, or plant growth-promoting rhizobacteria (PGPR) represents an attractive alternative for disease management (K. LAMSAL& al., 2013[1]).