PalArch's Journal of Archaeology of Egypt / Egyptology

Compatible Protection Of Pomegranates From Main Pests

[1]Mirzaeva Saida Abdusalomovna, [2]Kambarova Mukhtasar, [3]Davlatova Feruza, [4]Isakov Xayotillo

[1] Candidate of Agricultural Sciences, Associate Professor, Tashkent State Agrarian University
[2] Senior Teacher, Tashkent State Agrarian University
[3] Assistant, Andijan branch of Tashkent State Agrarian University
[4] Doctor of historical sciences, docent. Andijan State University

E-mail: [1]mirzayeva_1966@mail.ru

Mirzaeva Saida Abdusalomovna, Kambarova Mukhtasar, Davlatova Feruza, Isakov Xayotillo: Compatible Protection Of Pomegranates From Main Pests -- Palarch's Journal Of Archaeology Of Egypt/Egyptology 17(7). ISSN 1567-214x

Keywords: pomegranate, pest, pomegranate fruit, aphids, comstock worm, pyrethroid, Bagira - N, Camelot, Imidor, Endjeo, Tsiraks, efficiency

ABSTRACT

Pests of the pomegranate tree include pomegranate fruit (Euzophera punicaella Mooze), pomegranate juice (Aphis punicae), shield (Aspidiotus hederae, Coccus magnoliarum, Lepidosaphes ulmi), comstock worm (Pseudococcidae); diseases include fomopsis, gray rot of fruits. A coordinated control system (mechanical, mechanical-chemical, biological, chemical control) against pomegranate fruit was tested.

In mechanical wrestling 54%, in mechanical chemical wrestling 89%, in biological wrestling 63%, in chemical wrestling 88% had biological efficiency.

1. Introduction

The availability of the required amount of pomegranate fruits, which is a blessing of our table, has become directly related to the effective protection against a number of pests, in addition to planting it.

Pests of pomegranate tree include pomegranate sap (Aphis punicae), shield (Aspidiotus hederae, Coccus magnoliarum, Lepidosaphes ulmi), pomegranate fruit (Euzophera punicaella Mooze), comstock worm (Pseudococcidae); diseases include fomopsis, gray rot of fruits (Kulkov, 1986; Nabiev, 1991; q / x encyclopedia, 1949; Popov, 1961).

Occasionally, spiders can also cause serious damage to pomegranate trees (Lindt, 1964). There are 21 species of pests in Azerbaijan that damage subtropical crops, including pomegranates.

The quality of pomegranate fruits in our country is directly related to the effective protection against a number of pests, in addition to planting and growing. This is due to the fact that in the recent past in the regions where this plant is grown, especially in Surkhandarya, Kashkadarya, and the Fergana Valley, the pomegranate-eating insect is widespread. The distribution area of pomegranate fruit is expanding - it can now be found even on farms in the capital. This is not a newly emerging insect, it was already known (V.V. Yakhontov, 1953), but climate change has created favorable conditions for the pest and increased its negative significance. Currently, there are many private farms in the Fergana Valley where half or more of the pomegranate crop is rotting.

Table 1: **Damage to pomegranate fruit in valley conditions**

Indicator	Control place of residence	Years of control pomegranate fruit until October 1 damage,%	
		2018	2019
Harm of pomegranate fruit	Andijan region, Izboskan district (farmers)	31,7±2,4	35,1±3,7
	Fergana province, Baghdad district (private households)	. 68,9±4,2	77,5±3,3

For several years we have studied the biological properties of pomegranate fruit in the conditions of Andijan, as well as Fergana region, as well as its harmfulness. Our inspections of special orchards revealed that if no measures are taken to protect pomegranates in these conditions, 31.7-50.6% of the total harvest in Izbaskan district of Andijan; In the Baghdad district of Fergana region, it is possible to lose even more - 50.3-77.5% (Table 1).

The pest overwinters mainly in the form of adult worms in shed fruit, and in other sheltered places. During the season, it develops by giving up to b generations under our control. Since the pomegranate has a long, flowering time, the spring damage will last longer, in proportion to the flight of the butterfly. As a result, all life forms of the insect (eggs, various young worms, fungi and butterflies) can be encountered at the same time.

The pomegranate fruit has its own natural cousins, but the importance of this factor is not so great because it lives a hidden (closed) life. Therefore, the creation of tools and methods for effective struggle has become a topical issue. We are conducting in-depth research on these issues.

Since the pomegranate fruit is a specialized insect, and because it enters the pomegranate mainly through the flowerpot, it is doubtful that the flower of the fruit has the ability to attract. Therefore, after the pomegranate blossomed and the fruit was finished, the difference was made by mechanically removing the flower pomegranate from the flower residue using an endless wooden device. In addition, a number of other mechanical and chemical-mechanical measures were studied

. These include: cleaning the inside of the flower pot from the remains of flowers and spraying it with non-toxic mud, or poisoned mud with karate (0.05%) and cypress (0.01%). Each option had its own control option (unprotected trees). The research was conducted in Andijan and Fergana regions. The results obtained in the conditions of Andijan region are given. As can be seen from it, when untreated mud was sprayed into the vase - 54%, and when mud mixed with karate or tsiperphos was used, 83-95 %% were biologically effective (Table 2). This is not insignificant, especially in the Fergana region, where similar results have been obtained.

