دور بعض المفترسات الحشرية في خفض تعداد بعض الحشرات الثاقبة الماصة التي تصيب محصول الطماطم

رسالة مقدمة من

ندا زينهم سيد سلامة

بكالوريوس علوم زراعية (حشرات)، جامعة القاهرة، 2010

للحصول على

درجة الماجستير فى العلوم الزراعية

(حشرات إقتصادية)

قسم وقاية النبات

كلية الزراعة

جامعة عين شمس

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صفحة الموافقة على الرسالة

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ABSTRACT

Nada Zeinhom Sayied Salama: The Role of Some Insect Predators in Reducing The Population of Certain Piercing Sucking Insects Infesting Tomato Crop. Unpublished MS.C. Thesis, Department of Plant Protection, Faculty of Agriculture, Ain Shams University, 2017.

Survey of piercing sucking insects and associated predators were conducted on tomato cultivars, Alissa and Super Jackal (*Lycopersicon esculentum* L.). Seasonal abundance were carried out during two successive years 2014 and 2015, from 17th of March to 2nd of June for spring plantation and 21st of June to 6th of September for summer plantation, at kafr El- Rjalat Village, Tukh, Qalyubiya Governorate. The results indicated that thirteen insect species belonging to seven insect families of five orders were recorded. In addition, seasonal abundance of certain piercing sucking pests, *Bemisia tabaci* Genn., aphids (*Aphis gossypii* Glover and *Myzus persicae* Sulz.) and *Empoasca decipiens* Paoli was studied. The peaks of activities of these pests changed in number according to the two tested cultivars through spring and summer plantations in both years. The relation between the temperature (minimum and maximum) and relative humidity as abiotic factors and plant stages and predators as biotic factors were also studied. The relation between these factors and the mean numbers of the four pests species differed from insignificant relations to positive or negative significant relations.

The effect of two different preys (*Aphis gossypii* and *Myzus persicae* nymphs) at three different temperatures (20, 25 and 30 °C) on the development, fecundity, life table parameters and predation capacity of *Ch. Carnea* and *C. septempunctata* predators were also studied. Results showed that prey species had insignificant effect on the most of the developmental stages and fecundity while temperatures had a significant effect on all developmental stages and fecundity of both predators. In spite, prey species had significant effect on the most of instar larvae predation capacity for both predators and insignificant effect on male and female for *C. septempunctata* while temperature factor had significant effect on the predation capacity of both predators. In addition the

interaction of preys and temperatures had insignificant effect on the development and fecundity of *Ch. Carnea* and *C. septempunctata* while it had a significant effect on the predation capacity of both predators in all stages except the third instar larvae for *Ch. carnea* and the fourth instar larvae for *C. septempunctata*. The values of life table parameters didn't differ between the two prey species. Also, it could be stated that temperatures of 20 and 25°C produced a high values of Ro, while at 30 °C it had the highest R_m and (λ), the shortest doubling time (Dt) and generation time (Gt)) when comparing with 20 and 25°C when larvae reared on the two prey species. So the temperature zone 20- 25°C seemed to be the most favorable conditions for *Ch. carnea* and *C. septempunctata* reproduction depending on the net reproductive rate values (Ro).

Four applications at three release rates of 2nd instar larvae of *Coccinella septempunctata* and *Chrysoperla carnea* were applied by releasing together for controlling the piercing sucking insects, *Myzus persicae* (Sulzer) and *Bemisia tabaci* (Genn.) infesting tomato plants (Castle Rock cultivar) planted in four greenhouses during spring plantation in 2015 at the Agriculture Research Center (ARC), Giza Governorate. For each predator, two, four and six larvae were released per plant and repeated 4 times at 21-day intervals. Obtained results indicated that the 3rd release rate (6 larvae of each predator species) gave the highest reduction percent in pest numbers while the 1st release rate (2 larvae of each predator) caused the lowest reduction percent.

Keywords: Survey, Seasonal abundance, *Bemisia tabaci*, *Aphis gossypii*, *Myzus persicae*, *Empoasca decipiens*, predators, tomato, life cycle, life table, *Chrysoperla carnea*, *Coccinella septempunctata*, control, greenhouse.

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