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Density and Relationships Between the Assassin Bugs Sycanus Falleni Stal and Sycanus Croceovittatus Dohrn (Hemiptera: Reduviidae) and Their Prey (Noctuidae: Lepidoptera) on Corn Biomass in the Hoa Binh Province in Northwest Vietnam

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Abstract : Introduction: Corn biomass is a feed for livestock including dairy cows. The Spodoptera frugiperda, Agrotis ypsilon, Heliothis armigera, Mythimna loreyi (Lepidoptera: Noctuidae) are key pests and very dangerous to Corn biomass crops. These pest species are very difficult to control in the field because of genetic resistance to insecticides. Furthermore, corn biomass is feed for livestock so the use of pesticides is always limited to the lowest level. In Vietnam, the assassin bug species Sycanus falleni and Sycanus croceouittatus (Hemiptera: Reduviidae) are the common predators on trees agricultural ecosystems. The reduviid S. falleni and S. croceouittatus have the potential for biological control of pest insects in cotton, corn and vegetable plants as this species attacks many lepidopteran larvae. Moreover, the nymphal instars and adults of S. falleni and S. croceouittatus can be easily reared in the laboratory by the rice meal moth Corcyra cephalonica (Stainton). To conserve the species S. falleni and S. croceouittatus in Corn biomass field in Northwest Vietnam. The results of this study report on the roles and relationships between S. falleni Stal and S. croceovittatus and their prey (key pests and dangerous to Corn) on Corn biomass to provide the basis for using and conserving the species S. falleni and S. croceouittatus as biological control agents on Corn biomass growing areas in Vietnam. Methods: The survey site is at the field of Corn biomass growing in Hoa Binh Province, Northwest Vietnam. The survey of the density of the assassin bugs species and their prey were conducted in 4 Corn biomass fields (each field = 10,000 m2), each point has an area of 1 m2. The survey was conducted every 10 days (3 times/month). The unit of measurement is individual/m2. The relationship between the density of assassin bug species and their prey is expressed through the correlation coefficient R Results: On Corn biomass in Northwest Vietnam, the S. falleni and S. croceouittatus species are such potential candidates for biocontrol of the fall armyworm S. frugiperda, black cutworm A. ypsilon, cotton bollworm H. armigera Hübner, maize caterpillar M. loreyi. Six species of assassin bugs belonging to the family Reduviidae were recorded on Corn biomass, of which S. falleni and S. croceovittatus were common. The relationship between the density of the group of assassin bugs and species S. fallen and S. croceovittatus had a close relationship with each other. The relationship between the density of the group of assassin bugs and the density of their prey in the Winter crops and Summer-Fall crops was a close relationship with each other. The relationship between the density of the S. falleni and S. croceovittatus species and the density of their prey on the Corn biomass were a close relationship in the Summer-Fall crops and the Winter crops. The S. falleni and S. croceouittatus species are such potential biocontrol of the pests on Corn. Possible to conserve and use them for biological control of the dangerous pests S. frugiperda, A. ypsilon, H. armigera , M. loreyi on Corn in Vietnam.

Keywords : corn biomass, prey, biocontrol, relationship
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