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Chemical Control of Locust (Patanga succincta L.)

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Abstract

Locust (Patanga succincta L.) has existed in Penghu areas for a long time and the big outbreaks of the locust appeared once every 15 –18 years . It infected many crops such as horticulture, pasture and dryland crops, especially to the crop of melon, maize and peanut and caused a tremendous yield losses. At present, there are no recommended chemicals for controlling this insect pest. In order to solve this problem, Penghu branch station of Kaohsiung. D.A.I.S. conducted this experiment in 1997.

This experiment was divided into indoor and field tests. Eleven chemicals were selected for indoor tests. All of tested chemicals are diluted to 1000x, 1500x, 2000x, besides, 24% Methomyl E.C. and 40.8% Chlorpyrifos E.C. were added one dilution of 800X. Stomach poison, contact poison and combination of stomach with contact poison were tested in indoor test. The results indicated that 5 treatments including 2.8%Bifenthrin E.C. 1000x, 1500x, 2000x, 2.8%Deltamethrin E.C.1000x, and 24% Methomyl E.C.800x of stomach with contact poison treatment; 2.8%Bifenthrin E.C.1000x, 2.8% Deltamethrin E.C.1000x with contact poison, had 100% control rate when adults were tested. 19 treatments such as 2.8% Deltamethrin E.C.1000x, 1500x, 2000x, 85% Carbaryl W.P. 1000x, 1500x, 2000x, 50% Malathion E.C. 1000x, 1500x, 2000x, 50% Cartap W.P. 1000x, 20% Fenvalerate W.P. 2000x, 3000x, 4000x, 43% Profenofos E.C.1000x, 1500x, and 40.8% Chlorpyrifos E.C.800x, 1000x, 1500x , 2000x had good contact poison against nymph locust. For stomach

and contact poison combination treatment test, 26 treatments including 2.8% Bifenthrin E.C.1000x, 1500x, 2000x, 50% Fenitrothion E.C.1000x, 50% Cartap W.P. 1500x, 2.8% Cyhalothrin E.C.1000x, 43% Profenofos E.C.2000x and 19 treatments of contact poison chemicals as mentioned above are effective against nymph. It indicated that the chemicals are more effective for nymph than adult, therefore, chemical should be applied when the nymph appeared in the fields.

Four treatments selected from indoor test were applied for control of the locust in the fields at Pai-sha and Shi-teu, when initial nymph appeared. The results showed that 2.8% Deltamethrin E.C.2000x had the best effect with shortest residue, while 50% Carbaryl W.P.1000x and 50% Fenitrothin E. C.1500x were good both for initial and residual effect.

Key words : Chemical control, locust, nymph of locust.

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