

RESEARCH PAPER

Bioefficacy and dissipation studies of spiromesifen against mite, *Polyphagotarsonemus latus* banks on capsicum under field conditions

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Field experiments were conducted during 2013-14 and 2014-15 to evaluate the new insecticides for the management of mite, *Polyphagotarsonemus latus* banks and dissipation of effective insecticide on capsicum. Among the seven insecticides, mean of two seasons under poly house condition, population was less with spiromesifen (0.06 mites/ leaf) followed by diafenthiuron (2.21 mites/ leaf), triazophos (3.68 mites/ leaf) and thiamethoxam (5.30 mites/ leaf) which were significantly superior over untreated check (11.33). Spiromesifen residues were quantified through regular sampling till the residues are below determination level (BDL) of 0.05 mg kg⁻¹ following the validated QuEChERS method. The qualitative and quantitative analysis of spiromesifen was performed on LC- MS/MS (PDA). Initial deposits of 1.61 mg kg⁻¹ of spiromesifen detected at 2 hours after last spray, dissipated to BDL at 10th day after spray. The half-life and safe waiting period for harvest was 2.09 and 10.00 days, respectively.

Key words : Capsicum, Mite, Spiromesifen, Dissipation

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