

3rd International Conference on **Agriculture & Horticulture** October 27-29, 2014 Hyderabad International Convention Centre, India

Effect of botanicals and fungicides on association of *Fusarium moniliforme* at maturity stage in sorghum

Abhijeet Gahukar, V V Kalpande, G K Giri, R B Ghorade, G F Vyavhare, and Seema Nemade Dr. Panjabrao Deshmukh Krishi Vidyapeeth, India

rain mold is the major disease of kharif sorghum affecting grain yield as well as the quality of the produce. Study consisted Gof eleven different treatments including control on mold susceptible genotype, AKMS 14B of sorghum and was carried out at Sorghum Research Unit, Dr. Panjabrao Deshmukh Krishi Vidhyapeeth, Akola during kharif 2013. These treatments were T1 - Neem seed extract 10%, T2 - Neem leaves extract 10%, T3 - Eucalyptus leaves extract 10%, T4 - Ginger (rhizome) extract 10%, T5 - Garlic (cloves) extract 10%, T6 -Pyraclostrobin 0.1% (1 g/lit), T7- Propiconazole 0.1% + Mancozeb 0.3% (Propiconazole 1 ml/lit + Mencozeb 3 g/lit.), T8 - Thiram 0.2% + Carbendazim 0.1% (Thiram 2 g/lit + Carbendazim 1 g/ lit.), T9 - Pr¬opiconazole 0.1% + Thiram 0.3% (Pr¬opiconazole 1 ml/lit + Thiram 3 g/lit), T10 - Water spray, T11 - Control (No any spray). Two sprayings of the botanicals and fungicides were taken on sorghum genotype AKMS 14 B of which first spray was taken at complete anthesis stage and second at 15 days after first spray. To invite sufficient fungal load, regular water sprays were done. The observation was recorded on the association of the Fusarium moniliforme on sorghum cob at maturity stage. Association of Fusarium moniliforme at maturity stage in susceptible genotype AKMS 14B was in the range of 16.25 to 42.36 per cent. The minimum infection of F. moniliforme was recorded in the fungicidal treatment of Pyraclostrobin @ 0.1% (16.25%) followed by combination of Propiconazole @ 0.1% + Mancozeb @ 0.3% and Thiram @ 0.2% + Carbendazim @ 0.1% (20.00%), whereas in case of the botanicals, Garlic extract @10% (28.00%) and Ginger extract @10% (28.66%) were the best. Maximum association of the Fusarium moniliforme was observed in water spray (42.36%) and Neem leaves extracts @ 10% (41.40%) as against control (39.66%). Thus it was concluded form the present study that the fungicidal treatment of Pyraclostrobin @ 0.1% and botanical treatment of Garlic extract @ 10% were the best in reducing the association of Fusarium *moniliforme* at maturity stage in sorghum.

abhijeetgahukar@yahoo.co.in

Hairy root culture for mass production of secondary metabolites

B D Ranjithakumari Bharathidasan University, India

Plant cell cultivations are being considered as an alternative to agricultural processes for producing valuable phytochemicals. The use of plant cell cultures has overcome several inconveniences for the production of these secondary metabolites. Hairy roots produced by the plants by *Agro-bacterium rhizogenes*, offer promise for high production of valuable secondary metabolites in many plants. The present study highlights the induction of hairy roots in some important medicinal plants for the synthesis of valuable bio-active compounds. The detailed literature survey indicated that the hairy root culture are entering new phase of applied research in generating pharmaceutical lead compounds by bringing about chemical transformations aided through unique biological system.

Keywords: Agro-bacterium rhizogenes, hairy root, medicinal plants, secondary metabolites.

ranjithakumari2004@yahoo.co.in