Indonesian Journal of Innovation Studies
Vol. 8 (2019): October
DOI: 10.21070/ijins.v8i0.229

Application of harmonized fighting system against pomegranate orchard

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Pomegranate fruit is a monophage, and at the same time is also a typical carpophage, that is, the fruit is a moth. During the season, the pomegranate fruit develops from the 5th generation in full and in part from the 6th generation. In order to protect the pomegranate from pomegranate fruit, it is desirable to support all methods of the adaptive protection system (in particular: organizational-economic, agrotechnical, physico-mechanical, biological and chemical), bringing the number of pests to IZMM and below.

Introduction

The fact that the quality of pomegranate fruits in our country is in accordance with the requirements has become directly dependent on effective protection from a number of pests, in addition to planting it. The reason for this is the wide spread of insects with pomegranate fruit in the regions where this plant is cultivated since the recent past, especially in the regions of Surkhandarya, Kashkadarya, and khamda Fergana Valley. It is well known to specialists that on the basis of the tree bush of the pomegranate the following insects cause damage: shira (Aphidinea), komstok worm (Pseudococcus comstoci Kuw) and pomegranate fruit (Euzophera punicaella Mooze). Among these, in the following years, the influence of the pomegranate fruit insect has risen, especially since the urgency of the issue is not even the presence of pomegranate. This can be evidenced by the fact that the pest quickly spread to the farms of the Fergana Valley regions and damaged up to 95 percent of the crop of the damaged trees. This insect, which develops by giving several generations a year, has also quickly begun to reach other regions through trade routes.

As shown in the literature, many species of pests that cause damage to the pomegranate are identified in different regions. Many of these can not cause significant harm by joining the ranks of "temporary" inhabitants in the pomegranate Bush. Among the primary pests of pomegranate (which are always harmful), pomegranate fruit, pomegranate juice and komstok worm can be included, especially in the Fergana Valley, Surkhandarya, Kashkadarya and nearby regions (Table 1). Despite the fact that these insects meet at different levels, it was observed that they cause major damage to fertility.

Pomegranate fruit is an insect belonging to the family of moths (Tortricidae) of butterflies. It is a monophage, and at the same time is also a typical carpophage, that is, a fruit moth. [2s.323-324]

Main part

In the form of worms (in the case of partial buds), winters, gnaws in the spring, and since may, butterflies fly out, laying eggs mainly on the pollen of pomegranate fruit up to 5 soles (in total 80-120 pieces). The worms that open from the eggs pass into the pomegranate through the flounder and begin to feed, damaging the fruit grains.

Table 1

In the conditions of the Fergana Valley, the pomegranate has a damaging cartilage

animals (2016-2018 yy)

	Name		Facing rate *)
	In uzbek	Latin	
1.	Pomegranate Orchard	EuzopherapunicaellaMooze.	++++
2.	Pomegranate juice	Aphis punicae Theob.	+++
3.	Earthenware worm	Pseudococcus komstoci Kuw.	++
4.	Simple duckling	Tetranychus urticae Koch.	+
5.	Chipor bronze Beetle	Oxythyrea cinctella Schaum.	+
6.	Olenka bronze Beetle	Epicometis turanica Rtt.	+
7.	Harmful calf Beetle (khrutsh)	Polypphlla odspersa Mots.	+
8.	March calf Beetle	Melolontha afflicta Ball.	+
9.	Comma-shaped castle	Lepidosaphes ulmi L.	+
10.	Winter solstice	Agrotis segetum Den. et Schiff.	+

Table 1.

Definition: *) ++++- the maximum is threeraydi and the harm is great

+++- all there threeraydi, but the harm is relatively low ++ - 40-60% on the trees threeraydi

+ less faces

The worm begins to age 6 years and again turns around the beak and swells in a soft cocoon. After 7-8 days, the butterfly flies out of it and continues to breed .tiradi In total, it takes from 32 days to 21 days to pass one generation. In one season, according to our multi-year studies, mainly 5 units, some years (when autumn comes Hot) 6-generation can also begin to develop. In what it is, the natural development of the pomegranate fruit is closely related to the growing yield of this plant, which only damages it.

