Biological control of some mites associated with cotton in Egypt

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Recently, fungal pathogens have shown considerable effect in controlling some phytophagous mites. Therefore, the present study aimed to throw light on survey of some pest mites, predators (mites and insects) and spider at El-Menofia and El-Fayoum on cotton crop. Also, laboratory bioassay and field study on the effect of different compound of biocides(Beauveria bassiana, Metarhizium anisopliae and Metarhizium flavovridae) on Tetranychus urticae.On the other hand, this study included the biological aspects of one spider species.These results revealed the following points: Field studied:- 1- Survey and identification:Survey of mite pests and predator (mites and insects) and spiders in two locations in Egypt at El- Menofia and El-Fayoum from April to September during two seasons 2002-2003, was occurred.-Non-predacious mites contained one Suborder Prostigmata which contains three families (Tetranychidae, Tarsonemidae, Tydeidae) including four genera and five species.-The predacious mites were two Sub-orders (Gamasida, Actinedida), four families(Phytoseiidae, Cheylteidae, Stigmaeidae, Tydeidae), seven genera and eight species.-While predacious insects included three order (Coleoptera, Neuroptera, Hemiptera) , three families (Coccinellidae, Chrysopidae, Anthocoridae) three genera and five species.SUMMARY-But the spiders study contained twelve families (Agelenidae, Araneidae, Dictynidae, Lycosidae, Gnaphosidae, Linyphiidae, Miturgidae, Philodromidae, Salticidae, Titanoecidae, Theridiidae and Thomisidae), fifteen genera and sixteen species. 2-Population dynamics of two spotted spider mites and predators inhabiting cotton plants at El-Menofia and EI-Fayoum Governorates. A-) El-MenofiaData shown classify the natural infestation of different spider mites and predators during 2002 and 2003 seasons on cotton. The appearance of the two-spotted spider mites, T urticae and T cucurbitacearum occurred during all count dates. Generally, the low level of T. urticae and T cucurbitacearum population observed in this locality occurred during middle of July and the first of May during 2002 and 2003 cultivated seasons, respectively.The data also showed that Six predacious mites were recorded in cotton field experiment, Amplyesius swirskii, A. cydnodactylon , A. gossipi.(Phytoseiidae), Agistemus exertus Gonzalez (Stigmaeidae), Cheletogenes ornatus (Cheyletidae) and Pronematus ubiquitus McGreegor (Tydeidae).The peak of predacious mites on cotton at El-Menofia governorate was observed as 140 and 145 predacious mites during first of August 2002 and 2003, respectively. May 1 s'2002 and all May 2003 representing the disappearing of the predacious mites.Biweekly counts of the predatory insects on cotton plants at El-Menofia Governorate indicated that the predacious insects are well known as very active consumers of spider mites were found throughout the two years of study in moderate numbers.In this study, the predacious insects were belonging to families Chrysopidae. Coccinellidae and Anthocoridae. Also, Coccinella undecimpunetata L.,SUMMARY-98-C. septumpunetata Dinheyer., Orius tristicolor (White), Chrysopella vularis Schm and Orius laevigatus (Fieb)were the dominant collected insects on cotton plants at El-Menofia governorate.Observation of the spiders represented on cotton plants, their numbers were small in comparison with spider mites and predators during the two seasons under study.The highest level of population of the collected true spider was shown during mid of June of the two seasons i. e. 55 and 55 during 2002 and 2003 cotton, seasons, respectively.Statistical analysis using F- test show there is no significant deference between the two seasons.Data show the changes in the population of T urticae in relation to the change of other

biotic and a biotic factor. The analysis shows a positive relation (correlation) between each of maximum temperature & minimum temperature and T. urticae population. However, the all tested factors affected negatively on T. urticae population. B-)El-Fayoum•The half monthly count data for different arthropods in El-Fayoum governorate revealed that the infestation was observed for mostly sampling dates except for predacious mites and true spiders which were absent during May 2002 and observed as 6 spiders only during the middle of May 2003 for spiders.The beginning of July harbored the highest level of T urticae 95 and 92 during 2002 and 2003, respectively, where the peak was observed for predacious mites during middle and first of July i. E. 60 and 64 mites, respectivelyThe spider mite, T. cucurbitacearum was absent from cotton fields at El-Fayoum governorate.