ISSN NO: 2771-8840
Date of Publication: 10-11-2022

Damage, Bioecology , And Their Parasite-Entomophag Species Of The Main Pest Of Citrus Plants *(Aleyrodidae)*

Otabek Abdushukurovich Sulaymonov, Deputy Director Research Institute of Quarantine and Plant Protection
Guzal Tulaganovna Dusmurodova, Doctoral student Research Institute of Quarantine and Plant Protection
Bekzod Bekmurod Ugli Sobirov, Doctoral student Research Institute of Quarantine and Plant Protection

Annotation In managing the number of sucking (Aleyrodidae) pests of citrus crops grown in our Republic today, the species composition of representatives of the Aphediidae family and their biological effectiveness against spider mites have been widely studied. It was carried out in areas infested with aphids in citrus crops and predatory and parasitic entomophagous species of aphids were identified. According to him, it was observed that these are (Neuroptera, Aphelinidae, Syrphidae, Coccinellidae, Anthocoridae, Nabidae, Miridae) families. Encarsia (Encarsia partinopea Masi) species was used to control the amount of greenhouse whitefly (*Trialeurodes vaporariorum) in greenhouse conditions* , and 86.2% biological efficiency was maintained on the 28th day after applying encarsia in a ratio of 1:10 to citrus (lemon) crops in greenhouse conditions .

Key words: citrus, aphid, species, encounter, ratio of entomophages, population, level of damage, entomophages, encarsion, biological efficiency.

Citrus crops by absorbing young stems and leaves Aleyrodidae (cockroaches), *family* of pests is widespread and causes direct damage to citrus crops grown in open and closed places. It is reported that this pest is dangerous for the plant as a result of slowing down the photosynthesis process of the plant when it falls on a young plant, and it is considered to have the property of quickly adapting to chemical agents, which requires wider scientific research in this regard.

Citrus agrobiocenosis consists in developing a culturally effective biological method against the spider mite, which causes great damage to lemon mandarin and other plants.

In the conditions of Uzbekistan, we conducted observations in 2020-2022 in order to identify the entomophagous species of the greenhouse mite and to apply their capabilities in controlling the amount of pests.

Researches were conducted in agrobiocenosis of citrus crops in Tashkent and Surkhandarya regions. According to him, lemon and tangerine crops were taken from citrus crops. In greenhouse conditions, it was carried out in the area where lemon and mandarin were planted. According to it, the agrobiocenosis of lemon was studied as an experimental area on 3.0 ha of tomato in Tashkent region and 2.0 ha in Surkhandarya region.

The composition of the main parasite-predator-host species of spider mites found in citrus agrobiocenosis and their food specialization was determined. According to the collected data, predatory and parasitic entomophagous species of 27 species belonging to 7 families were identified from entomophagous species of spider mites.

According to the results of the experiment (Table 1.) on the 3rd day, no efficacy was observed in the infested fields, but Meteorite showed 80.9% biological efficiency in the field with 50% application. A week after the release of the parasite, colonies began to form, but the number of pests did not decrease. Stopped the amount of pest but could not bring it down. On the 7th day, when Meteorite 50% was used, the biological efficiency was 98.6%. In the version where encarziya was used, the amount of mites began to decrease on the 12-14th day, biological efficiency was found to be 42.2% in the ratio of 1:5, 28.8% in the ratio of 1:10, and 11.6% in the version used in the ratio of 1:20. On the 14th day, the biological efficiency was reduced to 76.9% in the reference variant (Meteorite 50%). 86.2% biological efficiency was achieved on the 28th day after application of Encarzia at a ratio of 1:5, and the parasitic entomophages effectively controlled the aphid population until the end of the season.

ISSN NO: 2771-8840
Date of Publication: 10-11-2022

In our next option, the biological efficiency was 57.0% on the 21st day, when aqkanot was used in a ratio of 1:10. On the 28th day, the biological efficiency of the parasite against the spider mite was 61.5%, controlling the spider mite population until the end of the season.

In our next variant, when the parasite-host ratio was used at 1:20, the biological efficiency was slightly lower compared to the above variants. In this variant, the biological efficiency reached 44.7% on the 21st day. On the 28th day, this indicator was 50.6%. Due to the low level of control of aphids in this option, the amount of aphids per leaf averaged 12.4 pieces until the end of the season.

In our reference version, the level of pest control was initially high, and later the spider mite population recovered.

Table 1 .

Biological effectiveness of encarsion against aphids in citrus crops in a greenhouse (Qibray district, Tashkent region, 2020-2022)