Our research conducted in the foothills of Andijan region (Izkankan district) showed that in these conditions the fruit of pomegranate flies 7-10 days later than in the southern regions of Fergana region (regions of Baghdad, Uzbekistan). But, there is also the season progresses, giving mainly 5 (Partly 6) generations.

Special controls were carried out, since it was of great importance for the butterflies of the pomegranate fruit to lay eggs in which place the pomegranate fruit. These observations were conducted in various Andijan region, pomegranate more arable regions of 2016-2018 (Table 2)

Table 2

Topography of pomegranate fruit pesticide preferred locations

Place of control	The total amount of damaged fruit, %	From which part of the worm enters into the fruit, %		
		Gulf weed	From left	From where it hurts
39,0	79,5	10,2	10,3	
Izkankan district, Ismoilov f/x	50,0	76,0	14,0	10,0
Jalakuduk District Jalilov f/x	56,0	78,6	7,1	14,3

Table 2.

Pomegranate fruit is a specialized pest, and in 2016-2018 in Andijan region 87,2±5,3% of the bushes damaged by pomegranate fruit, 91,9±3,1% in Fergana region. The degree of damage to the fruits of the damaged shrubs was higher in Fergana region and was 50,3-77,5% in September, while in Andijan region it was 31.7-50,6%. During the season, the pomegranate fruit develops from the 5th generation in full and in part from the 6th generation. [1. S.92-93]

Since the pomegranate fruit is a specialized insect, and also penetrates into the pomegranate mainly through the inflorescences, it was assumed that the flower of the fruit has the property of attraction. Therefore, after the pomegranate blossomed fruit began to bloom, the flower pot of the pomegranate was mechanically cleaned from flower residues with the help of a wooden fixture, the tip of which was not passed, and the difference was studied from those that were not cleaned. When the Bunda was mechanically cleaned of the pollen from the flower, its damage was-14,6%, almost 2 times less (31,7%) than the untreated ones. Also, a number of other mechanical (loy chap on the fruit flower bowl) and chemical-mechanical

Table 3

The effectiveness of chemical-mechanical protection of pomegranate fruits from decay

Т/Б	Options	Meaning	On account of the number of controlled fruit, pieces	Назорат ўтказилган кунларда									
				30.07		15.08		30.08		15.09		30.09	
				3 (зарар-лангани)	%	3	%	3	%	3	%	3	%
		1.	Experiment-I (poisoned with used loy karate (0,05%))	Experiment	30	0	0	0	0	0	0	0	0
				70	10	14,3	38	54,3	38	54,3	41	58,6	64/38 *)
				2.	Experiment - II (poisoned with used loy tsiperfos (0,1%))	30	0	0	0	0	0	0	0
						45	40/4	10	18	40	19	42,2	22
						3.		Control (claylesss)	30	1	3,3	3	10
								46	5	10,8	7	15,2	8

Table 3.

*) 64 – the total number of fruits remaining in reality, 38-among the infected.

(loy chaplash poisoned fruit flower bowl) events were also seen in support (Table 4). The research work was carried out in the field of horticulture in Fergana and Andijan region. Local varieties of pomegranate were selected, in which it was preferred that the fruits do not crack in the autumn.

In each variant of our experiments conducted in the Fergana Region, 4 different, medium-sized fruit-bearing bushes were selected, each Bush was left for 30 fruit experiments, the rest for control (defenseless). The experiment consisted of 4 options. Summarizing the results, the following conclusions were drawn.

1.Pomegranate fruits, protected by poisoned loy, are very rare and late damaged by the fruit. For example, in the first variant, the damage was only 10% at the end of September, in the 2nd variant, too, the fruits suffered 3,3% at the same time period. But under the control of the same trees (when loy chaplanmagan), the damage to the fruit began in July and amounted to 59,4 and 50%, respectively, by the end of September.

2. In non-medicinal, only loy-chewed fruits, the damage began much earlier (from July), up 23,3% by the end of September.

In control, however, the damage started early and was observed to have passed stronger and amounted to 50,6% at the end of September. So, in order to protect the pomegranate from the fruit, it was confirmed that even a simple cleaning of the pollen from the remains of the flower will give a sufficiently high yield (the damage will decrease by 2 times). But if a simple or poisoned (karate, tsiperfos) loy chop is put into the purified flounder, the samara can make up 46 and 83-93%, respectively.

