



**ACADEMICIA**  
**An International**  
**Multidisciplinary**  
**Research Journal**  
 (Double Blind Refereed & Peer Reviewed Journal)



**DOI: 10.5958/2249-7137.2021.02139.X**

## BIOLOGICAL AND ECOLOGICAL CHARACTERISTICS OF MAIN PESTS OF LEGAL CROPS

**Yigitaliyeva Ogilxon Anvarjon Daughter\*;  
 Yigitaliyeva Mahbubaxon Anvarjon Daughter\*\*; Askarov Hasanboy Kholdorovich\*\*\***

\*2nd year master's,  
 Degree in storage and primary processing technology of agricultural products,  
 Fergana Polytechnic Institute, UZBEKISTAN

\*\*Teacher of chemistry 34-IDUM,  
 Furkat district, Fergana region, UZBEKISTAN

\*\*\*Supervisor:, PhD,  
 UZBEKISTAN

### ABSTRACT

*This article provides information on the role of physical and physiological properties of grains and cereals, the effects of microorganisms and pests, as well as storage regimes. The body length of the beetle is 2.5-3.5 mm. The whiskers of male beetles are comb-shaped, with 8-10 joints with long growths, and the whiskers of females are rosary. The presence of a moldy and pungent odor on the grain mass indicates the development of storage fungi. The main role here belongs to the fungus *Penicillium*. The initial stage of development of microorganisms is insignificant from the outside. this condition can be clearly determined by observing the dynamics of the microflora of the grain mass, because at this time there are still no signs of spoilage in the grain.*

**KEYWORDS:** *Lentils, Entomology, Rosary, Penicillium, Ball Beetle.*

### INTRODUCTION

In addition to microorganisms, there are visible and invisible living organisms in the grain mass that are called pests. the main pests settle on the grain before and after harvest, and then begin to live in the same conditions as the grain.

Pests include more than a million different insects in the insect class. The science that studies insects is called entomology. Of these, only one describes the beetle's habitat, survival and control measures.

Chinese grain beetle (*Callosobruchus chinensis* L.). Damage. the Chinese grain beetle, like the bean beetle, harms beans, peas, and cowpeas, lentils. Spread. Afghanistan, India, Indonesia, the Far East, Southern, Central and Eastern Europe, Central and South Africa, Mauritius, Bermuda, the West Indies and Hawaii.

Definition The body of the beetle is short oval; reddish-brown, with black and light spots of short feathers streaked along the wings. The base of the front of the back is wider than the tip. The next leg has teeth on the inside. The body length of the beetle is 2.5-3.5 mm. The whiskers of male beetles are comb-shaped, with 8-10 joints with long growths, and the whiskers of females are rosary. These signs make it easier to identify males and females. the larvae and fungi are very similar to the larvae and fungi of the bean beetle.

Living life. This beetle, like the bean beetle, infects the grains of plants that fall on it in the fields and in the barns after harvest. Elsewhere, it spreads mainly with grains. lays its eggs on the surface of beans in the fields and on grain or grain bags in warehouses, while the female beetle lays an average of 60 eggs. Eggs develop on average 8 days, larvae 17 days and fungi 7 days. under different conditions, the full development of this pest takes 18-60 days. Several larvae can mature in a single grain of bean. This pest gives several joints per year. It develops without hibernation when the temperature is high enough.

Control measures. Measures will be taken to control the bean beetle. *Callosobruchus quadrimacutatus* F. Damage. This beetle infects peas, soybeans, beans and peas. The grain is damaged just like beans and Chinese beetles. spread Occurs in India, Turkey, Greece, Belgium, Algeria, Central Africa, the United States and Australia. Definition. The body of the beetle is elongated oval. the front of the back widens further backwards, with two grooves on either side of the back edge; there will be one large thorn on the inside of the next number. the main color of the beetle is brown, there are one dark spot near and in the middle of the tip of the wing, sometimes these spots are not clearly visible or not at all. The length of the beetle is 3.5-5 mm. the larvae and fungi are very similar to the larvae and fungi of the bean beetle. Living life. Basically, it's like a Chinese grain beetle. It is most often spread by damaged grains. develops in the grains of the above plants grown in the field and stored in warehouses.