Figure 1. Worms and pests of pomegranate fruit

Table 2: **The effectiveness of mechanical and chemical-mechanical methods in the protection of pomegranates from fruit Field experience, Andijan region**

№	Options	Number of fruits controlled, pcs	Damage to pomegranate fruits						The effectiveness of the method,%
			30.07		30.08		30.09		
			Damage	%	Damage	%	Damage	%	
1.	The pomegranate blossom is sprinkled with karate (0.05%)	30	.0	0	0	0	3	10,0	83,2
2.	Control (unprotected)	70	10	14,3	38	54,3	64/38*}	59,4	-
3.	The pomegranate blossom is covered with mud covered with tsiperfos (0.1%)	30	0	0	0	0	1	3,3	95,4
4.	Control (without protection)	45	4	8,9	19	42,2	22,5	50,0	-
5.	Control (drug-free mud spray)	30	1	3,3	3	10	7	23,3	54,0
6.	Control (without protection)	46	5	10,8	8	17,5	23,3	50,6	-

*} 64- the number of fruits left on the tree during the control period,
38- among the victims

2 Picture. Damage of pomegranate fruit around the flowerpot

Pomegranate fruit has its own natural cousins, the biological method of the combined protection system used when the number of pests in nature reaches the criterion of economic damage quantity (IZMM). Given the seasonal development of pomegranate fruit, the effectiveness of biological control against it was studied (Table 3).

The experiment consisted of 3 variants, in one of which the trichogramma (Trishoggamma rintoi) was distributed to trees once a week (18 times in a season) from the beginning of the pest's development in the accepted method of 0.05 g (3000 pieces) per 1 fruit tree.

The pomegranate trees allocated to the second variant were released at the expense of the female breed of bracon for each bush tree, along with a trichogramma each time. The third option was control, in which there was no struggle.

The results show that as of September 20 (when harvested), the natural damage of fruits on the trees in the control variant was 44.0%, in the first variant - 20.0%, and in the second - 8.9%. This means that the use of trichogramma alone - 45.4%, and the combined use of trichogramma and braconium - 79.8%.

From the experiments we concluded that the distribution of 0.05 g (3000 pieces / trichogramma) per fruit tree once a week yielded 45.4%; 79.8%.

Table 3: **The effectiveness of the biological method against pomegranate fruit Field experience, Andijan region, 2018.**

№	Options	Fruit damage rate to 20.09,%	Efficiency, %
1.	During the season, only trichogramma (0.05 g / tup) was sent for 18 accounting days	20,0	45,4
2.	During the season, 18 trichogramma (0.05 g / tup) and bracon (20) ♀ / tup) were sent.	8,9	79,8
3.	Control-protection was not carried out	44,0	-

There are specific difficulties in applying the chemical method against pomegranate fruit. This is because this pest reproduces more and enters the fruit and develops in a latent state, limiting the ability of insecticides to be highly effective.

Therefore, it was necessary to establish the developmental phenology of the pest and determine the effective periods for chemical control. In our past studies, we have focused on the pest phenoc calendar, up to 8 times per season (once every 15 days).

we have created a processing schedule. In compiling the list of insecticides, drugs were selected in order to control them at the same time, taking into account the fact that other types of pests may be encountered at certain times.

The results of the experiments conducted in Andijan region are given in Table 4. As can be seen from it, even 10 times (once every 15 days) chemical treatment in the 2019 season did not fully protect the pomegranate from pomegranate fruit - in the fall, the damage to the fruit was 2.3% (28.3% in the control). efficiency was 91.8%.

Table 4: **Biological effectiveness of pomegranate on the system against pomegranate fruit. Field experience, Andijan region, Izboskan district, 2019**

№	Medications used	Consumption, l (kg) /ga	Date of use	On average, 1 bunch of pomegranate fruit, pcs		Fruit damage, %	Processing efficiency%
				US	OZ		
1.	Dimilin, 48% s.k.	0,3	1.06	173	0	0	-
2.	Tsiperfos, 55% e.k.	1,0	15.06	193	0	0	-
3.	Bagira, 20% e.k.	0,3	1.07	209	0	0	-
4.	P-4, 65% sus.k	4,0	15.07	224	16	4,5	71,4
5.	XC-2, 70% n.kuk	3,0	1.08	243	14	3,8	62,5
6.	Camelot, 20% n.kuk.	0,2	15.08	272	1,0	0,4	98,6
7.	Kinmiks, 5% e.k.	0,4	1.09	396	1,9	0,2	99,3
8.	Tsipermetrin, 25% e.k.	0,3	15.09	401	2,0	0,5	98,2
9.	Talstar, 10% e.k.	0,6		399	4,0	1,0	96,5
10	Karate, 5% e.k.	0,5		394	9,0	2,3	91,8
11	Control (without medication)	-	-	363	103,0	28,3	-

US - the total number of fruits, OZ - among the damaged

References

[1] Kulkov O.P. Subtropical fruit cultures of Uzbekistan. Tashkent: Mehnat, 1986. -7-8 i. 115-116 p.

[2] Lindt I. I. Biology obыknovennogo kleshcha (Tetranychus telarius L.) in southern Tajikistan, Dushanbe, 1964. - 115 p.

[3] Mamirzaev B., Dusmanov S., Nurmuxamedov D., Toirov M. Distribution area of pomegranate pests and their control // Bulletin of agrarian science of Uzbekistan. 2004. № 3.-B.33 - 36.

[4] Methodical instructions on testing of insecticides, acaricides, BAV and fungicides / Sos. Sh.T.Khodjaev, tashkent, 2004-. - 109 s.
[5] Popova M.P., Soboleva V.P. Vrediteli i bolezni plodovo - yagodnyx kultur i vinograda. - Moscow, 1961. - p. 195 - 198.
[6] Xo'jaev Sh.T. A versatile preferred tool. Agriculture of Uzbekistan. 2001. № 5. b. 45.