TERM STUDY OF SEEDS SOFTENED CEREALS PROCESSED IN STRONG ELECTRIC FIELD, IN HIS SOWING QUALITIES

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Pre-sowing seed treatment is one of the most important stages in the production of agricultural products. At the present stage of the grain industry preplant treatment involves several stages, the main ones are: seed treatment and biological treatment of growth promoters. As a result of seed treatment destroyed harmful microflora, which leads to disease of plants after seeding, but at the same time deteriorating crop quality. Therefore, seed cultivation requires additional biological growth promoters. This technology involves the use of chemical and biological agents that have the ability to accumulate in the soil as well as in crop production, which ultimately has a negative impact on the environment in nature and the human body.

One of the areas that developed in recent years is the use of high intensity electric field. During this treatment on seed lot has a set of factors - high electric field intensity, DC conductivity, ionization processes in seed mass and ozone, which provide simultaneous stimulation of growth processes and decontamination grain surface from harmful microorganisms.

Conducted study the influence of strong electric fields at sowing of seeds. Treatment of seed mass is held on the developed experimental setup, the electrical circuit is shown in Fig. Seed mass processed, filled in the processing chamber, where the high voltage between the electrodes. In summarizing the electrodes of high voltage seed mass is subjected to complex action of several factors, most of which are DC and ozone. Direct current passing through the seed, stimulates growth processes, and ozone is formed in the air inclusions seed weight, detoxify harmful microflora, preventing morbidity plants after sowing.

For research used four types of cereals, buckwheat (Victoria, Elena, Orans) Soriso (Quartz, Odessa 302 Titan), sorghum (205 Odessa, favorite, Honey), millet (Denvikske, Sail, Golden).

As a result of studies found that seed treatment in an electric field of high intensity improves sowing qualities, but the best effect is achieved if the seeds sown immediately after treatment, but softened over time.

Analyzing the conducted researches found that the effect of stimulation of seeds after treatment in an electric field of high intensity direct current best manifested in 7-10 days compared to the control sample (no treatment). That is, on the tenth day included most physiological processes in growth as a result of seed treatment. Samples of seeds, sown on the second day after treatment showed no significant advantages in energy laboratory germination and germination compared with a control option, while samples laid down in the seventh and tenth day after treatment, these figures have improved relative to control. As for culture Soriso, in grades Titanium Quartz and observed a negative effect in the treatment of high electric field intensity at sowing of seeds, indicating a different varietal reaction and need further study and improvement of processing modes.

The largest increase was observed indicators of sowing qualities of seeds of grain sorghum varieties Odessa 205, where germination energy and germination laboratory increased by 8% (from 90 to 98%) compared with the control variant (without treatment).

The results of the studies found that as a result of seed treatment of cereals in the electric field of high intensity it improved crop quality, but to achieve the best effect of seed treatment should be carried out 7-10 days before sowing. Softened seeds for 7-10 days allows the greatest extent intensify the growth processes in seeds.