THE EFFICACY OF DIFFERENT FORMULATIONS OF HALYOMORPHA HALYS PHEROMONE LURE

EFFICACY REPORT

2019

BY

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ABSTRACT: The experimental trial to verify the efficacy of Halyomorpha halys pheromone lure against the invasive Halyomorpha halys insect in Italy. It was conducted at a commercial Hazelnut orchard in Cuneo, Italy. Various formulation has been used and trial was conducted in two locations.

BMSB lure baited traps were placed in every 30 meters apart from each other. Two formulations were compared and with unbaited

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control traps. Each treatment was replicated 5 times. Total number of traps was 15 traps per ha. The experiment was conducted following Randomized Block Design (RBD). The trial locations were 50 meters apart from each other.

The results obtained revealed that, Russell BMSB filter lures were effective up to 12 weeks while applied around the board of the orchard every 30-meter interval. The trial concluded that the BMSB filter lure baited trap would be a good candidate for monitoring and mass trapping of in an integrated pest management program.

Key words: Pheromone, Halyomorpha halys, Italy, efficacy

INTRODUCTION

Halyomorpha halys (Stål) (Hemiptera: Pentatomidae) is an invasive species that has become an important orchard pest in various region of the Italy. Adults and nymphs feed on tree fruit. Feeding injury from adults has been characterized but the injury from nymphs has not been examined systematically. Since the four plant-feeding instars of H. halys (second through fifth) differ substantially in size, it is plausible that the effects of their feeding on fruit injury and injury expression may differ

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among them. For that reason, an efficacy of Halyomorpha halys pheromone lure against the invasive Halyomorpha halys insect in the Italy was investigated. two different formulation were used in this trial, first a gel formulation and second cellulose acetate filter from Russell IPM.

The application dosage 1 trap every 30m around the border of orchard as a standard and the control treatment were designed as Randomized Block Design RBD in each site



Figure 1: Different Lures

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The experimental design, layout and Treatment combination



Figure 2: The trial location, Carru, Province of cuneo, Italy, 2019

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RESULTS

The application dosage 1 trap every 30m around the border of orchard as a standard and the control treatment were designed as Randomized Block Design (RBD) in each site. The results obtained revealed that, at the rate of 1 trap every 30m around the border of orchard cellulose acetate pheromones lures are very effective

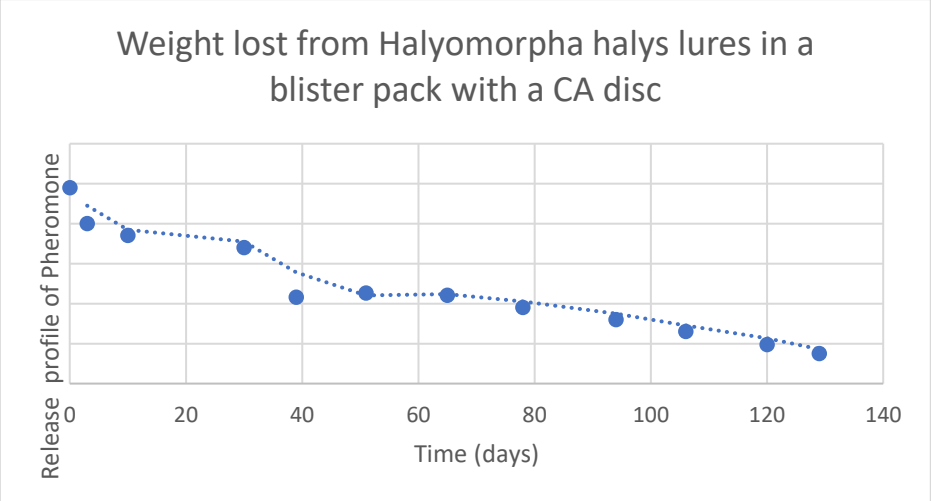


Figure3 Release rate of lures

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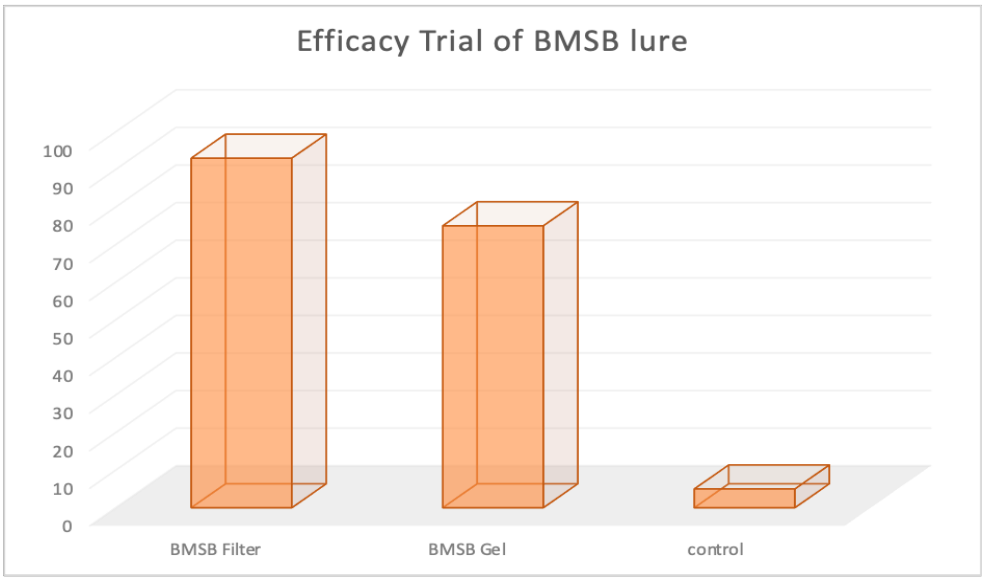


Figure 4 Result

CONCLUSION AND RECOMMENDATION

In all replicates, the trial revealed that, the products Russell R and Russell W pheromones lures under investigation Halyomorpha halys, lure at rate of 1 trap every 30m around the border of orchard are effective for protecting apples against Halyomorpha halys. This scientific result proves and therefore recommends the usage of the pheromones lures either formulation for protecting the crop against the invasive Halyomorpha halys insect in the Italy.

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