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THE MAIN PROBLEMS IN PRODUCING CUCURBITS CROPS IN THE CONDITION OF THE REPUBLIC OF KARAKALPAKSTAN

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ANNOTATION

The article presents sucking and rodent pests that appear during the vegetation period and the main problem in producing cucurbits crops in the condition of the Republic of Karakalpakstan. Mainly, aphids damage vegetative organs of plants, while melon fly damages fruits and appears 80-100% in the fields where controlling actions were not conducted.

KEYWORDS: Cucurbits crops, sucking pests, melon fly, damaging degree.

INTRODUCTION

Soil and climate conditions of the Republic of Karakalpakstan have their own peculiarities, and from agricultural crops cotton, rice, vegetables, cucurbits crops, fruits, legumes, grainy crops are mostly sown. In the Republic cotton is sown on 90-100 thousand hectares, wheat and other grainy crops - 60-80 thousand, vegetables-cucurbits crops - 15-20 thousand, fodder crops - 25-30 thousand, horticulture 15-20 thousand in account of industry, agricultural crops are sown on 30-40 thousand hectares of house backyards. From cucurbits crops melon, watermelon and pumpkin are sown to most fields, especially, to house backyards. Today, one of the main reasons of not receiving planned yield from cucurbits crops is the pests that appear during the vegetation period.

METHODS OF THE RESEARCH

From cucurbits crops regionalized types of melon, watermelon and pumpkin are sown on the basis of small field experiment in the condition of Karakalpakstan. In the condition of the territory sowing cucurbits crops, agrotechnical actions, which are conducted in vegetation period, works between rows, irrigation, actions of giving fertilizer, gathering yield were carried out on the basis of methods adopted for the region (M.Ibragimov and others, 2009).

Damaging degree, morphological structure, spreading areas, controlling actions of the pests, which appear during the vegetation period of cucurbits crops were studied by using the works of Sh.Khujayev (2004; 2013) and

E.Toreniyazov (1992; 2014), E.Sh.Toreniyazov, R.O.Yusupov (2020), R.O.Yusupov (2018).

RESULTS OF THE RESEARCH

Different types of cucurbits crops are being sown to more than 6,0 thousand field and produced in the condition of the Republic of Karakalpakstan. From cucurbits crops melon, watermelon and pumpkin are daily food products of people and their chemical structure is important in healthy lifestyle. In the condition of our region there are some problems in producing cucurbits crops. When spring comes sometimes dry weather lasts long, and irrigating fields is not on time. This brings into the absence of the opportunity of receiving expected yield in farms where cucurbits crops are produced. At the same time, in the period of vegetation diseases and pests appear in the fields of cucurbits crops and highly damage harvest. According to the aim and tasks of the research one of the main problems in cucurbits crops is the development of sucking and rodent pests in the period of vegetation.

In conducting scientific research works of scientists on the experiments carried out in our field before were studied. As a result of the scientific research, that was conducted by E.Sh.Toreniyazov (2014) it was determined that in the agrobiocenosis, where cotton, vegetables and cucurbits crops are sown, some types of arthropods, more than 40 types of pests appear, from them 17 types spread in cotton field, and 13 types can damage. Among them 22 types are met in the field of cucurbits crops and 11 types damage highly. It was obvious



from the observations that the information, which was got in the researches in 1985-2014 is also proven today. Because, in our observations in defining types of pests, that are met and damage in the agrobiocenosis of cucurbits crops in Karakalpakstan, in 2018-2021, it was obvious that among 34 types of pests 13 types can damage (table 1).

From the members of the group of double winged in cucurbits crops leaf miner flies damage starting from the primary phases of vegetation, i.e. the period of germination. A representative of the group double winged, the pest melon fly damages by laying eggs from the end of May and the first decade of June when melon plant blossoms and fruits appear. Today the main dangerous pest is melon fly. Because, the pest damages basic products - fruits, and decreases the quality and productivity of the yield up to 80-100%.

Cockchafer - *Gryllotalpa gryllotalpa* L mainly lives under the soil, eats plant roots, decreases the number of sprouts. Like this, pest autumn earworm - *Agrotis segetum*

Den. et Schiff eats roots and damage with its worms. As a result, in this kind of field the number of sprouts is decreased. Among pests Asian locust - *Locusta migratoria* L is met in the vegetation period of cucurbits crops and eats leaves and stems.

From sucking pests cucurbits crops aphid - *Aphis gossypii* Glov., acacia aphid-*Aphis medicaginis craccivora* Koch., apricot-reed aphid- *Hyalopterus pruni geoffr.*, cabbage aphid- *Brevicoryne brassicae.*, greenhouse whitefly- *Trialeurodes vaporariorum* Westw., cotton whitefly- *Bemisia tabaci* Genn., spider beetle- *Tetranychus urticae* Koch., tobacco thrips - *Thrips tabaci* Land are mostly met and damage in the fields, where controlling actions are not correctly organized in the vegetation period.

During our observations origin, morphological structure, spreading areas, bioecological developing peculiarities of each insect and pest, that are met in the fields of cucurbits crops, were studied. During the research actions on controlling dominant types of pests were organized.

