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Evaluation of botanicals and fungicides on threshed grain mold rating (TGMR) and grain hardness in sorghum

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Grain mold is the major disease of kharif sorghum affecting grain yield as well as the quality of the produce. Study consisted of eleven different treatments including control on grain 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 observations were recorded on Threshed grain mold rating (TGMR) and grain hardness. Threshed grain mold rating (TGMR) was minimum in Pyraclostrobin @ 0.1% (8.10%), followed by Propiconazole @ 0.1% + Mancozeb @ 0.3% (9.30%) and among botanicals lowest found in the treatment Garlic extract @ 10% (26.90%) followed by Ginger extract @ 10% (28.20%) while maximum found in water spray treatment (54.90%) and in control (50.40%). Maximum grain hardness (8.27 Kg/cm^2) was recorded in the treatment Propiconazole @ 0.1% + Mancozeb @ 0.3% followed by Pyraclostrobin @ 0.1% (8.12 Kg/cm^2) and in botanicals, Garlic extract @ 10% (6.67 Kg/cm^2), whereas, minimum recorded in control treatment (5.40 Kg/cm^2) and (5.97 Kg/cm^2) in water spray treatment. Thus it was concluded from the study that the treatment Pyraclostrobin @ 0.1% and Propiconazole @ 0.1% + Mancozeb @ 0.3% were the best in controlling the TGMR and improving the grain hardness in sorghum. While in case of botanicals, Garlic extract @ 10% was best in reducing the TGMR and improving the grain hardness.

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