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Types Of Pests and Their Entomophagous in Maize Field in The Conditions of Karakalpakstan

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Abstract: According to the decree of the President of the Republic of Uzbekistan on 29th July, 2021, number PD-5202, about actions on carrying out the special resolution **"About announcing the Aral Sea area as the territory of ecological innovations and technologies"** of the main assembly of the organization of the United Nations on 18th May, 2021, plans were accepted about producing agricultural crops, which were planted on the main and intermediate fields, cotton, rice, vegetables, cucurbits crops, potato, fodder, tubers, annual plants, alfalfa, maize, corn, tobacco, leguminous crops, also, other crops which are planted in the method "garlic planting". In this decree: 1. It should be received as an information that, in the paragraph of the special resolution "About announcing the Aral Sea area as the territory of ecological innovations and technologies", in order to sow cotton, rice, maize, corn and feed farm animals on 2,5 thousand hectares field of the Republic of Karakalpakstan, appointments were made about modernization of experimenting laboratories (food, agriculture, electro techniques, light industry) and applying logistic service on delivering samples to the laboratory.

Keywords: Maize and corn, sowing fields, types of pests and entomophagous

Introduction

According to the decree of the President of the Republic of Uzbekistan on 29th July, 2021, number PD-5202, about actions on carrying out the special resolution **"About announcing the Aral Sea area as the territory of ecological innovations and technologies"** of the main assembly of the organization of the United Nations on 18th May, 2021, plans were accepted about producing agricultural crops, which were planted on the main and intermediate fields, cotton, rice, vegetables, cucurbits crops, potato, fodder, tubers, annual plants, alfalfa, maize, corn, tobacco, leguminous crops, also, other crops which are planted in the method "garlic planting". In this decree: 1. It should be received as an information that, in the paragraph of the special resolution "About announcing the Aral Sea area as the territory of ecological innovations and technologies", in order to sow cotton, rice, maize, corn and feed farm animals on 2,5 thousand hectares field of the Republic of Karakalpakstan, appointments were made about modernization of experimenting laboratories (food, agriculture, electro techniques, light industry) and applying logistic service on delivering samples to the laboratory.

Maize is liked and eaten by children and adults. Its main native country is South America. It is an annual plant and there are 26 elements from the periodical table of Mendeleev in its structure. According to the specialists' opinions maize has the peculiarity of obtruding cholesterol from the organism. Therefore, people who like oily food should eat maize more. It consists of B, PP, C and K vitamins (which improves the activeness of heart), phosphorus and kaluim.

Boiled maize brings to norm the amount of sugar in the organism of people with sugar diabetes. It is useful for people who have allergy, anemia, liver and heart diseases.

Not only the grain of maize but also fringe has some medicinal peculiarities. Usually, when maize is ripe its fringes are gathered and dried under shadow. It keeps essential oil, clue like oily things, organic and other micro elements in its structure in a large amount (https://azon.uz).

Actions on controlling pests, diseases and weeds of maize should be scientifically based, economical and little polluting the environment. In the conditions of the Republic of Karakalpakstan in order to protect

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maize from pests, diseases and weeds, it is important to know the time of appearance of them beforehand and on this basis to create high effective instruments, new modern, ecologically safe methods (Toreniyazov, Utepbergenov, Kutlimuratov and etc., 2013).

Maize is sown on large fields of Uzbekistan as a fodder and food crop. Today the only way of receiving high yield is indicating effective periods and creating effective scientifically based methods against them in using biological method to control pests. Nowadays, as a result of not carrying out the system of controlling maize pests, large part of yield (50-70) is lost (Toreniyazov, Xojaev, Xolmurodov, 2018; Xojaev, 2019).

The degree of studying the problem. About the development and damage of pests on maize and corn, in the southern regions of Uzbekistan, famous scientist, professor of Uzbekistan – Sh.T.Xojaev made actions on controlling maize and corn pests, their types and damage. But in the conditions of Karakalpakstan, types of maize and corn pests, their peculiarities of bioecological development, spreading, damage, comfortable actions on controlling them were not studied.

The object of the research. Maize and corn, sowing fields, types of pests and entomophagous.

The subject of the research. Defining spread of pests, diseases and weeds, damage and their structure in the fields of maize. The main aim of the research is to study bioecological peculiarities of the defined pests, damaged plants and organisms imported from other places, actions on controlling maize butterfly.

The actuality, aims and tasks of the theme. Not only flour is taken from maize, but also it is used as fodder to farm animals and raw material for reproducing industry. It is one of the most important food and the most necessary protein. The oil of plant is the fastest digestible in human organism, it's the best peculiarity is that it does not collect cholesterol in human organism.

One of the most actual problems of today is producing maize and receiving high yield and decreasing the damage of maize pests in order to satisfy with the food requirement of the region.

These days, in Karakalpakstan there can be met different types of pests which damage maize fields. Therefore, in order to increase maize productivity a special attention should be paid to protect them from pests.

The basic aim of the research is to study biology, ecological peculiarities, developing dynamics of pests on the basis of studying types of pests in the maize fields in agricultural farms of Nukus region and creating actions on controlling them.

In order to reach the aim the following **tasks** should be indicated:

1. Defining types of pests in maize fields, studying their biology and ecology.
2. Studying the spreading, development and density of maize pests.
3. Defining the damage of maize pests.
4. Studying the effectiveness of biological method in controlling maize pests.
5. Defining biological effectiveness of new insecticides in controlling maize pests.
6. Studying farm-economical effectiveness of methods used in controlling maize pests.

