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Integrated Management of Stem Rot Disease (Sclerotium rolfsii) of Groundnut (Arachis hypogaea L.) Using Rhizobium and Trichoderma harzianum (ITCC - 4572)

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Abstract: Soil-borne plant pathogenic fungi cause heavy crop losses all over the world. With variable climate from region to region, most crops grown in India are susceptible to diseases caused by soil-borne fungal pathogens. Among tropical and subtropical land crops, groundnut (Arachis hypogaea L.) is an important oil seed crop, providing vegetable oil as human food and oil cake meal as animal poultry feed. A large number of diseases attack groundnut plants in India; of these, stem rot (collar rot) caused by Sclerotium rolfsii is the most common disease. Certain well-studied chemical pesticide management strategies are available for reducing damage by S. rolfsii, but increasing awareness about the health hazards and environmental problems due to the use of chemical pesticides resulted in the development of Integrated Pest Management. In the present study, integrated management of stem rot disease of groundnut using a combined application of Rhizobium and Trichoderma harzianum (ITCC - 4572) was performed. The results indicated that the application of these native micro-organisms successfully decreases the stem rot incidence and also increases the growth of the groundnut plants. The plant growth promoting activity and disease control ability of these microbial agents are discussed.

Key Words: Rhizobium, Trichoderma harzianum, IPM, stem rot, Sclerotium rolfsii, groundnut

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