Artificial Nest for Earwigs as an Ecological Strategy for Eliminating Fall Armyworms

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Fall armyworm (Spodoptera frugiperda) is the pest that has spread out in Thailand since August 2018. The outbreak of fall armyworm causes severe damage of corn plants and other field crops. The adult worms lay their eggs in the corn cones, resulting in ineffective chemical pesticide spraying. Biological methods to control this pest have advantages for both enhancing the pest control efficacy and making the process environmentally friendly. The objective of this study is to increase the number of earwigs (Dermaptera) to control the fall armyworms by creating an artificial nest. We developed the artificial nest for earwigs to eliminate the fall armyworms from the egg stage to the worm stage. The artificial nest consists of the pot that was made from coconut dust. Inside of the pot was the soil mixing with Monkey pod tree leaves, rice hull ash and coconut dust. There were also food cups made of plant roots that were like shelters to the earwigs. The artificial nest could increase the rates of egg hatching and the earwigs survival. It also could increase the population of earwigs sufficiently for the predatory of the fall armyworms. The usage of the artificial nest could control the fall armyworms' outbreak efficiently in the real corn farm conditions and could help to reduce the usage of chemical pesticides in farming.

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