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Population Densities of Apricot *(Hyalopterus Pruni)* Trees Lesions

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ABSTRACT

The study was conducted at the University of Baghdad / Al-Jadriya / College of Agricultural Engineering Sciences to calculate the population densities of Apricot tree pests for a whole year, and the results showed that the pests were from the leaves of the Apricot *Hyalopterus pruni*, from the green peach *Myzus persicae* and *Tetranychus urtia*, and the results showed the highest density of an apricot insect, which was 32 nymphs / cm2 from the vegetable leaf, and the lowest was 1 nymph / cm2 from the vegetable leaf. The highest density of the two-spot mite is 27 nymphs / cm2 of the plant leaf. The results indicate the presence of the predator, the aphid and the seven-point ladybird.

KEYWORDS

Population Densities, Apricot, *Hyalopterus Pruni*, Trees Lesions.

Introduction

Apricots are a medium-sized tree whose length ranges between 2-3 m. Perennial trees reach more than eight meters. Its leaves are heart-shaped with pointed ends, the length of the leaves reaches 10 cm and the width is between 3.1-4 cm. Its leaves fall in the fall and bloom in the spring. Its flowers are white-gray in color, and in the summer the fruits of apricots similar to peach dates ripen, as they are yellow or orange with a red tinge, the apricot fruit contains one kernel and the amount of production and production varies from tree to tree, the original home of the apricot is China, as it was growing wild on the borders with what It is now known as Russia, and it was known as China three thousand years before the birth of Christ, then to other countries such as Armenia. Apricots did not enter Europe after the birth of Christ, and then its cultivation spread in most countries of the world, especially cold and moderate ones.(Wikipedia, 2021) Young people, being rich in vitamin A, iron and potassium, as it stimulates liver function and is useful in treating anemia and strengthens eyesight, reduces cholesterol in the blood, protects the heart and arteries from diseases because it contains carotenoids, which transforms inside the body into vitamin A that the eye needs To get rid of the harmful compounds that harm it, the apricot plant is exposed to many pests, including insects or non-insects, including scale insects, aphids, including green peaches, *Myzus persicae*, and the leaves of Apricot *Hyalopterus pruni*, Stem Borers, and *Tetranychus urtia*. (Michael et al, 2020), (Mohanud et al, 1990).

The insect of *H. pruni* leaves is spread in Asia and North Africa. It spreads in the Arab world in Jordan, Palestine, Lebanon and Syria. It is also found in Egypt, Libya, Tunisia and Iraq. Among the plant families of the insect are apricot trees, peaches, pears and reeds, and about the importance. Economic nymphs and camels absorb plant sap from the underside of the leaves, and they turn yellow or white and curl and their growth stops, the insect sorts the honeydew and causes dust to collect and the growth of fungi, as for its life cycle it spends the winter in the role of the fertilized egg that the female egg puts in the fall, which hatches in February and March On the host trees, then the nymphs move to the leaves to feed on their lower surfaces, the nymphs grow into virginal females that reproduce virginally for several generations, which reach 11 generations, and the virginal female lays 102-120 nymphs during her life and after that the winged individuals appear and migrate to the secondary host which is the reed, so in autumn the winged female offspring appear Followed by winged males, the secondary host leaves the reeds to the main hosts, and this is in late October and mid-November. This results in the females as virgins. It came from the reeds and then laid eggs on the branches at the end of November and dies, and the partial reproduction continues on the secondary host throughout the year (Sobhy Derhab, 2001), (Saleh et al, 2006).

With regard to the green peaches *M. persicae*, which have a wide spread in Europe, Asia and the Arab countries, including Iraq. The insect has multiple plant families, which moves from one host to another during the growing season and is able to produce. (Talal et al, 2013), (Ali et al, 2012).

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Between that the two-spot dream nymphs *T. urtia*, as it infects vegetable crops and fruit trees, its members suck plant sap from the lower surfaces of the leaves and fruits and when the infection is severe, brown spots appear on the upper surface and cover the leaf surface in addition to the presence of silk tissue on them, causing the injury to fall Leaves, lack of production and its low quality, as well as hindering the process of photosynthesis, in addition to leaf curl and stunting of the branches, (Hamman, 1985), (Kaddou, 1966). Both sexes, unfertilized females produce males only, fertilized females produce females and males, as females lay the number of eggs and after the incubation period, it varies from one species to another and according to temperatures, which hatch into larvae with pairs of legs and after feeding they live for a period and then molt to the first and fourth phase Pairs of legs, which feed and inhabit, then molt and turn into the second nymph phase, and this in turn dwells after feeding and molts and adults appear (Soolaf, et al. 2019), (Enas, 2009), (Omran, 2008), (Juhina et al, 2013) and (ZHI-QIANG, 2015).

