Research Article

Evaluation of Different Fungicides for the Control of Brown Leaf Spot, Blast, Sheath Blight and Foot Rot Diseases at Different Growth Stages in *Basmati* Rice

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Abstract

Rice is an economically important cereal crop in India. Its production and quality are affected by various biotic factors, and rice diseases are one of the critical ones. Therefore, the objective of present study was to evaluate the efficacy of different commercially available fungicides and biological control agents for brown leaf spot, blast, sheath blight and foot rot diseases in rice. A basmati rice variety, Pusa *Basmati* 1121, was grown at 3 locations in triplicates at Tarn Taran district of Punjab, India during 2019-20, to evaluate the efficacy of biological control agent and nine commercial fungicides. Among these, biocontrol agent and fungicides , Sprint 75 WS was effective in controlling the brown leaf spot, blast and foot rot disease incidence and severity in the crop at nursery stage. Out of nine commercial fungicides formulations, Trifloxystrobin + Tebuconazole was the most effective, at both tillering and panicle formation stages, in controlling the brown leaf spot with 20% and 14% disease incidence during 2019 and 15% and 10% during 2020. Azoxystrobin + Difenoconazole gave best results against blast incidence with (15% and 10% in 2019) and (11.66 % and 9% in 2020) and sheath blight incidence with (11% and 9% in 2019) and (10.66% and 9% in 2020), respectively. Grain yield of Pusa *Basmati* 1121, increased by ~40 % than control with the application of Azoxystrobin + Difenoconazole in all the plots. Therefore, there is a huge potential to test the efficacy of different commercially available fungicides against various diseases in scented and non-scented rice varieties to increase the rice production.

Key words: Blast, brown leaf spot, foot rot, fungicides, rice, sheath blight

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