

BIO-EFFICACY OF SOME NEWER INSECTICIDES/BIO-PESTICIDES AGAINST MAJOR INSECT PESTS OF OKRA

N.B. Meena, A.K. Meena* and A.R. Naqvi

Department of Entomology, College of Agriculture
(SK Rajasthan Agricultural University), Bikaner-334006

* Maharana Pratap University of Agriculture and Technology, Udaipur -313001 (Rajasthan)

*Email: rajeshpatho@gmail.com

Received-05.03.2015, Revised-24.03.2015

Abstract: The bio-efficacy of eight insecticides viz., imidacloprid 17.8 SL @ 0.005%, deltapos 36 EC @ 0.036%, thiamethoxam 25 WG @ 0.005%, spinosad 45 SL @ 0.0068%, profenofos 50 EC @ 0.05%, azadirachtin 0.03 EC @ 5 ml/lit., NSKE @ 5.0%, *Bacillus thuringiensis* 8 L @ 0.012% evaluated against jassid, whitefly and shoot and fruit borer in okra at 15 days intervals and revealed that imidacloprid (0.005%) was found most effective against all the three pests followed by thiamethoxam (0.005%), deltapos (0.036%) and spinosad (0.0068%). *B. thuringiensis* (0.012%) proved least effective followed by azadirachtin (5 ml/lit) and NSKE (5.0%). The treatments of profenofos (0.05%) ranked in middle order of their efficacy. All the insecticides increased the yield of marketable fruits significantly over control. The maximum yield (76.76 q/ha) was recorded in imidacloprid followed by spinosad (74.07 q/ha) and deltapos (71.46 q/ha). The minimum yield was recorded in *B. thuringiensis* (44.10 q/ha) followed by azadirachtin (50.85 q/ha) and NSKE (55.02 q/ha).

Keywords: Bio-efficacy, Insecticides/bio-pesticides, Jassid, Whitefly, Shoot, Fruit borer

REFERENCES

Anonymous (2006). Annual Research Report. Submitted by All India Net work Project on Pesticide residues, Durgapura, Jaipur. pp-27.

Anonymous (2007). Annual report, Agricultural production data base: in Food and Agriculture Organization. pp. 340.

Awasthi, A. K., Bisen, R.K., Choure, M. K. and Pandya, K. S. (2006). Bio-efficacy of *Bacillus thuringiensis* formulation and some insecticides against shoot and fruit borer, *Earias vitella* (Fab.) on okra. *J. Insect Sci.*, **13**(1-2): 55-56.

Bhalala, M. K., Patel, B. H., Patel, J. J., Bhatt, H. V. and Maghodia, A. B. (2006). Bioefficacy of Thiamethoxam 25 WG and various recommended insecticides against sucking pest complex of okra (*Abelmoschus esculentus* (L.) Moench). *Indian J. Ent.*, **68**(3): 293-295.

Das, S. N., Subhrajyoti, R., Chatterjee, M. L. and Ray, S. (2001). Bio-efficacy, yield, benefit and cost effectivity of some new molecules against okra fruit borer, *Earias vitella* (F.); (Noctuidae: Lepidoptera). *J. Interacademia*, **5**(3): 346-351.

Dhawan, A.K., Sharma, N., Jindal, V. and Kumar, R. (2008). Estimation of losses due to insect pest in *Bt.* cotton. *Indian J. Ecol.* **35** (1): 77-81.

Gowri, S., Rao, G.R. and Nagalingam, B. (2002). Evaluation of certain new neem formulations against okra fruit borer, *Earias vitella* (Fab.) and their effect on yield. *J. Ent. Res.* **26** : 245-247.

Kadam, A.S., Keshbhat, S.S., Hangarge, D. S., Sukase, K.A. and Shinde, S.J. (2003). Bioefficacy of some insecticides against *Bemisia tabaci* (Genn.) on cotton. *J. Soils and Crops* **13** (1) : 150-153.

Kanwar, N. and Ameta, O.P. (2007). Assessment of losses caused by insect pest of okra [*Abelmoschus esculentus* (L.) Moench]. *Pestology* **31** (6) : 45-47.

Meena, N.K. (2005). Bio-efficacy of some new insecticides against okra fruit borer. *Indian J. Appl. Ent.*, **19**(2): 167-168.

Mishra, H.P. (2005). Efficacy of some newer insecticides against the whitefly, *Bemisia tabaci* Genn. infesting okra. *The Orissa J. Hort.*, **33** (2) : 76-78.

Misra, H.P. (2002). Field evaluation of some newer insecticides against aphids (*Aphis gossypii*) and jassids (*Amrasca biguttula biguttula*) on okra. *Indian J. Ent.*, **64** (1) : 80-84.

Misra, H. P. and Senapati, B. (2003). Evaluation of new insecticides against okra jassid (*Amrasca biguttula biguttula*). *Indian J. Agril. Sci.*, **73**(10): 576-578.

Nemade, P.W., Wadnerkar, D. W., Kulkarni, C. G., Zanwar, P. R. and Dadmal, S.M. (2007). Evaluation of seed treatment and foliar application effects of imidacloprid against sucking pests of okra. *Pestology*, **31** (11) : 29-34.

Panda, S.K., Maity, B. K., Nayak, S.K. and Behera, U.K. (2002). Bioefficacy of shirlone against fruit borers and leafhoppers of okra. *Annals Pl. Prot. Sci.*, **10** (1) : 65-68.

Patil, S.B., Udikeri, S.S. and Khadi, B.M. (2004). Thiamethoxam 35 FS- a new seed dresser formulation for sucking pest control in cotton crop. *Pestology*, **28**(3) : 34-36.

Satpathy, S. and Rai (2001). Bio-efficacy of new insecticides against insect pests of okra. In: *Abstracts of National Conference: Plant Protection-New Horizons in the Millennium* (NCP) Feb. 23-25, 2001 held at RCA, Udaipur (Raj.) p. 36.

*Corresponding Author

Sharma, R. P. and Bhati, K.K. (2008). Bioefficacy of some newer insecticides against *Earias vittella* (Fab.) infesting okra. *Pestology*, **32** (10) : 47-49.

Shinde, B. D., Sarkate, M. B., Nemade, P.W. and Sable, Y.R. (2007). Bioefficacy of botanical, microbial and synthetic insecticides against okra fruit borer. *Pestology* , **31** (3) : 19-22.

Singh, A. K. and Kumar, M. (2003). Efficacy and economics of neem based products against cotton

jassid, *Amrasca biguttula biguttula* Ishida in okra. *Crop Res. Hisar* **26**(2) : 271-274.

Sinha, S.R. and Sharma, R.K. (2007). Efficacy of neem and synthetic pesticides against insect pests of okra. *Indian J. Ent.*, **69**(4): 350-352.

Sivakumar, R., Nachiappan, R.M. and Selvanarayan (2003). Field evaluation of profenofos (Curacron ®) against selected pests of okra. *Pestology* **26**(1), 1st Jan, 2003.