METHODS OF IDENTIFYING QUARANTINE PESTS OF PLANTS

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Abstract. *The decision of the President of the Republic of Uzbekistan "On the establishment of the Plant Quarantine and Protection Agency of the Republic of Uzbekistan", the "Roadmap" for the development of the field of plant quarantine and protection in 2021-2024, the organizational structure of the plant quarantine and protection agency and its central apparatus, Plant Quarantine of the Republic of Karakalpakstan and protection agency structure, model structure of plant quarantine and protection departments of regions Tashkent city plant quarantine and protection department structure, based on the model structure of district (city) plant quarantine and protection departments named after Sharof Rashidov Samarkand State University, Institute of Agrobiotechnologies and Food Safety, Department of Agrochemistry and Plant Protection will provide explanations on identification of plant quarantine pests during training of 2nd and 3rd level students.*

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Plant inspection and expert methods are interrelated processes. Laboratory expertise includes the following analyses: entomological, phytopathological, virological, bacteriological, phytohelminthological and weed.

Entomological expertise. Entomological analysis is aimed at determining the presence of insects and spiders in quarantine products.

The analysis of the products depending on the size is carried out using different methods: sieving the seeds one by one, flotation, X-ray, macroluminescent, biological. A spatula or scalpel is used when the method of examining the seeds one by one is used.

It is determined that the parcels, bundles and the small amount of seeds contained in them have not been pierced by pests from the outside. In the case of cutting the seeds inside the packages with a thickness of 1-2 cm, they can be seen one by one using a spatula and a scalpel. Damaged seeds are placed in test tubes and covered with corks. Magnifiers and binoculars are used to identify insects during the examination.

Seed Inspection - This labor-intensive method is used to examine a variety of seeds, grains, small dried fruits, and similar materials. Depending on the size of the review, it can go in different ways. It is recommended to use plastic or metal trays when examining small botanical organisms of seeds. An even smaller seed sample can be viewed on a white paper surface.

Spatula or scalpel is used for picking seeds. Seed sieving methods - soil sieves can be used if the sample contains a lot of insect waste inside the seeds. During the sieving process, the sieves are

filled with various insects at the top, smaller insects in the middle, and insect waste and mites at the bottom. When using this method to identify very small insects, it is strictly forbidden to first identify the caper beetle, because the beetle larvae are so small that they can get into various holes and crevices of the sieves. Of course, later these sieves, if not thoroughly infested, can become a hotbed for the caper beetle. Sieves should be boiled in water for a long time to disinfect.

Flotation method. Flotation is a method that helps to determine if the seeds are damaged. In the flotation method, various amounts of table salt and saltpeter solution are used. In this case, 570-730 g of saltpetre is dissolved in 1 liter of water at 150. Quarantine laboratories vary in location, orientation, and equipment depending on the size of the work. Small laboratories at border crossings usually carry out simple analyzes and therefore do not have sophisticated equipment.

Regional and central laboratories employ highly qualified specialists (entomologist, phytopathologist, bacteriologist, phytogelmentologist, botanist, radiologist and toxicologist) and their work requires complex special equipment and equipment. Below is a list of special supplies and equipment needed for this lab. The equipment at the border point is marked with an "asterisk" in the list. The number of units is not indicated, because their number depends on the size of the work. X-ray method - the X-ray method is used to determine whether the seeds are damaged by the pest in a hidden form. An X-ray machine called ARS-1 is used for this. X-rays of seeds are carried out as follows.

Seeds are placed in a single layer on thin parchment paper in special wooden boxes. A new photofilm wrapped in black paper is placed under the boxes. Then the seeds are seen with X-rays. The duration of irradiation is five minutes. Then the boxes are put on another table without shaking. The radiographs are carefully examined after appropriate processing and all suspicious seeds are marked with a pencil. X-rays clearly show insect larvae, fungi, and maggots and debris inside the seeds. Also visible are live and dead insects. Then the infected seeds in the box are taken with tweezers, X-ray images are compared, and an entomological examination is carried out. This method mainly checks imported cotton seeds, cultivated and wild grass seeds.

Macroluminescent method - some of these methods are used to determine the damage of seed seedlings and cuttings damaged by pests. These pests include: Quarantine seeds, including Chinese grain borer and Brazilian seed borer. Their eggs, as well as the eggs of the barn owl, crack and luminesce. In addition to these, wastes of red blood lice and mealybugs also luminesce well in the leaves of cuttings and seedlings. This method uses special equipment. LMU or L-84 analytical mercury quart partitive lamp and UFS-3 light filter that transmits ultraviolet rays invisible in the PRK-4 lamp. The work must be done in a dark room, if there are many samples of seeds, a special transfer device is used. The seed is placed in a hopper and slowly falls into a conveyor using a special machine, and as the radiation passes through the source, damaged seeds are inspected.

With the appearance of damaged seeds, the conveyor is stopped and the seeds are collected for further entomological analysis with the help of a pen, and then the conveyor is started again.
Biological method - in most cases, during the examination process, during the laboratory examination and analysis, not all pests, but fungi and eggs are found. In most cases, insects can be identified only by their imago. Therefore, in order to determine which type of insect they belong to, it is necessary to take care of the larvae and eggs of the fungus until the age of the mature insect.

