

Evaluation of Neonicotinoids Against Sucking Insect Pests of Cotton in Laboratory and Field Conditions

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Abstract : Cotton (*Gossypium hirsutum*) universally known as silver fiber and is one of the most important cash crop of Pakistan. A wide array of pests constraints cotton production among which sucking insect pests cause serious losses. Mostly new chemistry insecticides used to control a wide variety of insect pests including sucking insect pests. In the present study efficacy of different neonicotinoids was evaluated against sucking insect pests of cotton in the field and in laboratory for red and dusky cotton bug. The experiment was conducted at Entomology Research Station, University of Agriculture Faisalabad, in a Randomized Complete Block Design (RCBD). Field trial was conducted to evaluate the efficacy of Confidence Ultra (Imidacloprid) 70% SL, Confidor (Imidacloprid) 20% SL, Kendo (Lambda cyhalothrin) 24.7 SC, Actara (Thiamethoxam) 25% WG, Forcast (Tebufenozide+ Emamectin benzoate) 8.8 EW and Timer (Emamectin benzoate) 1.9 EC at their recommended doses. The data was collected on per leaf basis of thrips, aphid, jassid and whitefly before 24 hours of spray. The post treatment data was recorded after 24, 48 and 72 hours. The fresh, non-infested and untreated cotton leaves was collected from the field and brought to the laboratory to assess the efficacy of neonicotinoids against red and dusky cotton bug. After data analysis all the insecticides were found effective against sucking pests. Confidence Ultra was highly effective against the aphid, jassid, and whitefly and gave maximum mortality, while showed non-significant results against thrips. In case of aphid plot which was treated with Kando 24.7 SC showed significant mortality after 72 hours of pesticide application. Similar trends were found in laboratory conditions with all these treatments by making different concentrations and had significant impact on dusky cotton bug and red cotton bug population after 24, 48 and 72 hours after application.

Keywords : cotton, laboratory and field conditions, neonicotinoids, sucking insect pests

Conference Title : ICE 2017 : International Conference on Entomology

Conference Location : Paris, France

Conference Dates : October 19-20, 2017