

Title Efficacy of biopesticides at field level against jassid (*Amrasca biguttula biguttula* Ishida.) infesting ladysfinger (*Abelmoschus esculentus* L.)

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Keyword biopesticides; Jassid; Ladysfinger

Abstract

Ladysfinger (*Abelmoschus esculentus* L.) is an annual crop belongs to the family Malvaceae and one of the most important vegetable crops grown in various parts of tropical and sub-tropical areas of the globe. The crop is susceptible to various insect pests of which jassid (*Amrasca biguttula* Ishida.) is found to cause heavy damage. It is very difficult to control the pest as the fruits are harvested at frequent interval and consumed after little cooking and there is possibility to retain toxic residues in the fruits that cause health hazards. Studies were made to evaluate efficacy of plant extracts like *Polygonum hydropiper* and *Pongamia pinata*, microbial insecticides like spinosad 45 SC (*Streptomyces spinosa*) and beauveria bassiana against jassid infesting ladysfinger under field conditions of sub-himalayan region of N-E India during post-kharif season. Methanol was used as solvent for extraction of plant parts of polygonum and leaves of pongamia. Imidacloprid 17.8% SL was used as check. Plant extracts, microbial insecticides and imidacloprid were sprayed four times at 12 days interval. Total jassid population per leaf was taken into account at 3, 7 and 11 days after treatment. The data thus obtained were computed on the per cent of insect population suppressed and analyzed statistically. Variation in relative efficacy of different treatments and their persistency at different days after treatment (DAT) on suppression of jassid population was significant. Imidacloprid was found most effective to control Jassid population followed by microbial insecticide spinosad. From overall observation it was revealed that extract of polygonum plant and pongamia leaves at higher concentration (5%) and the microbial insecticide spinosad gave a satisfactory Jassid control, recording more than 50% mortality. Extract of polygonum plant at higher concentration was found very effective against Jassid to record more than 60% mortality at 3 DAT and 7 DAT. Plant extracts and microbial insecticides are of biological origin having less or no hazardous effect on health and environment and so can be incorporated in the IPM programme and organic farming in vegetable cultivation.