

METHODS OF OBTAINING HISOB OF PLANT DISEASES.

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Annotation: *this article provides information on the prognosis of plant diseases and the harm that the percentage of their spread in maidoon brings them to plants and the decrease in productivity in plants due to this damage. Usually through the contribution of plant diseases, we reach those below first we get detailed information about the type of disease, and secondly enough information about the percentage of spread is obtained, from the midwife we get information about the intensity of the disease and how many percent of the area it has damaged and other scientifically based information about it.*

Keywords: *field, pathogen, Parashah, percentage, diagonal, chess method, hidden period, karakuya fungus, rust fungus, infected plants in the sample, mold, bujmayish, disease spreading rate, hidden destruction, hectare.*

To properly organize and plan the protection of agricultural crops from diseases, it is necessary to have detailed information about the composition of the type of disease-causing microorganismhir, their distribution, economic harm, origin. This data is collected on the basis of Phytopathological observations and calculations carried out in cultivated areas. In order to properly organize the appearance, harm and fight of diseases on farms, directional, targeted research is carried out on existing crops. A prerequisite is that the size of the area under study is equal to 10% of the crops under control. In scientific research work, special observation sites are organized to take into account the appearance, spread and damage of diseases in agricultural crops throughout the year. Control and calculation work on such platforms is repeated every 10 days. It is selected depending on the width and height in order to evenly distribute the area of \ u200b \ u200bfrom the entire field, which will be taken into account in the cultivated areas. The number of plants with signs of disease in these fields, the degree of morbidity of their members, is calculated and sampled for Mycological, Bacteriological Analysis [1,2,3]. The number of samples is determined

depending on the type of plant being studied and the area. When considering diseases of agricultural crops, it is necessary to take into account their prevalence, degree of incidence and speed. The spread of the disease is understood as a percentage of its occurrence in plants of the studied area of the leaf, fruit, nodule of plants. This uses the following formula:

$$P = \frac{n * 100}{N}$$

In this:

P - spread of the disease, %;

N - number of studied plants in the sample;

n - number of infected plants in the sample.

When calculating the spread of the disease throughout the economy or in the district, it is also necessary to take into account the number of infected plants and the area of cultivation. This uses the following formula:

$$Po = \frac{\sum sp}{S}$$

In this:

Po- percentage expression of the average spread of the disease;

$\sum sp$ - spread of the disease in a specific area expressed in %;

S - total area studied, (in hectares).

For example, in the first 120 surveyed, the prevalence of the disease is 35%, in the area of 80-22%, in the area of the third 300-9%. The average amount of the disease in the studied farm is calculated as follows:

$$Po = \frac{(120 * 35) + (80 * 22) + (300 * 9)}{120 + 80 + 300} = 17.3 \%$$

The degree of incidence is an indicator of its quality. This indicator is determined by the size of the disease on the surface of the plant organs. To do this, the infected surface of the plant limb is approximately calculated (spots, mold, bumps). When calculating the incidence rate, a scoring system is used to determine its amount. Below is a 5-point system detail.

0-the disease is not observed.

1-fruits, leaves, up to 10% of the plant is infected;

2-fruits, leaves, between 11% and 25% of the growth is infected with a tick:

3-fruits, leaves, 26% to 50% of the plant is infected with pepper;

4-fruits, leaves, more than 50% of the plant infected with a gasket;

On a given scoring scale, plants determine the degree of morbidity of leaf, fruit, stem, nodule, flour-dew, spotting diseases, depending on its

amount numkin. In directional studies, the incidence rate of each tumor or tree is determined by a separate score. Plants belonging to each variety are also considered separate. The plants to be counted can be 10 in trees, 100 to 1,000 in annual plums, vegetables and field crops [4,5,6]. The rate of spread of the disease is based on determining the rate of spread of a particular variety in the field or in the entire field. The rate of spread of the disease is expressed in percent and is calculated according to the following formula.

$$R = \frac{\sum(a * b) * 100}{N * K}$$

In this:

R-rate of spread of disease (%);

∑ - the total sum of the number and score of infected plants;

a-number of infected tumors,

B-incidence rate(in ball,

N-total number of plants calculated,

K - highest score.

If the rate of spread of the disease is expressed in points relative to each plant by district or farm, it is calculated from the following formula:

$$R_o = \frac{\sum(R * n)}{\sum P}$$

In this:

Ro - average prevalence of the disease;

R-the amount of spread of the disease;

N is the area of spread of the disease,

∑P is the total area in which the account is transferred.

For example, 100 leaves have been considered to calculate whether an apple tree is infected with kalmarase. Of these, 10 leaves were found to have 1 point, 15 were found to have 2 points, 50 were found to have 3 points, 10 were found to have 4 points infected, and 15 leaves with 0 points infected. The rate of spread of the disease is 46% when calculated according to the above formula.

$$P_o = \frac{(10 * 1) + (15 * 2) + (50 * 3) + (10 * 4)}{100 * 5} * 100 = 46 \%$$

Calculation of crop loss due to diseases. Crop loss refers to the decrease in the amount of crop yields due to certain diseases. Crop loss occurs due to a decrease in quantity or deterioration in quality due to plant infestation. When calculating a decrease in yield or crop loss, a sample of healthy and diseased plants grown in 1 m² or 1 Hecate site is determined

and the reduced amount is calculated in percentage terms. To calculate this quantity, the following formula is used:

$$Q = \frac{(A - a) * 100}{A}$$

In this:

Q-crop loss;

A-the amount of harvest of healthy plants;

a – the amount of crop yield of infected plants.

The amount of crop yield depends on the type of disease, the rate of spread of the disease, the disadvantage of environmental conditions, the degree of disease resistance of the variety, in what phase of plant development the disease occurs [7,8].

For example, if the incidence rate of the stems of different varieties of potatoes under the same conditions is 25.3% in Priekulsky, 12.8% in Berlixing, 7.6% in Stoloviy, while the rate of spread of the disease is 50%, the yield loss is 35.2 %, 22.6 and 22.0% in accordance with the above. The effectiveness of measures to combat diseases of agricultural crops is determined by an increase in the quality and quantity of the crop. In the calculation of technical efficiency, the speed and harm of the spread of the disease is expressed in a decrease in the result of measures to combat the disease. The technical effectiveness of the measures of struggle used is calculated according to the following formula:

$$T = \frac{(P_k - P_o) * 100}{P_k}$$

In this:

T - technical efficiency (%);

P_k - the rate of spread of the disease in the control variant;

P_o - the rate of spread of the disease in the experimental variant.

The economic efficiency of the implemented measures is determined by the additional yield obtained, covering the costs used in the fight against the disease in the farm [9].

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