

EFFICACY OF NEEM PRODUCTS FOR THE MANAGEMENT OF RICE WEEVIL *Sitophilus Oryzae* (L.) IN STORED HUSKED AND UNHUSKED RICE GRAIN

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Executive Summary

Rice is the most important food for majority of people around the world. The rice weevil *Sitophilus oryzae* L. is one of the most destructive insect pests of stored grains. An experiment was conducted to study the efficacy of different neem products for the management of rice weevil (*Sitophilus oryzae* L.) in stored husked and unhusked rice grain during the period from July 2016 to April 2017. Stored husked and unhusked rice of BR 27 were used as the experimental materials. The experiment consists of the treatments: T₁: Neem leaves dust 10 gm/kg of stored rice grains; T₂: Neem seed kernel dusts @ 10 gm/kg of stored rice grains; T₃: Neem leaves extract @ 10 ml/kg of stored rice grains; T₄: Neem oil 5 ml/kg of stored rice grains and T₅: Untreated control. The experiment was laid out in the ambient condition of the laboratory following in a Completely Randomized Design (CRD) and the treatments was replicated four times for each. In case of unhusked rice, the highest mortality (100.00%) was observed in T₄ treatment, while the lowest 5.25% mortality was recorded in T₅ treatment. For husked rice, the highest mortality (100.00%) was observed in T₄, while the lowest mortality (9.00%) was recorded in T₅ treatment. At 1st generation for unhusked rice, in weight basis, the highest infestation was recorded from T₅ (9.49%) treatment while the lowest in T₄ (1.32) and for husked rice, the highest infestation was recorded from T₅ (10.68%), while the lowest in T₄ (2.79%) treatment. On the other hand, by number basis in unhusked rice, the highest infestation was found from T₅ (11.57%), while the lowest in T₄ (2.47%) treatment and for husked rice, the highest infestation was found from T₅ (14.72%) while the lowest in T₄ (3.86%) treatment. Similar trend of results were revealed from the 2nd and 3rd generations. At 1st generation, for unhusked rice, the highest weight loss was found in T₅ (18.21%), while the lowest was found in T₄ (3.89%) treatment and for husked rice grain, the highest weight loss was recorded in T₅ (21.45%), whereas the lowest was observed in T₄ (4.38%) treatment. Similar trend of result also recorded in 2nd and 3rd generation. In case of repellency effect for unhusked rice, after 5 hours of treatment application the highest repellency rate was found from T₄ and T₃ (100.00%), whereas the lowest repellency rate (80.00%) was recorded in T₁ treatment. In case of repellency effect for husked rice, after 5 hours of treatment application the highest repellency rate was found from T₄ and T₃ (100.00%) treatments which was followed by T₁ and T₂ (90.00%) treatments. Among the neem products neem oil 5 ml/kg of stored rice grains was more effective for controlling rice weevil.

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