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EFFICACY OF *AZADIRACHTA INDICA* (NEEM) WILD PLANTS EXTRACTS AGAINST *SITOPHILUS ORYZAE* IN STORED WHEAT GRAIN

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ABSTRACT : The study was carried at the Zoology laboratory of Jijamata College, Bhende Tal- Newasa Dist- Ahmednagar, Maharashtra during April and May 2018 to find the most effective concentration of *Azadirachta indica (V)* plants extracts to control rice weevil in storage condition. The number of dead insects were increased with the increase of rate of the treatment. The insecticidal property of the plants also affects the adult emergence of rice weevil. Results showed that at all rates (2gm, 4gm and 6gm) of the treatments highest number of weevil was recorded in untreated control. From above finding it can be said that maximum of 84.15% rice weevil mortality at 28 days after treatment neem seed powder (6 gm) and minimum of 21.63% rice weevil mortality at 7 days after treatment neem bark powder (2 gm). So it can be said that though *Azadirachta indica (V)* plants extracts possess some insecticidal property, neem seed and leaf powder was found the best one to control rice weevil in storage condition.

Key words : *Azadirachta indica*, insecticides, store grain, pest, wheat.

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INTRODUCTION

The rice weevil, *Sitophilus oryzae* (L.) is one of the major pest of stored grains, which attacks several grains, including wheat, rice, corn, sorghum, barley and maize. The adult and larval stages of rice weevil damage the store grains and result in the loss of nutritional and qualitative properties of the grains. Saljoqi1 *et al* (2006) and Baloch (1992) has been reported as one of the severe pests of cereal grains and their products. Attempts have been made to control of the stored grain insects by insecticidal application but in vain. Moreover, fumigation is the most widely adopted method has been in practice. Synthetic chemical pesticides have been used for many years to control stored grain pests. A number of chemical pesticides are available in markets for the control of pest of grains. However their indiscriminate use has created the problems of air, soil and water pollutions, development of resistance in target insect pest and serious health hazards due to the toxicity of their residues (Salem *et al*, 2007). Efforts are being done for finding alternatives to chemical insectcides to overcome these problems. Additionally, consumption of extracts from some of the medicinal plants is even beneficial for human beings (Nawaz, 1999). The utilization of plants with insecticidal properties to protect stored commodities against insect pest attack has a very long history (Thomas *et al*, 2002). Leaves, bark, roots, twigs and flowers locally available plants mixed with various stored products have been used for major insect pests of stored products as protectants in different parts of the world for centuries (Belmain and Stevenson, 2001). Scientific literature documenting bioactivity of plant materials to insect pests shows that a great number of plant species from a wide range of families have been assessed for their toxic, antifeedant and repellant properties (Isman, 2006; Talukder, 2006; Dubey *et al*, 2008; Ogunleye *et al*, 2010). Many of the plant species that have been investigated are often those used as culinary spices or in traditional medicine by local communities. Some researchers surmise that these plant materials are therefore safe to use as insecticides. Many researchers are trying to validate the efficacy of ethnobotanicals which are readily available in the local environment for farmer use at village level (Ahmed and Koppel, 1985). Botanical insecticides have long been touted as attractive alternatives to synthetic chemical insecticides for pest management because botanicals reputedly pose little threat to the environment or to human health (Isman, 2006). Very little information is available