**RESEARCH ARTICLE**

# MANAGEMENT OF CHILLI INSECT PESTS BY USING DIFFERENT DOSES OF EMAMECTIN BENZOATE 3.7%+ DIFENTHIURON 46.3% WP

**S.B. Singh* and R.P. Patel**

*RVSKVV, College of Horticulture, Mandsaur*
*Email: sbsmds@ rediffmail.com*

*Received-06.10.2019, Revised-26.10.2019*

**Abstrtact:** The experiment was conducted in *Rabi* season of 2015-16 at College of Agriculturefarm, Indore (M.P.) in a Randomized Block Design (RBD) with seven treatments and three replications with variety Aakansha (hybrid), transplanted on 27th November 2015 with 60x45 cm spacing. Three doses of emamectin benzoate 3.7%+difenthiuron 46.3%WP @ 5.60+69.45gai/ha , 7.40+92.60 gai/ha and 9.25+115.75 gai/ha were marked as T1,T2 and T3, respectively.T4- Emamectin benzoate 5%SG @ 10gai/ha , T5- Difenthiuron 50%WP 300 gai/ha and T6- Lambda cyhalothrin 5%EC @ 15 gai/ha were alone insecticidal treatments including T7-Untreated check. Treatments were sprayed thrice at 15 days interval as foliar application with knapsack sprayer @ 500 liter water per hectare. Thrips and whitefly population were counted on five tagged plants from each plot and five leaves per plant i.e. Two leaves from top, two from middle and one leaf from lower portion of plant. Thrips were counted by jerking the twig on a white paper. Observations were recorded at one day before and 7 and 14 days after each spray. Leaf curling was recorded10 days after each spray visually on five plants selected randomly in each. The green chilli yield data (q/plot) was recorded for economic assessment of treatments.The highest reduction in thrips and whiteflypopulation was recorded with highest dose of emamectin benzoate 3.7%+ difenthiuron 46.3% WP @ 250 g.a.i / ha and found at par with the second highest dose of emamectin benzoate 3.7%+ difenthiuron 46.3% WP @ 200 g.a.i / ha in all the sprays.After first spraying minimum leaf curling was noted in highest dose of emamectin benzoate 3.7%+ diafenthiuron 46.3% WP @ 250 g.a.i./ha (21.69%) and found at par with second highest dose of emamectin benzoate 3.7%+ diafenthiuron 46.3% WP @ 200 g.a.i./ha (24.14%). Similar trend was recorded as 16.20% and 18.79% in second spraying and 9.61% and 11.86% in third spraying, respectively.The highest green chilli yieldwas obtained again with highest dose of emamectin benzoate 3.7%+ difenthiuron 46.3% WP @ 250 g.a.i./ha (171.11 q/ha and 44.40) and found at par with rest of its two doses as166.29 q/ha and 147.03 q/ha, respectively. Cost benefit ratio was calculated in same trend as 4.40, 4.30 and 3.82, respectively.

**Keywords:** Thrips, Whitefly, Emamectin benzoate, Difenthiuron, Management

## REFERENCES

**Afzal, M., Babar, M.H., Ibrar-UL-Haq and Iqbal, Z.** (2014). Bio-Efficacy of new insecticides against whitefly, *Bemisiatabaci* (Genn.) on cotton, *Bt*-121. *Pakistan. Journal. Nutrition.***13** (6): 340-343.

**Annonymous** (2018). Horticultural statistics at a glance. P:139

**Balikai, R.A.** (2007). Bio-efficacy of diafenthiuron 50 SC (Polo 50 SC) against grapevine pests and its effect on natural enemies and plants. *Pestology.***31** (5):50-57.

**Balikai, R.A. and Patil, D.R.** (2007). Bio-efficacy of emamectin benzoate 5 % SG (Proclaim®) against grapevine pests and its effect on natural enemies and plants. *Pestology,***31** (5):13-20.

**Berke, T. and Sheih, S.C.** (2000). Chilli peppers in Asia. Capsicum and Egg Plant. *News Letter.***19**:38-41.

**Chakraborti, S., Senapati, A., Bhowmik, S. and Sarkar, P.** (2015). Impacts of safer strategies for management of chilli pests with emphasis on under-storey repellent crop. *Journal of Plant Protection***, 4** (2): 231-239.

**David, P.M.M.** (1986). Influence of insecticidal spray on the resurgence of yellow mite, *Polyphagotarsonemuslatus* Bank and sucking pest on chillies .Resur. *In Proceeding of National Symposium* (Ed.).TNAU, Coimbatore, pp.65-72.

**Ghosal A. and Chatterjee, M. L.** (2013). Management of okra yellow vein mosaic virus by chemical control of *Bemisiatabaci* Gen. *Indian Journal of Entomology*,**75**(3):236-238.

**Kandasamy, C., Mohansundaram, M. and Karuppachamy, P.** (1990). Evaluation of insecticide for the control of thrips*Scirtothrips dorsalis* Hood in chillies (*Capsicum annuum* L.). *M.Agric. J.*, **77**:169-172.

**Niles, G. A.** (1980). Breeding cotton for resistance to insect pest. In: Breeding Plant Resistance to Insects,Eds. McaWell F.G., Jenning P.R., John Wiley and Sons, New York, pp.337-369.

**Patel, L.C. and Mondal, C.K.** (2013). Management of causal agents of chilli leaf curl complex through bio-friendly approaches. *The Journal of Plant Protection Sciences*, **5**(2):20-25.

**Patel, S., Mandloi, R., Prajapati, S., Saxena, A.K., Parmar, R. and Singh, O.P.** (2015). The efficacy and economic of insecticides and bio-pesticides against major insect pest combination of brinjal (*Solanum melongena*linn.) cv. JB-64. *Plant Archives.***15** (2):923-930.

**Pareet, J.D. and Basayanagoud, K.** (2009). Evaluation of bio-pesticides against brinjal shoot and

*Corresponding Author

fruit borer and sucking pests. *Annals of Plant Protection Sciences*, **17**(2):463-464.

**Ravikumar, A., Chinniah, C., Manisegaran, S., Irulandi, S. and Mohanraj, P.** (2016). Effect of biorationals against the thrips, *Scirtothrips dorsalis* Hood infesting chilli. *International Journal of Plant Protection*,**9**(1): 158-161

**Sahu, K.M., Yadu, K.Y. and Verma, D.** (2015). Evaluation of different insecticides and plant product against chilli thrips, *Scirtothrips dorsalis* and their effect on natural enemies. *Journal of Plant Development Sciences*. **7** (8): 631-638.

**Shaikh, A. A. and Patel, J. J.** (2012). Bio-efficacy of insecticides against sucking pests in brinjal. An International e-Journal.,1(4) :423-434

**Singhal, V.** (2003). Chillies- In Indian Agriculture 2003, Indian Economic Data Research Center, Mayapuri, New Delhi, pp. 565-570

**Sujay, Y. H., Giraddi, R. S., and Udikeri, S. S.** (2015). Efficacy of new molecules and botanicals against chilli (*Capsicum annuum* L.) pests. *Madras Agricultural Journal*, 10(2): 348-352.

**Vanishree, K., Upendhar S. and Rajasekhar, P.** (2013). Toxicity of certain novel insecticides against chilli *Scirtothrips dorsalis* (Hood). *Resistant pest management newsletter*, **21**:17-21.