Materials and Methods

Calculating the population densities of an insect from green peaches, apricots, and two-sided mits nymphs, as one of the nearby orchards was selected for the Plant Protection Department and planted with fruit trees, random samples were taken by 45 plant leaves every ten days, starting from 1/9/2018 until 1/30/2019, they are placed In the polyethylene bags and brought to the laboratory to calculate the contents of the pests mentioned above, the insects were diagnosed in the Department of Plant Protection / College of Agricultural Engineering Sciences.

Results and Dissection

It is noticed from Figure (1) that the highest density was for H. pruni apricot nymphs, which amounted to 32 nymphs / leaf, on 5/22, and the lowest density was 1 nymph / leaf on 1/9. The same figure also showed the fluctuation of population densities of insect pests throughout the study season. Regarding the apricots, it started with low densities of 1 and 3 nymphs / cm2 from the vegetable leaf on 9/1 and 10/9, after which it began to gradually rise, reaching 13 nymphs / cm2 from the vegetable leaf on 10/30, and it increased to reach 16 nymphs / cm2 of the vegetable leaf on 10/10 11, followed by a gradual decrease to 4 nymphs / cm2 of the vegetable leaf on 12/10 and continued between high and low to reach 4 nymphs / cm2 of the vegetative leaf on 1/30 and this is due to the activity of vital enemies in the study area and the environmental conditions of appropriate temperature and humidity For growth and reproduction, and 1 to 6 nymphs / cm2 from the vegetable leaf on 2/10, while its highest density reached 15 nymphs / cm 2 from the vegetable leaf on 2/4 and increased to 32 nymphs / cm 2 from the vegetable leaf on 5/22, and it reached 14 nymphs / Cm2 of the vegetable leaf on 6/22 and decreased It reached 9 nymphs / cm2 from the vegetable leaf on 7/22, followed by an increase of 17 nymphs / cm2 from the vegetable leaf on 8/11 and then decreased to 3 nymphs / cm2 from the vegetable leaf on 8/31 and this is due to the effect of both temperatures. And the relative humidity, the researchers attributed the low nutritional content of the plant leaves and became unsuitable for laying eggs. (Saleh et al. 2006) found that a peach insect had four peaks during one season.

As for the green peaches *M. persicae*, the highest density of nymphs was 25 nymphs / cm^2 from the leaf on 5/22, while the lowest was 1 nymph / cm^2 from the tree leaf on 1/3 and it is clear from Figure (2) that the population density of nymphs was low at the beginning of plant growth. It reached 2 nymphs / cm^2 from the tree leaf on 9/10, then it started to increase gradually to reach 12 nymphs / cm^2 from the tree leaf on 10/30, but it decreased to 5 nymphs / cm^2 from the tree leaf on 11/20, and then The number of nymphs continued to increase to reach the highest density of 12 nymphs / cm^2 of the tree leaf and almost maintained their numbers throughout the month of January, then began to decrease with the increasing effect of weather changes from temperatures and relative humidity, and as the stages of plant growth, especially flowering and appropriate environmental conditions, their numbers increased to reach 13 nymphs / cm^2 from the tree leaf on 4/25 and continued to rise to reach 25 nymphs / cm_2 for the tree leaf, and their numbers were close to the months June, July and August.

These results agree with the findings of (Al-Abasee, et al. 2018).

While Figure (3) indicates the infection of the nymphs of the two-spotted dream, *Tetranychus urtia*, and the densities of them, as the highest density was 27 nymphs / cm2 from the plant leaf and the lowest was 1 nymph / cm2 from the vegetative leaf on 1/9, and it is also noticed that the infection in the dream had many peaks and that Their numbers ranged from high and low relative to the beginning of sampling, the numbers of mites reached 6 nymphs / cm2 from

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the vegetable leaf on 9/20, while they increased to reach 15 nymphs / cm2 from the vegetable leaf on 1/11, followed by a gradual rise to reach 11 nymphs / cm2 from the leaf On the date of 1/1, it decreased to reach 5 nymphs / cm2 of the vegetable leaf on 2/20 and then increased to reach 12 nymphs / cm2 of the vegetable leaf on 2/4 and continued to rise throughout the months of April, May and June due to the optimal environmental conditions, and at the end of the season and at the beginning of Defoliation reached 2 nymphs / cm2 from the leaf.

These results do not agree with the findings of (Soolaf, et al. 2019). That the highest density of *Tetranychus urtia* was 12 nymphs / cm2 and the lowest was 0 nipple / leaf.