Females lay up to 100 eggs. When the conditions are right, the eggs develop in 4-5 days and the larvae in 17-22 days, the full development period lasts up to 30-38 days. gives 3 joints per year.

Control measures. Measures will be taken to control bean and Chinese grain beetles. Egyptian pea beetle (*Brachidius incarnatus* Boh.).

Damage. This beetle, like other grain beetles, causes damage to peas, lentils and pea grains. Spread. Occurs in North Africa, Spain, Portugal, Southern France.

Definition The body of the beetle is short, oval, reddish-brown in color, with a slightly darker part near the base of its wings; on the wings there are elongated, sometimes bumpy spots of yellow short feathers. The pygmies are gray and covered with brown spots. the thighs of the next leg are very thick and have sharp teeth. The length of the beetle is 5-3.5 mm. The larvae and fungi are very similar to the larvae and fungi of the bean beetle.

Living life. In general, they live like Chinese and four-toed beetles. control measures. Effects of microorganisms on the grain mass of bean beetles.

The amount of dry matter loss in the grain and the degree of deterioration of grain quality depends on the conditions of development of microorganisms and their active life.

Microorganisms affect the grain mass as follows:

1. The purity of the grain batch is disturbed (color, smell, taste deteriorate);
2. Decreased seed-bearing properties of grain;
3. Grain mass exhibits toxicity;
4. The temperature of the grain mass rises as a result of the activity of microorganisms;
5. The dry matter in the grain begins to disappear.

The initial stage of development of microorganisms is insignificant from the outside. This condition can be clearly determined by observing the dynamics of the microflora of the grain mass, because at this time there are still no signs of spoilage in the grain. The danger of this stage is that when bacteria and fungi find an opportunity for their active development, they cause spontaneous heating or suffocation and putrefaction in the grain mass. Therefore, the active growth of microorganisms in the grain mass cannot be allowed. This is done by timely processing of the grain mass.

Changes in grain freshness under the influence of microorganisms

The color, gloss, odor, taste of grain are important indicators of freshness. Grains ripened and harvested under normal conditions should be stored in the same condition as grains of this type or variety.

As the vital activity of microorganisms increases, changes in grain viability are observed in the following sequence: the grain becomes dull, spotted and darkened grains begin to appear, in some grains colonies of fungi and bacteria are formed, much of the grain darkens, broken grains appear. The color of the grain mass darkens, the elasticity disappears, and the final stage of spontaneous heating begins. The presence of a distinct odor from the grain mass during storage indicates the development of each microorganism. The presence of a moldy and pungent odor on the grain mass indicates the development of storage fungi. The main role here belongs to the fungus *Penicillium*. The complex of substances in the grain mass and the substances released from the fungus give it a pungent odor and unpleasant taste. And it is swallowed by the grain. Not all frosts are completely removed when measures are taken to remove them. This odor is transmitted to it and to other grain products.

In addition to the stench of grain storage, there are odors of rot, barn and mite, the occurrence of which is associated with the vital activity of each microorganism. The development of yeasts causes the appearance of a warehouse odor in the grain mass.

#### REFERENCES:

1. fayzullayev B., Ahmedov S.I., Khudoykulov A.M. Laboratory classes on the basics of agricultural entomology and quarantine. Samarkand - 2014.
2. Fayzullaev B., Nishanov N. Practical training on insect ecology. Samarkand - 2015.

- 
3. Hamraev A et al. agroentomological cartogram. Tashkent - 1994. 4.Hamraev A.Sh. Nasridinov K. "Plant lice, species composition and lifestyle." Tashkent - 2003.
  4. Hamraev A.Sh, Nasridinov K. Biological protection of plants. Tashkent - 2003 .