



## POTATOES OF THE CROP CONFOUNDED PESTS

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### Annotation

The article describes some biological characteristics of pests of potato crops, including the fact that their damage at the larval stage is seasonal, inhabiting the same biotope with mature forms.

**Keywords:** Colorado potato beetle, moth, larva, worm, Agriotes, phytophages, soil, imago, pupa.

### Annotatsiya

Maqolada kartoshka ekinining ashaddiy zararkunandalarining ayrim biologik xususiyatlari namoyon etilgan, jumladan ularni lichinkalik davridagi zarar keltirishni mavsumiy harakterda ekanligi, yetuk formalar bilan bir xil biotopda yashashligi bayon etilgan.

**Ключевые слова:** калорадский жук, моль, личинка, червь, Agriotes, фитофаги, почва, имаго, куколка.

### Анотация:

В статье описаны некоторые биологические характеристики вредителей сельскохозяйственных культур картофеля, в том числе тот факт, что их повреждение на личиночной стадии носит сезонный характер, обитая в одном биотопе со зрелыми формами.

**Tayanch iboralar:** kalorado qo`ng`izi, kuya, lichinka, qurt, Agriotes, fitofag, tuproq, imago, g`umbak.

### Introduction

The provision of the population with high-quality agricultural products will always remain an urgent problem. For this reason, our government pays great attention to the cultivation of food products, including a number of measures to expand the





cultivation areas of potato products and increase productivity. Timely implementation of measures to combat pests, diseases and weeds of agricultural crops, among other crops, is one of the important conditions for obtaining a high and high-quality harvest from potatoes.

Insects are widely distributed animals, about a thousand of their species are known in science. There is not a single species of plant that insects do not live. Some of the pest insects feed on the branches of the plant's leaves, while others feed on the branches of its flowers and fruits with the texture of the plant wood and the root system.

For the timely detection of pests and the correct Organization of measures to combat them, it is important to know exactly what their external structure and characteristics are. A.Sh Khamrayev, J.A. Azimov (1995).

The potato crop is strongly damaged by a number of harmful organisms (insects), if measures are not taken to combat them, there is a sharp decrease in the yield of potatoes.

The potato plant belongs to the family of alfalfa, and almost all parts of the plant organs are damaged by pests, including the tubers are damaged by weevils, autumn nightshades (root rodent tunnels). These pests damage potatoes, tomatoes, eggplants and other crops. (Khojaev, 2014). The Colorado potato beetle can produce 1-3 joints per year in our conditions.

The Colorado potato beetle is an oligophag, which feeds only on plants belonging to the genus Olive. Potatoes are my favorite food, followed by eggplant and tomatoes. It also grows on tobacco, bangidevona, mingdevona, and ituzum. The larvae and the mature form eat the young leaves and young twigs of the plant.

In the presence of 20-40 pieces of larvae and beetles in each Bush potato plant, the leaves can die 50-100%. This leads to a decrease in the yield from 2-3% to 10 times. Zire " lost in Test match Simkurts are clickers, and false simkurts are worms of black beetles.

These pests develop in the conditions of our republic by giving a generation in 4-5 years, more Turkistan clickmaker than potato clickers (*A. meticulosus*) will hurt. (Kimsanbov, 2013; Khujaev, 2014; S. Akhmadjonova, 2019;). Mercury and counterfeit Mercury have a more dense physical property threeraydi on heavy soils, and they damage potatoes with various organic residues, as well as plant roots, especially during the planting period, subsequently eaten and scraped by the ost of the stem, the stems of the potato turn yellow, cease to grow and dry out, and the yield decreases sharply.

May calves (*M. hypocastani*) once in 4 years in the serghis soil develops giving birth, qurtlari among all crops are crippled by eating the roots and fruits of crops belonging



to the family of potatoes and other dogusomites (Kimsanboev, 2013; Khujaev, 2014). In the summer season, the potato lays eggs without interruption to the groats. The main furnace of the potato Nest is the Ovens – ovens.

The main source of potato nests are warehouses. 25-80% of stored potato tubers in the warehouse can be destroyed. Import of potato and other legumes from the countries where potato blight is widespread in the country it is carried out through certificates issued by the inspection of the “General State Administration of Plant Quarantine of the Republic of Uzbekistan”. (B. Muhammadiyev, A. Pardayev, T. Avazov, S. Mamatov2013y.)

### **Place and methods of research**

The research was carried out mainly in FarDU Laboratory of Fergana region, field experiments in Akhmadjan garden Muyan f/x potato planted areas in Kuvasony city, and also in the Valley town of Katerterak beauty f/ x potato planted areas.

Here, the types of potato pests, their density, development were studied on the basis of constant observations, experiments were conducted.

The study complied with the basic rule adopted in biology and the procedure for putting the experiment. Conducting field experiments and keeping pest control M. In Megalov (2004), published methodological guidelines were used.

### **Obtained results**

During the observation process, we conducted directional observations on the potato planted fields in the Kuva, Kuvasony, Vodil regions of the region for 2020-2021 years in order to investigate the species composition of pests encountered in the potato plant.