During the experiment, types of pests and their entomophagous, their number in the field were determined according to the method of F.M.Uspenskiy (1973) about defining the amount of pests; counting entomophagous in the conditions of the field – the method of V.A.Sharipo, V.A.Shepatelnikova (1976).

Studying natural entomophagous of pests in maize fields carried out on the basis of methodological manuals recommended by Korchagin (1980) and B.P.Adashkevich (1983).

Received results: types of pests and entomophagous meet in the maize field will be identified.

Results of the research. Types of pests in maize fields were determined in the scientific research. When maize fields of the regions Kungrad, Chimbay and Nukus were observed in the growing period of maize sprouts in early spring, it was defined that maize sprouts were cut vascular neck and higher than vascular neck, 1-2 cm above the soil (picture 1).

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Picture 1. Autumn earworm which damaged maize sprout.

Also, in the developing period of maize patch it was defined that cotton earworm pests (picture 2) and worms of maize stem butterflies (picture 3) damage maize patch.

Picture 2. Cotton earworm

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Picture 3. Studying the damage of worms of maize stem butterflies

Types of pests which were determined on maize are given on table 1. As can be seen from it, there are given the names of autumn earworm, cotton earworm and worms of maize stem butterflies.

Table 1

№	Name in Uzbek	Name in Karakalpak	Name in Russian	Name in Latin
1	Kuzgi tunlam	Gúzlik sovka	Ozimaya sovka	Agrotis segetum
2	Ǵwza tunlami	Ǵawasha sovkası	Xlopkovaya sovka	Heliothis armigera Hb.
3	Makkajwxori poya parvonasi	Mákke paxal gúbelegi	Kukuruznıy matılek	Ostrinia nubilalis Hb.

Average number of pests on the maize plant was defined in the experiment. Received information as a result of observation carried out in maize fields of the farm “Barziu Ismaylov” in Kungrad region is given on table 2.

As can be seen from the table average number of autumn earworm in 1 m^2 was 0,4-0,5 pieces, cotton earworm 0,6-0,8 and worms of maize stem butterflies 0,3-0,4.

Table 2
Types and density of maize pests
(Maize fields of the farm “Barziu Ismaylov” in Kungrad region, 2021)

№	Types of maize pests	Average number on one plant ($1m^2$), piece
1.	Autumn earworms	0,4 – 0,5
2.	Cotton earworms	0,6 – 0,8
3.	Maize butterfly	0,3 – 0,4

Conclusion

1. Autumn earworm, cotton earworm and worms of maize stem butterflies are met in the growing period of maize and damage it.
2. Average number of autumn earworm in 1 m^2 was 0,4-0,5 pieces, cotton earworm 0,6-0,8 and worms of maize stem butterflies 0,3-0,4.

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References

1. The decree of the President of the Republic of Uzbekistan on 29th July, 2021, number PD-5202, about actions on carrying out the special resolution **"About announcing the Aral Sea area as the territory of ecological innovations and technologies"** of the main assembly of the organization of the United Nations on 18th May, 2021. Tashkent, 2021.
2. Toreniyazov E.Sh., Utepbergenov A.R., Kutlimuratov A.M. and etc. Insects of agrobiocenosis of Karakalpakstan. Nukus, Karakalpakstan. 2013. p-34-41.
3. Toreniyazov E.Sh., Xojaev Sh.T., Xolmurodov E.A. Plant protection. Tashkent, Navruz. 2018. p-745.
4. Xojaev Sh.T. General and agricultural entomology and the basis of the protection system. Tashkent, 2019. p-186-188.
5. Khasanov Nurmukhammad. Organizing and carrying out military-patriotic education in educational institutions of the republic of Uzbekistan. INTERNATIONAL ENGINEERING JOURNAL FOR RESEARCH & DEVELOPMENT. Vol. 5 No. Conference (2020): ICDSIIL-20
6. KHASANOV NURMUKHAMMAD. USING OF INTERACTIVE METHODS IN MOTHERLAND LESSONS. **СТУДЕНЧЕСКИЙ**. Учредители: Общество с ограниченной ответственностью "Сибирская академическая книга" eISSN: 2541-9412
7. Khasanov Nurmukhammad Khaydarali Ugli. FACTORS OF EDUCATING YOUNG PEOPLE IN THE SPIRIT OF PATRIOTISM. INTERNATIONAL JOURNAL ON HUMAN COMPUTING STUDIES. Volume: 03 Issue: 4 |Jun 2021.
8. Khasanov Nurmukhammad Khaydarali Ugli. THE IMPORTANCE OF MILITARY WILL IN THE PROCESS OF TRAINING OF RESERVE OFFICERS. **Academicia Globe: Inderscience Research**. **Vol. 2 No. 04 (2021): academiascience**.
9. Nurmukhammad, Khasanov. "Patriotism is a sign of spiritual maturity." ACADEMICIA: An International Multidisciplinary Research Journal 10.7 (2020): 585-588.
10. KHASANOV NURMUKHAMMAD KHAYDARALI UGLI. "The Role of Family, Community and Education in the Development of Patriotic Spirit in Youth." JournalNX 7.1: 311-314.
11. KHASANOV NURMUKHAMMAD KHAYDARALI. "Patriotism is a Holy Duty of the Uzbekistan Youth." JournalNX 6.07: 281-283.
12. KHASANOV NURMUKHAMMAD KHAYDARALI UGLI. PATRIOTISM IS A HOLY DUTY OF THE UZBEKISTAN YOUTH. JournalNX- A Multidisciplinary Peer Reviewed Journal ISSN No: 2581 - 4230 VOLUME 6, ISSUE 7, July -2020

Internet sources:

1. https://azon.uz