

antimicrobial activity against prevalent plant pathogens like *Fusarium oxysporum*, *Alternaria alternata*, *Rhizoctonia solani*, and *Bipolaris maydis*. Correlation among biochemical constituents and antimicrobial activity of mushrooms revealed highly positive correlation among antimicrobial activity and phenol as well as tannin while moderately positive correlation was observed among antimicrobial activity and alkaloid as well as saponin. Regression equation showing the role of biochemical components in antimicrobial activity was also recorded.

P (S11) 62: *In-Vitro* Evaluation of Native Isolates of *Trichoderma asperellum* Against *Fusarium oxysporum* f. sp. *gladioli* Causing *Fusarium* Wilt of Gladiolus

Nitika Gupta^{1*}, Prabha K.¹, G. B. Kadam¹, T. N. Saha¹, Shilpashree K. G.¹ and K. V. Prasad¹

¹ICAR-Directorate of Floricultural Research, Pune 411005, Maharashtra, India; E-mail: nitika.iari@gmail.com

Gladiolus (*Gladiolus grandiflorus* Ness) the “queen of bulbous flowers”, is an important commercial flower crop fetching high returns in national and international markets. *Fusarium oxysporum* f. sp. *gladioli* causes corm rot, wilt and yellows in gladiolus. *Fusarium* wilt is a major constraint to flower industry with respect to quality and yield. Use of fungicides for the management of *Fusarium* wilt has been found to be inconsistent. Application of biocontrol agents constitutes an effective option for the management of *Fusarium* wilt. The present study was carried out to analyze the efficacy of *Trichoderma asperellum* against *Fusarium* wilt. Three *Trichoderma asperellum* isolates i.e., Pune (Ac no. MK041249), Vadaj (Ac no. MN372214) and Kusur (Ac no. MN386231) which were isolated from rhizospheric soil of gladiolus from Pune region, were tested *in vitro* for their efficacy against *Fusarium* wilt pathogen of gladiolus. Isolates of *Trichoderma asperellum* were found effective and will be further evaluated *in vivo*. The biocontrol mechanism studies revealed that selected *Trichoderma* isolates possessed good competitive saprophytic ability. The isolate *Trichoderma asperellum* “Pune” was found to be the best as 72% inhibition was found through volatile compounds. Besides isolate *Trichoderma asperellum* “Vadaj” possessed strong mycoparasitic ability against *Fusarium oxysporum* f. sp. *gladioli* i.e., 75% inhibition was found in dual culture assay. The biocontrol activity involving mycoparasitism, antibiotics and competition for nutrients, also induces defence responses or systemic resistance responses in plants. Biocontrol agents should not be considered as an independent tool, but should be adequately implemented in an integrated management framework. The promising isolates of *Trichoderma asperellum* will be further evaluated *in vivo* for incorporation in integrated wilt management in gladiolus.

P (S11) 63: Evaluation of bacteria isolated from nodules of various leguminous plants for the biological control of soil borne pathogens of chickpea.

Mohammed Imran Mir¹, Srinivas Vadlamudi², B.Kiran kumar ¹, MY Khan³, Gopalakrishnan S², Bee Hameeda^{3*}

¹Department of Botany, Osmania University, Hyderabad ³ Department of Microbiology, Osmania University, Hyderabad ² International Crops Research Institute for the Semi Arid Tropics, Patancheru, Hyderabad, India; E-mail: *drhami2009@gmail.com

Biological control of plant pathogens occurs in several ways, the most common mechanisms being parasitism and predation, competition for nutrients or space, production of antimicrobial substances and induced resistance. In the present investigation a total of 30 bacteria were isolated from the nodules of different leguminous plants