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ACTION OF THE ELECTRIC FIELD OF HIGH TENSION ON THE SEEDS OF TOMATOES

L. Kolodiychuk, S. Gaydukevich, N. Potapenko, N. Semenova

The increase of productivity of agricultural cultures and production of enough body ecologically to the clean products is an actual question both in Ukraine and in a whole world. Considerable part of agricultural product of plant-grower (about 25-30 %) is lost due to unhigh-quality sowing seed, over 30 % sowing material is useless for sowing due to low likeness and insufficient energy of germination.

The partial decision of this problem, in our view, lies in the plane of introduction of modern, economic advantageous, энергосохраняющих and ecologically safe technologies of predposevnoy stimulation of seed.

In particular, to perspective facilities of influence on the seed of agricultural cultures we take action of the electric field of high tension.

Seed most corn and vegetable cultures are characterized by the high degree of variety of sowing qualities and properties. Seed a different quality appear through a different state of maturity, density and sizes of seed, duration and period of rest, which are conditioned by the differences of terms of forming of seed on the maternal plant.

Today there are enough a lot of methods of influence on sowing material. Known methods of stimulant treatment of seed on the basis of action of the permanent, gradient and impulsive magnetic fields, variable electromagnetic fields with the wide spectrum of frequencies, electromagnetic field of crown digit, uncoherent light impulses, to the ultrasound, г-irradiation and etc

Electro-technological treatment of seed in the electric field of high tension (field of crown digit) is based on two groups of factors:

- influence on physical processes directly in a pip, that results in biological stimulation;

- influencing on microorganisms which are on the surface of seed, with the purpose of rendition harmless of their ruinous activity.

During research of treatment of seed setting for treatment of seed by the electromagnetic field of high tension of direct current is developed.

The prepared test of seed in obedience to DSTU 4138-2002 is processed by high tension from 3c to 6 mines. It causes changes of electric properties of seed and increase of his vodopogloschenyya from 12 to 42%, correlation of mass changes accordingly.

We tested the seed of tomatoes of «Ephemeras» with the humidity 10…12% at the temperature 17єC. Then was taken away for 10 semenyn by a random sample, which took place in plastic dishes on the filtered moistened paper and placed in a thermostat for proraschyvanyya at +25±0,5єC. In three days the amount of proroschennykh seed made 88%.

The count of normally germinating seed was conducted twice, energy of germination was determined in the first, in the second is likeness. The count was executed after every repeated, dividing sprouts on normally and not normally germinating, filling out and putrid (hearth mould).

It is experimentally set as a result of high-voltage electromagnetic stimulation, that:

- on 20-27 % the process of absorption of water and nutritives gets better;
- on 17-22 % likeness rises;
- energy of growth rises on 14-16%;
- time of vegetation of plants diminishes;
- on 18-24 % productivity on abolition with control seed rises;
- there is communication between duration of treatment and physical and chemical and фізіолого-biological qualities of seed.