

Management of ground beetle, *Mesomorphusvilliger* in FCV tobacco

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Complete Details of Technology:

Tobacco ground beetle, *Mesomorphusvilliger* is one of the important insect pests of tobacco. It causes damage by gnawing the tender stem of the seedlings immediately after transplanting, resulting in death and thereby creating gaps in the field, sometimes to an extent of 50-60% of the area. In view of the problems in its control, new insecticides and methods of application for management of the pest were evaluated in a field experiment for two seasons. The results indicated that at 30 days after planting (DAP), the treatment comprising seedling root dip in imidacloprid 70 AF @ 0.14% before transplanting + foliar spray (FS) of imidacloprid 200 SL @ 0.005% at 5 days after planting recorded the least plant mortality (3.5%) followed by Seedling root dip in imidacloprid 70 AF @ 0.14% (7.01%) and Imidacloprid 200 SL @ 0.005% in transplant water (8.49 & 11.99%). Data on yield parameters showed that Seedling root dip in imidacloprid 70 AF @ 0.14% + FS of imidacloprid 200 SL @ 0.005% at 5 DAP recorded the highest mean cured leaf yield (2465 kg/ha) followed by Seedling root dip in imidacloprid 70 AF @ 0.14% before transplanting (2420kg) and application of imidacloprid 200 SL @ 0.005% in transplant water (2388 kg/ha). The experimental results indicated that ground beetle *M. villiger* could be managed in Virginia tobacco with seedling root dip in imidacloprid 70 AF @ 0.14% before transplanting + foliar spray (FS) of imidacloprid 200 SL 0.005% at 5 days after planting or seedling root dip in imidacloprid 70 AF @ 0.14% or transplant water treatment with imidacloprid 200 SL @ 0.005%.

Brief Description of Technology Including Salient Features:

A replicated field trial was conducted for two seasons in planted flue cured Virginia tobacco cv. Siri at the institute research farm, during 2013-15 to evaluate the efficacy of eight treatments viz., T1- Foliar spray (FS) of imidacloprid 200 SL @ 0.005% on the seed bed 1 day before transplanting, T2-Seedling root dip in imidacloprid 70 AF @ 0.14% for 30 minutes just before transplanting, T3 Imidacloprid 200 SL 0.005% in transplant water, T4-Foliar spray of imidacloprid 200 SL 0.005% a day after transplanting (DAP), T5- T2 + FS of imidacloprid 200 SL 0.005% 5 DAT, T6- T1 + T5, T7- Neem cake application @ 5g/plant, T8- FS of tray seedlings 1 day before transplanting with imidacloprid 200 SL @ 0.005% and Untreated Control.

Benefits/Utility

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Freshly transplanted tobacco seedlings can be protected from ground beetle damage that results widespread mortality and gaps in the field. The technology not only saves money to the farmers in terms of replanting of tobacco seedlings in the gaps but also helps in rising uniform crop and aid in production of uniform, quality tobacco without pesticide residues. As indiscriminate use of insecticides is avoided in the early crop growth stage, the technology not only saves money but also protect the environment.