We have for several years reaped the effectiveness of Trichogramma (Trichogramma pintoi Voegele) and Bracon (Bracon hebetor Say) against pomegranate fruit. In the 2017 Year season, field experience using trichogram and poachon was conducted in Izkankan district farms (Table 5). In the bun, each option was held one by one in the farm yard (15-30 pieces of pomegranate soil).

In the first variant, only a trixogram was used. Bunda contains trichogram once every 6 days, 0,05 g per Bush. from (3000 pieces) distributed. By September of Yigirmanchi, the lesions of pomegranate fruits accounted for 20% of these bushes (in control – 44,0%), and biological fruit-45,4%. In the second variant, each time (18 times), along with the distribution of the trichogram (0,05 gr/Bush), the Poppet was also distributed. Bunda, take the standard of Bracon – 20 species of females per Bush.

Table 4

The effectiveness of the biological method against pomegranate fruit

№	Options	Degree of fruit damage to 20.09, %	effectivity, %
1.	During the season, 18 days of account transfer were sent only a trichogram (0,05 gr / Bush)	20,0	45,4
2.	During the season, 18 accounts were sent to trixogram (0,05 gr/tup) and Poxon (20 Tup	8,9	79,8
3.	Control (protection not conducted)	44,0	-

Table 4.

As can be seen from the results, by September 20, the damage to the fruit was only 8,9%, while the biological effect was 79,8%.

From the above experience, one can draw the following conclusion. When protecting a pomegranate from a pomegranate worm, a biological method based on the distribution of trichograms and poaching can be used. To do this, it is necessary to dissolve the trichogram once a week, after which the pomegranate begins to bloom. After a month, it is also necessary to dissolve an additional poppet Cossack (from the account of 20 female Zot on each fruit tree).

There is a specific challenge in the application of the chemical method against pomegranate fruitchiliklar, which can give many generations of pests and get into the fruit and develop in a hidden state, limiting the possibility of high yield of insecticides.

Therefore, it was necessary to establish effective deadlines for the chemical struggle, drawing up the phenology of pest development. In our studies, which we conducted for several years, we have compiled a procedure for processing up to 8 times a season (once every 15 days) with a focus on pest phenocalendar. When compiling the list of insecticides, drugs were selected for the purpose of combating them at once, taking into account the fact that other species pests may also be encountered during certain periods. Research in this direction was carried out in Andijan and Fergana regions.

Table 5 . Biological effectiveness of performance of pomegranate against Pomegranate Orchard system

	Islation of dollar	Expense level l(kg)/ga	Date of usage	Average 1 fruit in the Bush pomegranate, pieces		Harm on fruit, %	effectiveness, %
				Total	infected		
1.	Dimilin, 48% S. K.	0,3	1.06	173	0	0	-
2.	Superfos, 55% of E. K.	1,0	15.06	193	0	0	-
3.	Bagheera, 20% E. C.	0,3	1.07	209	0	0	-
4.	Camelot, 20% N. cook.	0,2	15.07	272	1,0	0,4	98,6
5.	Kinmiks, 5% E. K.	0,4	1.08	396	1,9	0,2	99,3
6.	Cypermethrin, 25% E. C.	0,3	15.08	401	2,0	0,5	98,2
7.	Talstar, 10% E. C.	0,6	1.09	399	4,0	1,0	96,5
8.	Karate, 5% E. C.	0,5	15.09	394	9,0	2,3	91,8
9.	Nazarat (ioasis)	-	-	363	103,0	28,3	-

Table 5.

From the research conducted for several years, it can be concluded that the Chemical Processing System (8 times, once every 15 days), which is conducted to protect weight loss during the season from the 5 generations of pomegranate fruit, gives a biological effect of 62-92% by 20 September.

Conclusion

According to The conducted research, it is desirable to use all methods (in particular: organizational-economic, agrotechnical, physico-mechanical, biological and chemical) to protect the

pomegranate from major (economically significant) pests, bringing the number of pests to IZMM (economic damage quantitative criterion) and lower. In the research work, a system designed to protect pomegranate bush tree was recommended to be applied.

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