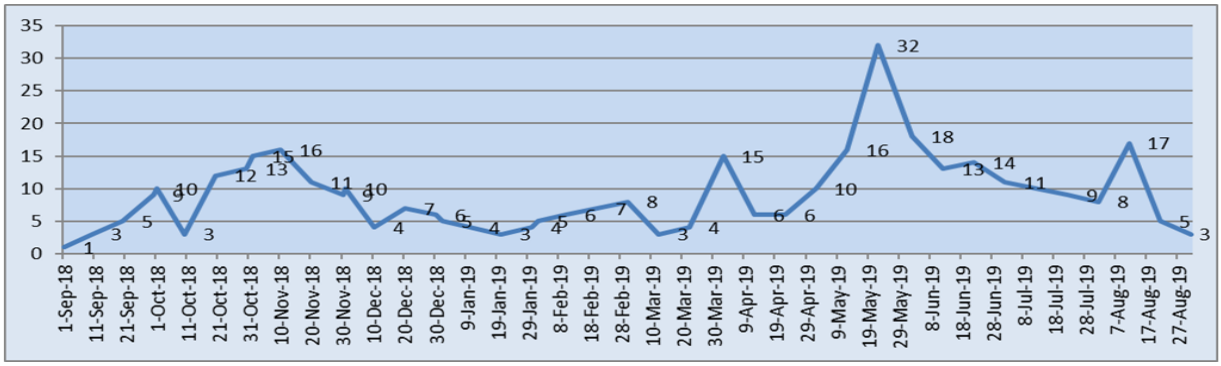

Figure 1. *Hyalopterus pruni* Larvae

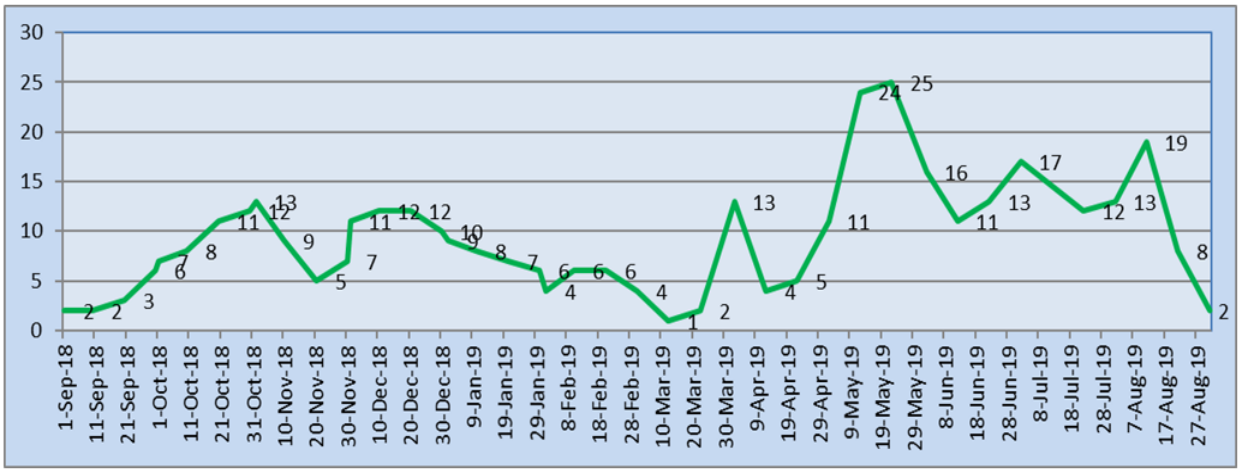

Figure 2. *Myzus persicae* Larvae

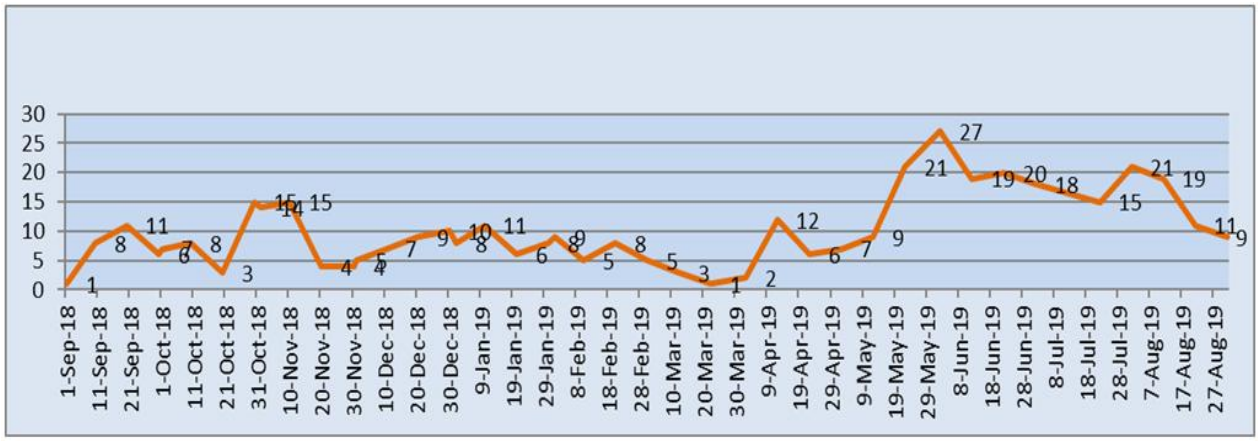

Figure 3. *Tetranychus urtica* Larvae

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