No	Options	The number of spiders before applying encarziya, pcs	After applying encarziya, grain				
			Day 3	Day 7	14th day	Day 21	Day 28
1.	Encarziya: Aqqanot (1:5)	28.4	31.2	29.6	16.4	8.5	7.2
2.	Encarziya: Aqqanot (1:10)	26.3	33.5	25.8	18.7	11.3	9.4
3.	Encarziya: Aqqanot (1:20)	25.7	32.4	27.3	22.7	14.2	12.4
4.	Meteorite 50% v.d.g. (0.1 l/ha) (Standard)	27.8	5.3	0.4	6.4	14.5	23.7
5.	Control	29.1	33.1	38.6	44.3	51.8	58.2
Biological efficiency							
6.	Encarziya: Aqqanot (1:5)	28.4	-	-	42.2±0.5	70.0±0.4	86.2±0.8
7.	Encarziya: Aqqanot (1:10)	26.3	-	-	28.8±0.6	57.0±0.2	61.5±0.5
8.	Encarziya: Aqqanot (1:20)	25.7	-	-	11.6±0.2	44.7±0.6	50.6±0.3
9.	Meteorite 50% v.d.g. (0.1 l/ha) (Standard)	27.8	80.9±0.4	98.6±0.8	76.9±0.5	47.8±0.3	14.7±0.6
10	Control	29.1	-	-	-	-	-

Meteorite 50 % v.d.g. The biological efficiency of the drug was 80.9% on the 3rd day compared to phytophages.

Conclusions

In short, as a result of large-scale damage caused by aphids to vegetables and other crops grown in greenhouses and open fields, the photosynthesis process slows down and the productivity of plants is damaged. As a result of the increase in the amount of used chemicals, it has a negative effect on the consumption and exportability of the population . The species *Encarsia parthenopea* was identified. According to the research results, predatory and parasitic entomophagous species of 27 species belonging to 7 families were observed.

Used literature

1. Алимухамедов С.Н., Ходжаев Ш.Т., Эшматов О.Т., Хошимов Х., Хакимов М., Кадыров А. Рекомендации по борьбе с белокрылкой в условиях Узбекистана. Ташкент, 1990.- 8 с.
2. Адашкевич Б.П., Ходжаев Ш.Т., Кадыров А.К. и др./Рекомендации по борьбе с тепличной

ISSN NO: 2771-8840
Date of Publication: 10-11-2022

белокрылкой. - Ташкент, 1986.-20с.
3. Бегляров Г.А. Хлопцева Р.И., Лебедева В.В. Энкарзия //Защита растений.- Москва. 1978.-№3.- С.28.
4. Кимсанбаев Х., Рашидов М.И.,Сулаймонов Б.А. Новое в тактике применения энкарзии против тепличной белокрылки. //Ж. Защита и карантин растений.- Москва, 2001.- №1. - С.27.
5. Кимсанбаев Х.Х. ва бошқалар. Биоценозда ўсимлик зараркунандалари паразит энтомофагларининг ривожланиши. (Ўқув қўлланма). Ўзбекистон НМИУ. Тошкент. 2016. –С 14-21.
6. Мярцева С.Н. и Яснош В.А. Паразиты тепличной и хлопковой белокрылок (*Homoptera, Aleyrodidea*) в Средней Азии //Энтомол. обозр. 1993.- №4.- С.785-793.
7. Сулаймонов О.А., Хакимов А.А., Яхёев Ж.Н. Цитрусовая белокрылка (Dialeurodes citri). / Сборник материалов IV международной научно-практической конференции, «Неделя науки в Крутах - 2018», -Украина, -С. 165-167.
8. Сулаймонов О.А., Муродов Б.Э., Яхёев Ж.Н. Цитрус оққаноти - *Dialeurodes* citri. // Ўсимликлар ҳимояси ва карантини. -Тошкент, 2016. -№3 (11). – Б. 39-40
9. Сулаймонов О.А., Хакимов А.А., Яхёев Ж.Н. Сосущие вредители цитрусовых культур и методы борьбы // Актуальные проблемы современной науки. – 2020. – № 2 (111). – С. 176-178.
10. Сулаймонов О.А., Хакимов А.А., Дусмуродова Г.Т. Вред сосущих вредителей цитрусовых культур // ЕВРАЗИЙСКИЙ СОЮЗ УЧЕНЫХ (ЕСУ). – 2020. – С. 31-33.
11. Муродов Б.Э., Яхёев Ж.Н. Карантинный вредители внутреннего карантина Республики Узбекистан // Образование и наука в России и за зарубежом. – 2017. – № 3 (32). –С. 32-36.
12. Sulaymonov O.A., Khakimov A.A., Dusmurodova G.T. Harm of suiting citrus crops pest / Proceedings of International Multidisciplinary Scientific Conference on Innovative Technology Organized by Novateur Publications, India May 25th, 2020. P. 97-98.
13. Sulaymonov O.A., Khakimov A.A., Dusmurodova G.T. Measures For Control Of Drying Pests Of Citrus Crops // The American Journal of Agriculture and Biomedical Engineering. – 2020. – P. 98-102.
14. Murodov B.E., Yakhyoyev J.N. Quarantine pests of internal quarantine of the republic of Uzbekistan // Education and science in Russia and abroad. – 2017. – P. 32-36.
15. Gregory A. Evans. The whiteflies (Hemiptera: Aleyrodidae)of the worldand their host plants and natural enemies. usda/animal plant health inspection service (aphis). 2007.
16. Li, S.J., Xue, X., Ahmed, M.Z., Ren, S.X., Du, Y.Z., Wu, J.H., Cuthbertson, AG.S. and Qiu, B.L. 2011. Host plants and natural enemies of Bemisiatabaci (Hemiptera: Aleyrodidae) in China. InsectScience, 18: 101–120.