In our conducted studies, it became known that in the regions where potatoes are grown, in different periods of potato plant vegetation, by five species of pests, different organs of the crop are strongly damaged, including in the autumn night (*Agrotis segetum* Den. et Schiff), Turkistan click (simkurt) (*Agrotis meticulosus* Cand), may calf (*Melolontha melolontha*, *M. hypocastani*), potato swarm (*Phthorimaea operculella* Zell) and kolarado Beetle (*Leptinotarsa decemlineata* Say.)





Surveillance of potato crop in households in April.

Region name	Pest species			Entomophagous species	
	White wing 1m <sup>2</sup> .	Colorado potato beetle.1m <sup>2</sup> .	Potato moth 1m <sup>2</sup> .	Khan's daughter and larva. 1m <sup>2</sup> .	Golden eye and larva. 1m <sup>2</sup> .
Kuva	20	6	-	3	1
Kuvasay	12	8	-	2	6
Vodil	16	8	-	3	Egg
Total:	38	22		8	7

### Potato moth

This pest, which was previously an external quarantine object, is now distributed in almost all regions. This pest harms the harvest of potatoes in the period of storage in ovens. The pest winters in the form of worms or buds. Butterflies fly out at the end of May and until the end of October. They lay eggs on the pores of potato endings. Butterflies live 25-30 days and begin to lay eggs within 24 hours after fertilization. He flies in the morning and in the evening after sunset, during the day he hides under the leaf and in other shelters. Warehouse in plants, the pest multiplies without interruption, it can develop and multiply even in potatoes, which are buried in the sickle. Its pills are found in many near the pores of potato endings and in bags, after 6-7 days from the pill comes out imago. The period from egg to egg is an average of 22-32 days in summer, 40-55 days in autumn, 2-3 months in winter.

Colorado potato beetle (*Leptinotarsa decemlineata* Say) – belongs to the family of leaf rodents (Chrysomelidae) to the category of hard wings or beetles (Coleoptera). Colorado Beetle-oligophage it feeds only on crops belonging to the family of sharks. In these, potatoes are considered the most favorite feed for them, in the next place stand eggplant, tomatoes, eat even wild plants, such as ituzum. In the presence of 20-40 pieces of larvae and beetles in each Bush potato plant, the leaves can die 50-100%. The larva and Beetle plant damages the leaf and palak's young, succulent growth points eat.



On the Experimental Field is the Phenogram of the Development of the Colorado Beetle 1-table. Symbols: T - egg; L -lichinka; G - fungus, K-mature insect;

Descendants	months	April			May			June			July			August			September			October			
		I	Decada	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	III	I	I
	Stage			I			I			I			I			I						I	
	T		T	T	T																		
	L			L	L	L																	
	G				G	G	G																
	K	K	K	K																			
II	T										T	T	T										
	L											L	L	L									
	G											G	G	G									
	K										K	K	K										
III	T																T	T	T				
	L																	L	L	L			
	G																	G	G	G			
	K																K	K	K				
IV	G																						
	K																				K	K	

Morphological signs and biology: eggs are orange in color. The length of the larva varies depending on the age period. In a bush plant, worms of different age can be seen. Large forms of Orange are red, the worms are 4-16 mm. The muzzle is of a hungry type length 10-12 mm color from Orange to reddish. The length of the adult pest is 7-12 mm, the size is 4,5-8 mm, the body is elongated and has an oval shape. The Colorado Beetle winters at a depth of 20-70 cm. The female form lays 12-80 eggs on the bottom surface of the leaf of the plant as a ball. After the egg develops 5-10 days, the larva comes out and feeds on the green part of the plant. Larvae turn into specks at a depth of 16-26 cm under the ground, leaving the bark three times in 5-15 days. After 12-20 days from the pig, a mature insect can begin to appear on the surface of the Earth.



In the season of last year, this pest was observed in the Kuva, Kuvasoy, Fergana farms of the Fergana region, the development and spread by giving the offspring 3-4 times in the fields. Favorable weather conditions for the development of Colorado beetles lead to an increase in the number of these pests annually, and its harm seriously affects the quality of the crop being grown. Therefore, the timely application of agrotechnical, mechanical and chemical method measures in the fight against Colorado beetles and potato Burns leads to the preservation of dressing. Control is carried out every 10 days to find out whether there is a need for chemical struggle in the crops. One of the most harmless methods in combat measures is biological combat, carried out by useful species in nature. Additional from biolaboratoriums can be obtained when the density of useful species is low. Many entomophages are coexistent, and can also be fed with several types of pests. A variety of mature breeds of pests are exterminated by many by crib vibrators, dragonflies and birds, including predatory insects. (From domesticated poultry, sesarcas are fed exactly with Colorado beetle larvae and canola.) In general, there is a special place in the kushandas-ol'z, khangizi. As a result of these, species in zarakunan can die 30%.

### **Ways of agrotechnical struggle**

- A) it is necessary to eliminate weeds in the field, especially plants belonging to the family of weeds.
- B) against the burn it is necessary to exclude potato plants from the field Palettes.
- D) when harvesting potatoes should be spread out on the field and not dried (the moth lays eggs on them quickly), cover them immediately.
- E) pay attention to the fact that the temperature of the places where the potatoes are stored is low.
- F) if possible, it is desirable to store potatoes in refrigerators.

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