**Field Evaluation of Plant Extracts against Rice Sheath blight (*Rhizoctonia solani*) Disease**

**RSS Rathambalage1\*, KRD Gunapala2 and WMAUKM Wijesekara1**

*1Department of Export Agriculture, Faculty of Agricultural Sciences, Sabaragamuwa University of Sri Lanka*

*2 Rice Research and Development Institute, Batalagoda, Ibbagamuwa, Sri Lanka*

[*\*shilpanisakuni@gmail.com*](mailto:*shilpanisakuni@gmail.com)

Sheath blight caused *Rhizoctonia solani*, is a major fungal disease that has been recorded in all major rice growing areas. Due to the lack of resistant rice varieties, the management is accomplished by application of synthetic fungicides. With the current economic crisisprevailing in the country, it is difficult to find out expenditure for agrochemicals. As well as continuous inappropriate usage of chemicals cause undesirable effects for the environment and human health. Therefore, alternative methods for disease management have become more important than ever before. Plant extracts become vital among the alternative methods, as it is an environmentally safe biocontrol method. The present investigation was conducted to screen the efficacy of several plant extracts against *R. solani* under field conditions. Aqueous plant extracts of bulbs of garlic (*Allium sativum*), plant extract combination of bulbs of garlic and leaves of clove (*Syzygium aromaticum*) and, plant extract combination of bulbs of garlic, leaves of clove, leaves of hulanthala (*Ageratum conyzoides*) along with carbendazim as (50% WG) fungicide (positive control) and water (negative control) were used in the experiment according to the results of *in vitro* test. After isolation of the pathogen, mass preparation of the pathogen was done using a mixture of rice bran and rice husk (1:1) and agar. The media with *R. solani* was kept at room temperature for about one week and inoculated between the leaf sheaths of the rice plant. Selected plant extracts were sprayed to the plants at 100 % concentration. The highest disease severity was observed in water (39.28 %) treated pots whereas lowest disease severity (26.67 %) was observed in carbendazim treated pots. The aqueous plant extract combination of *A. sativum, S. aromaticum* and *A. conyzoides* was showed highest disease severity (33.29 %) against *R. solani*, followed by plant extract combination of *A. sativum* and *S. aromaticum* and plant extracts of *A. sativum* 29.88 % and 26.67 % respectively. Therefore, out of these plant extracts, *A. sativum* was proved to be the most effective in inhibiting the growth of *R. solani* which can be introduced as a possible alternative method with further evaluation.

**Keywords:** *disease control, plant extract, rice, sheath blight*