METHODS PRE-TREATMENT OF CORN SEED IN THE ELECTROMAGNETIC FIELD

A. Chmil, K. Lazariuk

Annotation. *The analysis methods of pre-treatment of cereal seeds to enhance germination and crop yields. The most promising methods of pre-treatment of seeds.*

Key words: seeds, electromagnetic field of ultrahigh frequency, constant magnetic field, disinfection, preplant stimulation.

The issue of pre-processing of agricultural products received considerable attention, especially in recent years when the growing cost of agricultural production.

Getting a full harvest largely depends on the quality of seeds and growing technology includes a number of measures: post-harvest storage, preplant treatment, disinfection, crop. At each stage of production and storage of seeds, possible negative impact of exogenous factors that reduce their quality. In poor storage conditions or cultivation, seed loses natural similarities, infected diseases, damaged by pests, injured when machining. In this regard, the seed treatment before sowing is one of the important preconditions for profitable crop production.

The purpose of research - analysis and study of energy-efficient methods of pre-treatment of crop seeds.

Materials and methods of research. Due to the advanced countries focus on environmentally friendly technologies in agricultural production, more attention is paid to the development of physical methods of treatment. From electro measures should distinguish thermal disinfection, the use of X-ray and gamma radiation, electrical, magnetic and other fields.

Seed mass decontamination technology using high frequency electromagnetic field fields will combine the following operations: preliminary moistening the grain, because the basis of most disinfecting processes performed using microwave energy is dielectric heating of the material; thermal effects.

Microwave heating, to include a new type of energy-efficient electrical technologies, thanks to the following advantages compared with conventional heating temperature:

• Thermal bezinertsiynist, that possibility is almost instantaneous on-off effect on heat processed material;

• High efficiency energy conversion into heat (90%);

• the possibility of the election, uniform, rapid heating;

• environmental friendliness of heating, as when it is used, there are no products of combustion;

• high disinfecting effect.

Compared with other methods of pre electro stimulation, seed cultivation constant magnetic field, this high-performance, energy-efficient, ecological and safe method for staff.

Findings

Based on the analysis of the literature found that the most effective method for disinfecting electrotechnological corn seeds are high frequency electromagnetic field, and for its pre-stimulation constant magnetic field.