Table 1

Types of pests that are met and damage in the agrobiocenosis of cucurbits crops in Karakalpakstan (years 2018-2021)

№	Types of pests	Name in Latin	Cucurbits crops			
			Melon	Water melon	Pumpkin	Cucumber
1	Cockchafer	<i>Gryllotalpa gryllotalpa</i> L	++	+	+	++
2	Coleoptera: Elateridae	<i>Agriotes meticulosus</i> Cond	+	+	+	+
3	Simple earwig	<i>Forficula auricularia</i>	+	+	+	+
4	Forest cockchafer	<i>Melolontha hippocostani</i> F	+	+	+	+
5	Autumn earworm	<i>Agrotis segetum</i> Den. et Schiff	++	++	++	++
6	The heart and dart	<i>Agrotis exclamationsi</i> L.	+	+	+	+
7	Cotton earworm	<i>Heliothis armigera</i> Hb	+	+	+	+
8	Cabbage white butterfly	<i>Pieris brassicae</i> L.	+	+	+	+
9	Cabbage earworm	<i>Mamestra brassiiae</i> L.	+	+	+	+
10	Asian locust	<i>Locusta migratoria</i> L	++	+	+	+
11	Italian locust	<i>Calliptamus italicus</i> L.	+	+	+	+
12	Grasshoppers	<i>Tettigonia cantans</i>	+	+	+	+
13	Crucifer flea beetle	<i>Phyllotreta crusiferae</i>	+	+	+	+
14	Cucurbits crops aphid	<i>Aphis gossypii</i> Glov	++	++	++	++
15	Acacia aphid	<i>Aphis medicaginis craccivora</i> Koch	++	++	+	++
16	Apricot-reed aphid	<i>Hyalopterus pruni geoffr</i>	++	++	++	++
17	Big cotton aphid	<i>Acyrtosiphon gossypii</i> Morv	+	+	+	+
18	Cabbage aphid	<i>Brevicoryne brassicae</i>	++	+	+	+
19	British bugs	<i>Lygus pratensis</i> L	+	+	+	+
20	Shield bug	<i>Eurydema oleracea</i> L	+	+	+	+
21	Greenhouse whitefly	<i>Trialeurodes vaporariorum</i> Westw	++	++	++	++
22	Cotton whitefly	<i>Bemisia tabaci</i> Genn	++	++	++	++
23	Spider beetle	<i>Tetranychus urticae</i> Koch	++	++	++	++
24	Tobacco thrips	<i>Thrips tabaci</i> Land	++	++	++	++
25	Melon fly	<i>Myiopardalis pardalina</i> Big	++	++	++	++
26	Leaf miner fly	<i>Liriomyza bryoniae</i> (Kaltenbach)	++	++	++	++
27	Swedish fly	<i>Oscinella frit</i> L.,	+	+	+	+
28	Summer cabbage fly	<i>Delia floralis</i>	+	+	+	+
29	Black and white winged	<i>Rhagoletis</i>	+	+	+	+



	flies					
30	Black mosquito	<i>Musca domestica</i>	+	+	+	+
31	House mosquito	<i>Culex pipiens</i>	+	+	+	+
32	Marmalade hoverfly	<i>Scaeva pyrastris</i> L	+	+	+	+
33	Tachinid fly	<i>Clytiomyia helluo</i> F	+	+	+	+
34	Aphid midge	<i>Aphidoletes aphidimyza</i> Rand	+	+	+	

Note: -- the insect was not met in the field,
 +- the insect was met in the field,
 ++-was met in the field and damaged.

Scientific research works were conducted on representatives of double winged group, which are met in cucurbits crops. In this the growth of the stem or leaves of cucurbits crops by lying to the land creates comfortable micro climatic conditions for the development of pests. The main type of pests melon fly - *Myiopardalis pardalina* Big today spread and damage in the fields of farms and households where cucurbits crops grow. In the fields, where controlling actions were not conducted the number of pests are high. After this, types of house mosquito - *Culex pipiens* are mostly met during the whole period of vegetation. Leaf miner fly - *Liriomyza bryoniae* (Kaltenbach) is met in the primary vegetation period of cucurbits crops and the pest damages when crops start germination. It does not damage the plant in its further development stages. Black mosquito - *Musca domestica* is met in average degree in the fields of cucurbits crops. Mainly these pests are mostly gathered in rotten nutritional centers of cucurbits crops. It was defined that Swedish fly - *Oscinella frit* L., summer cabbage fly - *Delia floralis*, which are not adapted to cucurbits crops, are met little, as well as, marmalade hoverfly - *Scaeva pyrastris* L., tachinid fly - *Clytiomyia helluo* F., aphid midge - *Aphidoletes aphidimyza* Rand, which are the representatives of double winged group that spread in cucurbits crops (table 2).

It was determined in our observations that in nature savage harvest bug (*Phytoseiulus persimilis*) clued on the adult of melon fly - *Myiopardalis pardalina* big, which is a representative of the group double winged, as its entomophage. Damaging degree of the harvest bug was not defined. In some literatures the effectiveness of using the savage harvest bug and *Pachycrepoideus vindemmia* Rondani parasiticide fly in controlling melon fly was mentioned (Khujajev, 2013). Also, there are some situations that adult melon flies die by swinging in the nest of insects as spider. As a result, these pests are eaten by spiders and the number is decreased. It was defined that worms and pupas of the pest were destroyed by savage beetles and staphylinids. Moreover, pest worms are eaten by the group of ants.

CONCLUSION

There are 34 types of insects that are met during the vegetation period of cucurbits crops and 13 types of them are pests. We investigated that pests under the soil damage by gnawing the root of a plant starting from the germination of the plant. Sucking pests damage starting from the germination of sprouts and develop until the end of vegetation period. Leaf

miner flies damage leaves starting from the period of germination. They are the basic pests and damage fruits highly. 80-100% of yield is damaged in the fields where controlling actions are not conducted or on time.

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