

## Bioassay of insecticides against okra leafhopper *Amrasca biguttula biguttula* (Ishida)

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### ABSTRACT :

Okra [*Abelmoschus esculentus* L. (Moench)] also known as lady's finger is an important vegetable crop valued for its immature, tender and green fruits in India. One of the major bottlenecks in successful production of okra is the damage caused by early season sucking pests and fruit borers. Among the sucking pests leafhoppers (*Amrasca biguttula biguttula*) is undoubtedly more severe and destructive on okra during early stage of the crop. At present, most of the commonly used insecticides are not able to suppress its population below economic thresholds probably because of development of resistance. Among the different insecticides tested for bioassay under laboratory conditions, thiamethoxam 25 WDG at 0.2 g per litre and flonicamid 50 WG at 0.3 g per litre showed the highest mortality and was followed by fipronil 5 SC at 1 ml per litre, dinotefuran 20 SG at 0.2 g per litre and acetamiprid 20 SP at 1 g per litre which proved to be superior over imidacloprid 17.8 SL at 0.3 ml per litre, diafenthiuron 50 WP at 1 g per litre, lambda-cyhalothrin 5 EC at 0.5 ml per litre, emamectin benzoate 5 SG at 0.2 g per litre, fenpyroximate 5 SC at 1 ml per litre and acephate 75 SP at 1 g per litre. The concentration mortality response of nymphs to these chemicals under laboratory was evidenced through leaf dip bioassay and the LC<sub>50</sub> values for these chemicals were computed. The LC<sub>50</sub> value of thiamethoxam 25 WDG, flonicamid 50 WG, fipronil 5 SC, dinotefuran 20 SG and acetamiprid 20 SP were 4.03, 4.50, 16.18, 7.60 and 16.40 ppm respectively. The different insecticides which were promising through laboratory were field evaluated and the results revealed that thiamethoxam 25 WDG at 25 g a. i. per hectare was found to be effective against the leafhoppers followed by flonicamid 50 WG at 75 g a. i. per hectare, fipronil 5 SC at 25 g a. i. per hectare, dinotefuran 20 SG at 20 g a. i. per hectare and acetamiprid 20 SP at 20 g a. i. per hectare. Whereas, acephate 75 SP at 375 g a. i. per hectare was least effective against the leafhoppers.

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