

Bioefficacy of Novel Insecticide Flupyradifurone SL 200 against Leaf Hoppers, Aphids and Whitefly in Cotton

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Abstract : Field experiments were conducted at Regional Agricultural Research Station, Lam, Guntur, Andhra Pradesh, India for two seasons during 2011-13 to evaluate the efficacy of flupyradifurone SL 200 a new class of insecticide in butenolide group against leaf hoppers, aphids and whitefly in Cotton. The test insecticide flupyradifurone 200 was evaluated at three doses @ 150, 200 and 250 g ai/ha ha along with imidacloprid 200 SL @ 20g ai/ha, acetamiprid 20 SP @ 20g ai/ha, thiamethoxam 25 WG @ 25g ai/ha and monocrotophos 36 SL @ 360 g ai/ha as standards. Flupyradifurone SL 200 even at lower dose of 150g ai/ha exhibited superior efficacy against cotton leafhopper, *Amrasca devastans* than the neonicotinoids which are widely used for control of sucking pests in cotton. Against cotton aphids, *Aphis gossypii*. Flupyradifurone SL 200 @ 200 and 250 g ai/ha ha was proved to be effective and the lower dose @ 150g ai/ha performed better than some of the neonicotinoids. The effect of flupyradifurone SL 200 on cotton against whitefly, *Bemisia tabaci* was evident at higher doses of 200 and 250 g ai/ha and superior to all standard treatments, however, the lower dose is at par with neonicotinoids. The seed cotton yield of flupyradifurone 200 SL at all the doses tested was superior than imidacloprid 200 SL @ 20g ai/ha and acetamiprid 20 SP @ 20g ai/ha. There is no significant difference among the insecticidal treatments with regards to natural enemies. The results clearly suggest that flupyradifurone is a new tool to combat sucking pest problems in cotton and can well fit in IRM strategies in light of wide spread insecticide resistance in cotton sucking pests.

Keywords : cotton, flupyradifurone, neonicotinoids, sucking pests

Conference Title : ICE 2017 : International Conference on Entomology

Conference Location : Paris, France

Conference Dates : October 19-20, 2017