To transport the larvae and worms to the imago stage, put them in a glass jar and close the mouth with gauze.

QUARANTINE PESTS OF COTTON BUSH AND QUARANTINE MEASURES AGAINST THEM

1. Species - COTTON MOTH or pink bollworm - Restinorhora gossuriella Sound. Family - mammals - Gelechiidae, family - lepidoptera - Lepidoptera. It is also spread in Albania, Greece, Spain, Italy, Yugoslavia, Asia, Afghanistan, Bangladesh, Burma, Vietnam, Israel, India, Lebanon, Pakistan and other countries of Europe, Africa, Oceania, Central America.

Not registered in CIS countries. But the risk of crossing them is very high, because this pest is widespread in bordering countries. The cotton moth damages the generative organs of cotton, the boll, the flower, the boll, the seed and even the fiber. Damaged combs, flowers dry up and fall off. The pods remain unripe, the fiber is of poor quality, the germination of the seeds obtained from it decreases. Damaged pods rot. 15-20 mm when crushing butterfly wings. The front wings are light gray in color. The front wings of the butterfly have a sharp point, and there are not very limited black spots. The hind wing is slightly wider than the front, and their outer edge is lighter in color. The seeds are dark brown in color. A female is genetically different from a male. The tube is oval-shaped, 0.4-0.6 mm long, 0.2-0.3 mm wide, pearly white in color. The main color of the body is yellowish-white, the head is black. Newly hatched worms are light in color, 1-2 mm long, and large ones are pink in color and 12-15 mm long. False axes have 15-17 hooks. The worm is able to go into a long diapause and maintain its viability. The color is gray, the length is 10 mm, the body is quite thick. In the field, the worms overwinter in pods, unharvested stems, and seeds after harvesting.

But according to Chinese entomologists, only 0.75% of cotton moth worms overwinter in field conditions, and the remaining 99% overwinter in seed warehouses, cotton ginning factories, warehouses of cotton fiber factories, and cotton fiber residues. Worms molt 3 times and go through 4 molts during their lifetime. In unfavorable conditions, cotton moth worms go into long-term diapause and maintain their viability. The image appears when the temperature is 20 0C. Butterflies live 14-20 days. Fertilized butterflies lay up to 500 eggs, 110 in combs and pods. As a result of gnawing damage, the worms that have hatched from the eggs destroy seeds, fruits and other organs, damage the fiber and cause great damage to the crop. Fed maggots pupate in pods in the field, in barns, on infected seed. Worms make a circular path for a new imago to emerge from the sponge. In Egypt, the cotton moth gives 5-6 generations in one year, in China it gives 4-5 generations. Cotton moth is spread by active flight, seeds and cotton bolls. In addition, this pest spreads through infected fiber and seeds.

2. Type - ASIAN COTTON BOILER Spodoptera litura Fabr. Family - night owls - Noctuidae. Category - Lepidoptera - Osiè cotton bollworm infects cotton, corn, tomatoes, eggplants, carrots, cabbage, potatoes, peas, alfalfa, wheat, roses, chrysanthemums and other plants. Worms cause severe damage to cotton leaves and bolls. It reduced the tobacco yield in India by 25-50%. In Malaysia, it damaged up to 75% of the sweet potato plant, where the number of Osiè cotton bollworms on 1 ha was 1.5-28 thousand. 35-40 mm when the wings are folded. The forewings are elongated dark grey, with a lighter stripe and larger kidney-shaped spots. There are black dots on the tips of the front wings. The back wings are white, shiny. The egg is light yellow in color, round, and the upper part is pearly. Eggs are laid in 2-3 pieces touching each other. The worm is 6 years old, the newly hatched worms are light green in color. The thorax and false axillae

are dark brown, 1.3 mm long, and the worms on the last leg are light brown. Abdominal segments 1 and 8 have a black spot, longer than other segments. Spots are irregular in shape. The head is dark brown with a white streak. The front chest shield has dark white dots. The thoracic spines are darker than the abdominal spines. The color of the cone is similar to the shell of a walnut, the length is up to 19 mm. Segments have 6 pairs of breathing holes. In the summer, it takes 33-35 days for the entire development, the larvae pass 6 months. Gives 4 generations in one season. Fertilized females lay up to 2500 eggs.

3. Species - EGYPTIAN COTTON BORDER - Spodoptera Littoralis Baisd. Family - night owls - Noctuidae. Category - Lepidoptera. The Egyptian cotton bollworm infects cotton, potatoes, corn, tobacco, cabbage, soybeans, roses, and legumes. In some years, up to 75% of the cotton crop was lost due to this nightfall in Egypt. Newly laid eggs are pearly, white-yellow and green in color. Egg balls are separated from the end of the abdomen of the female, covered with golden brown hairs. Before the worm hatches, the upper part of the egg darkens, and the lower part turns white. The color of the worm resembles the color of the Osiè night worm. It is distinguished only by the shape of the parts of the oral apparatus and the claws on the chest. The bulb is brown in color, about 16 mm long, the beginnings of the wings, the tips, and the whiskers are clearly visible. The cremaster at the end of the abdomen has a pair of spines.

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