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Incidence of Red Spider Mite (*Tetranychus urticae* Koch) on ladysfinger (*Abelmoschus esculentus* (L.) Moench) and their sustainable management

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In the sub-Himalayan region of north east India the vegetable crop, ladysfinger (*Abelmoschus esculentus* L.) is susceptible to various insect and mite pests of which red spider mite, *Tetranychus urticae* Koch. causes heavy damage. Peak population of mite (6.18 mites/leaf) was recorded during 23rd SMW (end of May) in the pre-kharif crop. Highest population (7.56/leaf) was found on the 42nd SMW (first week of October) in the post kharif crop. Sudden fall of population was found in last week of June because of heavy rains. Mite population showed non-significantly positive correlation (p=0.05) with temperature, maximum RH where as significantly positive correlation with minimum RH. One microbial toxin, avermectin (Vertimec 1.9 EC) @ 1.0 ml/ L and one botanical insecticide azadirachtin (neemactin 0.15 EC) @ 2.5 ml/L, and one botanical extracts, *Spilanthes paniculata* flower extracted in methanol @ 1.0% and 5.0% and one treatment containing mixture of azadirachtin and floral extract of *Spilanthes* 5% (@2.5 ml and 50 ml/L were evaluated and compared with the ability of Sulphur (Sulfex 80 WP) @ 5g/L and Fenazaquin (Magister 10EC) @ 2ml/L to control the pest. Fenazaquin treatment resulted in the best suppression of mite population (79.24 % suppression), closely followed by avermectin (76.40 % suppression). Among bio-pesticides, avermectin and combination of neem with *Spilanthes* gave better results recording more than 70 % suppression of mite population. Plant extracts and microbial insecticides (biopesticides) being safer to human health and environment, could thus be recommended for organic farming and IPM programme in vegetable cultivation.

Keywords: Seasonal fluctuation, bio-pesticides, vegetable IPM, organic farming.

Biography

Sunil Kumar Ghosh completed his PhD from Bidhan Ch. Krishi Viswavidyalaya in 2000 and joined as Assistant Professor in Uttar Banga Krishi Viswavidyalaya, Coochbehar, West Bengal in 2002, and engaged in teaching at UG and PG level. On 12th June, 2014 he has joined as Associate Professor in Bidhan Ch. Krishi Viswavidyalaya, on AINP- Acarology. He is doing his research work on biopesticides and sustainable pest management including mite pest in agricultural field. He has published more than 30 research papers in reputed journal.

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