QUESTIONS FOR IMPROVEMENT DEVICES PRESOWING SEED TREATMENT

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The work is devoted to the choice of pre-electric devices designing seed treatment.

Seeds, electric field device, electrical preplant treatment.

The problem of increasing cultivated, yielding quality seeds and adaptive properties of plants grown from them, ecologically friendly products is now becoming more urgent.

Increase sowing qualities and adaptive properties of crop seeds in their preliminary treatment along with conventional agricultural practices, is essential in solving the problem of increasing crop production [1, 2].

Because of its biological riznoyakist seed crops differs stretched period of germination, different force growth and response to adverse growing conditions. As a result, plants develop unevenly, leading to a decrease in yield.

With intensive use of land size and quality of the harvest of crops are directly dependent on the optimal density stand of plants, as increased and discharged density leads to lower crop. Therefore, at the present stage of development as vegetable seeds used for planting, given particular importance, especially when using the Precision drilling seeders. Planting these drills not only improves yield, but several times reduces the consumption of expensive seeds.

Preseeding preparation seed crops should pursue four objectives:

 increase field germination of seeds;

 stimulate the growth and development of plants;

 reduce riznoyakist plants on their "life force", the ability to withstand adverse environmental conditions;

It should be noted that the effectiveness of pre-seed treatment largely depends on the conditions in which they fall. Often stimulating the growth and development methods show similar results when used in different conditions, but the extent of their effectiveness will thus vary. All methods of pre-treatment of seed are conditional sections the three classes: mechanical, physical and chemical. Mechanical methods of seed preparation (cleaning, sorting into fractions by density, size, and so elektroseparatsiya) Used in all systems without exception, followed by physical and chemical methods of action.

As shown by studies conducted by a number of authors, most stable positive effect on crop seeds reached the electric field [3].

The aim - to present time an important role for the study of alternative methods to chemical methods of crop protection. According to many experts [3-5], prospects are vnoyu-processing presowing seed physical factors.

In the analysis of electrical equipment for pre-treatment of seed physical agents focused on a number of features which, in our opinion, should have each of these settings. These functions we refer, for example, moving seed layer uniformity and distribution of the electric field in the working area.

Material and methods of research. For commercial development of technology using the electric field needed devices that meet the necessary requirements. As a result, patent information and search were found settings suggested by several authors for pre-treatment of seed [6, 7] and discovered flaws in their design, such as the uneven distribution of the electric field in the working area, which makes it impossible to process the seeds evenly and opportunities electrical breakdown between the top of the moving parts and electrodes.

The results of the study. The proposed device for pre-electric seed treatment are presented in Figure 1. The device consists of a controlled static frequency converter 1 which delivers an electrical signal to a high frequency high voltage transformer 2. Increased high frequency voltage supplied to unit - 3 inductor, which feeds the isolated plate 4. enerhozabezpechennosti increase of the device, at the intersection of isolated plates 4, 5 isolators installed.

The proposed device operates as follows. Seeds fall asleep in isolated cells between the plates 4. supplies power to the regulated static converter 1, which increases the frequency. With 2 high-voltage transformer increases the amplitude and fed to block inductor 3, which transfers energy to the isolated plate 4. Block inductor 3 delivers electric power to the isolated plate 4 so that, firstly, the feed plate 4 isolated one (parallel) direction through a period - the second (perpendicular) direction [8].

Conclusions

The investigations show that the most promising method for pre-treatment of seeds is an electric seed treatment, the successful implementation of which depends on the pace of industrial development and the development of high-performance devices. Methods of selection and calculation of performance indicators according to terms of reference for further research objective.