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Biological control of sheath blight disease in two major rice genotypes by *Trichoderma viride* (TV 1) and *Pseudomonas fluorescens* (PF 1) under old alluvial zone of West Bengal

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ABSTRACT : Sheath blight caused by *Rhizoctonia solani* is economically one of the important disease affecting rice production worldwide including India. An experiment was conducted under field condition to test the bioefficacy of the two bioagents viz., *Trichoderma viride* (TV 1) and *Pseudomonas fluorescens* (Pf 1) in two rice genotypes i.e., Swarna (MTU 7029) and Gotra Bidhan 1 for controlling sheath blight of rice. Of the various treatments, *Trichoderma viride* (TV 1) when used as seed + soil + spray treatment showed maximum reduction of disease incidence in both the rice genotypes (70.18% in Swarna (MTU 7029) and 82.50% in Gotra Bidhan 1, respectively). Also this combination of treatments showed maximum reduction in disease severity i.e., 70.18% and 85.86% in both the genotypes. Moreover, this combination also acted as plant growth promoter there by increasing the number of effective tillers/hill (14.33 and 13.67), plant height (74.30 and 75.30 cm), number of filled grains/panicle (185.67 and 186.67), test weight (22.07 and 22.95 gm) and finally yield of the crop (45.13 and 44.73 q/ha). *P. fluorescens* (Pf 1) when used as seed + soil + foliar spray also reduced the disease incidence by 57.15% and 56.86% and disease severity by 74.70% and 77.96% in both the rice genotypes with final yield of 44.72 and 44.62 q/ha. Thus the results of our studies indicated that seed + soil + foliar spray of *Trichoderma viride* (TV 1) could be an effective delivery system for controlling the sheath blight of rice thereby promoting its growth.

Key Words : Sheath blight, *Rhizoctonia solani, Trichoderma viride, Pseudomonas fluorescens.*