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PESTS IN THE STORED WHEAT AND TAKING SOME MEASUREMENTS

Abstract: Today, keeping grains and daily need products in the different storehouses is very necessary because of weather condition and some damaging insects outside. However, we may sometimes find some pests which destroy the harvest and give great damage to farmers and government. Therefore, we should take some measurements in order to store the safely. This paper highlights issues focused on pests occurring in the storehouse and measurements farmers take, and some ideas of scholar's according to these insects.

Key words: wheat, storehouse, measurements, pests.

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Introduction

Pest infestation of wheat grains depends on many factors. As such, quality storage of wheat and its products depends on the geographical region, agronomic techniques, method and conditions of harvesting, as well as storage methods, conditions, quantity of stored products, shelf life, pest control measures and others. As in many other countries, every year a lot of material costs are spent on pest control. Strong protection is possible only through regular monitoring of the condition of grain, improvement of grain storage facilities, application of pest control and control measures. Besides, phytophagous insects have divided two groups' generalist and specialist that feed on several hosts and one or few host, respectively[2]. Sun pest as a main pest of strategic crops (wheat and barley) in Middle East, particularly Iran, was considered as specialist insect [1]. Although many of management tools were used for its suppressing, but chemical control is interested tactic for its control, nowadays. Hemipterous insects have special approach feeding in the world animals. Extra oral digestion is the first step of hemiptera feeding. After it, digestion was completed in gut of them[5]. Furthermore, we strongly

dealt with the issues concerning pests giving damage to grain crops.

Literature Review

The optimal growth of phytophagous insects related to their ability in the utilization of essential molecular in their hosts. Some of the plants used from defensive proteins as disruptors in digestive. The process against parasites, protein inhibitors such a protease inhibitor, amylase inhibitor, and chitinase were reported from difference plants [4]. Plant defensive proteins act against both the secreted and structural proteins in gut of insects. Nowadays, using of anti-insect proteins has been considered as an ideal approach in pest management. In co-evaluation process, there were direct evidences that showed of some plant defensive proteins accumulated in lumen of insect [7]. The role of defensive plant proteins in gut of insect is not clear completely and need to be targeted in the new researches. There are two categories of defensive compound in plant with insecticidal activity contains non-protein metabolite like alkaloids, terpenoid, rotenoids, tannins, cyanogenic glycosides and protein metabolites like the most of enzyme inhibitors[10]. Some of these

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proteins are constitutive in plant tissues or induced after receiving of the phytophagous signals. The most of these signals are existed in the Insect Oral Secretions (IOS) [2]. These signals have various effects on the defense system of plants. Some of them elicit and some of them may suppress defensive reactions in the plant tissues[9]. Gut and salivary gland proteome of sun pest were studied by Saadati et al.[6],[8]. About 15 proteins that accumulated in adult and fifth instars nymphs' sun pest were reported by Saadati et al. (2012b). Every identified proteins were classified in the special groups such as carbohydrate, lipid and protein metabolism, defense system, muscular system.

Pests in the storehouse

Grain pests have been known since ancient times. In ancient times, humans took various measures to protect grain from pests. With the advent of grain warehouses for the first time, various rodents and insects began to accumulate there. For some species, this new ecological environment was acceptable, and they gradually adapted to living and developing only in these areas. As a result, a whole group of "warehouse" pests began to appear. Furthermore, it is known that insects are very dangerous for the quality and quantity of grain. Grain pests have long been known to man, and man, even in primitive times, used guidelines to protect grain from them. Additionally, the development of agriculture, the expansion of trade between peoples, laid the groundwork for the spread of pests around the globe. As a result, the process of adaptation of pests to different conditions took place; some of them completely multiplied in warehouses and adapted to development, and in practice were completely cut off from the external nature (warehouse long beak, chrysanthemum, warehouse moth). Some can reproduce and thrive both outdoors and in the barn (rice husks, grain husks, bean husks, canals), while others can only reproduce and thrive in nature and accumulate in grain storage facilities. It comes with the harvest (pea grain, grain nightshade). In grain-receiving enterprises, these pests cause great damage to the grain as they develop. As a result of their activity, the product is reduced and also contaminates the grain with dead fungi, etc., resulting in a decrease in product quality. In addition, some serve as a source of moisture and heat in the grain, some disable production facilities, utensils, etc. (rodents), and some become a means of spreading many infectious diseases. In addition, pests cause significant damage to grain and its processing in various food industry enterprises. According to statistics, pests cause the loss of 5% of world grain stocks. Moreover, all insects reproduce by laying eggs. After hatching, the female lays eggs in one, two or balls, depending on the type. Insects usually lay

their eggs in or near food because the larva that hatches from them feeds on this food. In addition, many species of female insects protect the eggs with a special liquid or cover them inside the grain in order to protect them from external hazards (temperature, humidity, predatory insects, etc.). Eggs come in different colors, shapes and sizes depending on the type of insect. Larvae also emerge from it at different time intervals.

The development of larvae from eggs is of two types: incomplete and complete. In incomplete development, insects go through three stages: eggs, larvae, and mature insects. In this case, the larva from the egg resembles its parent in appearance, only it has no wings and is small in shape.

During its development, it gradually forms wings: thrips, field handcliffs, haystacks can be taken as an example.

There are four stages in the full development of an insect: the egg, the larva, the fungus, and the mature insect. The larva that hatches from the egg does not look like its parent at all, i.e. it looks like a worm. They are strongly nourished during growth and development.

In the last period of their larvae, they look for a comfortable place, because as soon as they move to the dome, they stop moving. Many insects take refuge during the transition to the dome, some swinging, and some cling to the cocoon.

Conclusion

Insects cause the most damage to grains and grain products among invertebrates. There are now millions of species of insects around the world that are combined into one class - Insect - in a zoology course. The most significant of the pests that damage grain stocks are insects. To date, more than a million species of insects have been identified, all of which belong to the class insects. In the world practice, several hundred species of insects and dozens of species of canes are known. Insects (hard-winged, Coleoptera) On the outside of the beetle is a strongly chitinous wing. That is why they are called hard-winged. In this wing of the beetle there are various ridges, pits, various spots, dots, feathers, and so on. These signs can also be distinguished according to shape, color, size, and other characteristics. All beetles have a rodent-type oral apparatus. Beetles have the ability to reproduce rapidly under favorable conditions. After hatching, the female beetles lay their eggs in grain storage, sacks, woods, and other places. Some species dig eggs and lay eggs here. The larvae hatch from the eggs. The resulting larvae are very nutritious and feed strongly during their development. The larvae of most beetles are worm-shaped and have three pairs of legs on their chests. The mouthparts of the larvae are rodent-type and cause great damage to the grain.

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