Management methods for rice sheath mite (*Steneotarsonemus spinki* Smiley)

S.H.D.P. Amarasiri[1], *L. Nugaliyadde*[1] *and A.S. Pushpakumari*[2]

[1] Department of Agricultural Biology, Faculty of Agriculture, University of Ruhuna, Mapalana, Kamburupitiya

[2] Regional Rice Research and Development Center, Bombuwela

Abstract

Rice sheath mite, *steneotarsonemus spinki*, is an emerging problem in the rice cultivation in Sri Lanka. This mite (0.2 mm) lives inside the leaf sheath and causes extensive damage to panicle, affecting grain yield and quality. Its microscopic and cryptic nature makes it difficulties to control. A series of green house and field experiments were conducted at RRRDC Bombuwela to develop an evaluation system for sheath mite damage and a methodology for screening varieties for resistance to the pest. In addition, preliminary studies were conducted to identify alternate methods for its management.

A simple and easy method was developed to artificially infest a known number of mites to healthy plants for studies on varietal response to the pest. The lesion length on leaf-sheath found to be the best criterion to evaluate the damage caused by this mite. When the mites were infested to rice plants at heading stage, the damage symptoms appear faster -in 3 days- as compared to those plants infested at tillering and booting stages. Three commercial varieties and 2 breeding lines (Bw364, Bw361, Bw272-6B, 03/2015, 04/1073) were evaluated for their resistance to mite using artificial infestation method and found that the test varieties were equally susceptible to the pest.

Field evaluation with neem seed kernel extract and spiromisifen revealed that the latter when applied at booting stage could control the pest to a lesser degree. A predatory mite, *Lasoioesius* spp, which occurs in large numbers, was identified as a predominant predator of this mite.

Keywords: Rice Sheath Mite, Biological Control, Predatory Mite, Screening, Rice Plant