ABSTRACT

The experimental work was conducted during the period of February -March (2006) in the entomology laboratory of the College of Agricultural Studies Shambat, Sudan University of Science and Technology to evaluate the effect of Nimbecidine 0.03% and Bacillus thuringiensis var Kurstaki (B.T) under trade name "Agerin" against the second larval instar of lemon butterfly Papilio demodocus Esper.

Results of Nimbecidine on larvae of P. demodocus were very good and caused significant mortality. The effect was dose related as mortality increased with increase in dose. On the second day there were no significant (p>0.05) difference between the recommended dose (3.6m/l) and the higher dose (4.5m/l). The mortality caused by both recommended dose (3.6m/l) and the higher dose (4.5m/l) was significantly higher than the lower dose (2.7m/l) and the control. On the third day the higher dose (4.5m/l) gave better results than the recommended dose (3.6m/l) and the lower dose (2.7m/l).

Results of Bacillus thuringiensis against the second larval instars of P. demodocus showed that the doses 1.33g/l and 1.66g/l were more effective than the lower dose 0.98g/l and the control on the second day. On the third day the highest dose 1.66g/l was more effective (p<0.05) than both the recommended dose 1.33g/l and the lower dose 0.98g/l in addition to the control.

In case of the effect of the mixture of Ninbecidine and the bacteria Bacillus thuringiensis the lower doses 2.6m/l+0.98g/l gave significantly higher mortality than the control on the second and third day. The recommended dose 3.6m/l+1.33g/l gave better results than the lower dose 2.7m/l+0.98g/l and the control on the second and third days.

The study showed that Nimbecidine at 4.5m/l is effective in the control of the larvae of P. demodocus. Future field trials are required to confirm these laboratory results.
Agricultural study was conducted at the Laboratory of Insects, Faculty of Agricultural Studies, University of Science and Technology in February-March 2002 to assess the effect of commercial nimbaiidin Nimbecidine 0.03% and the bacteria Bacillus thuringiensis var kurstaki under the trade name Agerin ® against the second instar of the caterpillar Papilio demodocus Esper.

The study results showed that the effect of nimbaiidin on leaf Demodocus was significant, and the effect increased with the increase of concentration. The results showed that the concentration of 4.5 ml/l and 3.6 ml/l of the nimbaiidin were significantly higher than the lower concentration of 2.7 ml/l and the control. The best results were obtained with the concentration of 3.6 ml/l. The results of the control and the concentration of 2.7 ml/l were not significantly different (P> 0.05).

In the third day, the concentration of 1.66 g/l Bacillus thuringiensis var kurstaki was the most effective, followed by the concentration of 1.33 g/l and the control. The results of the control and the concentration of 0.98 g/l and the concentration of 1.33 g/l and the control were not significantly different (P> 0.05).

The study recommended that the nimbaiidin at the concentration of 4.5 ml/l is effective against Demodocus and there is a need to test a more acceptable volume of spraying. Papilio demodocus Esper is a non-toxic and non-polluting material.