

Study on the feeding preference of Asian migratory locust: *Locusta migratoria migratoria* Linnaeus (Orthoptera, Acridoidea) in different development stages of hoppers

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Keywords: Developmental stage, Hopper, Feeding frequency, Linnaeus, *Locusta migratoria migratoria*

Introduction

The experiment aimed to clear the degree of eating for different host plants in 3rd, 4th, 5th instars nymphs of Asian migratory locust: *Locusta migratoria migratoria* Linnaeus (Orthoptera, Acridoidea) respectively.

Materials and Methods

There are 6 kinds of plants such as the wheat, corn, reed, kentucky bluegrass, alfalfa and *Medicago sativa* (L.) which one used as a forage grass. they were used to determine the feeding frequency of 3rd, 4th, 5th instars nymphs of Asian migratory locust: *Locusta migratoria migratoria* Linnaeus (Orthoptera, Acridoidea) respectively under the gauze over condition and also to determine the degree of like eating on different host plants.

Results and Discussion

The results showed that the feeding frequency of 3rd instars nymphs were 0.262, 0.256, 0.233, 0.227, 0.023, 0 respectively and they more like eating wheat and reed, and less eating for corn, kentucky bluegrass, and accidentally eating the clover and were not feeding the *Medicago sativa* (L.). The feeding frequency of 4th instars nymphs were 0.473, 0.506, 0.120, 0.006, 0, 0 when eating wheat, corn, reed, kentucky bluegrass, alfalfa and *Medicago sativa* (L.). respectively. The feeding frequency of 5th instars nymphs were 0.449, 0.137, 0.207, 0.203, 0.004, 0, 0 when eating wheat, corn, reed, kentucky bluegrass, alfalfa and *Medicago sativa* (L.). respectively, and in the age of four stages do not eat alfalfa and reeds. Through the experiment it was confirmed that the Asian migratory locust hoppers have selective feeding on different host plants and would transfer damage phenomenon with the increase of age in the process of growth and development. The study will help to learn more about selectivity on different host plants in different developmental stages, to provide certain theoretical basis for ecological regulation and controlling of *Locusta migratoria migratoria* Linnaeus.