

RESEARCH CONCERNING THE SEED SEPARATION AND SORTING BY VIBRATIONS

ILEA RADU, TONEA CORNELIA, TONEA ELENA, POPA DANIEL

Banat's University of Agricultural Sciences and Veterinary Medicine
Timișoara,
Calea Aradului. 119, 300645 Timișoara, Romania
ileaupc@yahoo.com

ABSTRACT – Research concerning the seed separation and sorting by vibrations

The operation of separation of seeds from the layer on the sieves of seed cleaning and sorting machines takes place due to the phenomenon of material stratification in its components, which are differentiated after their density and also, due to the state of sifting of the seed layer on the separation surface, produced by the motion of sieves.

In order to verify the results, obtained in the theoretical study, experimental tests were performed, where there were determined the time and velocity of displacement of the material on the vibrating sieve surface, the degree of separation of components from the mixture, subjected to sifting process and the sieve productivity, all these as functions of the kinematical parameters of the motion of cleaning system, respectively of the rotative speed of the shaft of driving mechanism, the amplitude and frequency of oscillations.

All determinations were effected at different inclinations of oscillating sieves and different rotative speed of the driving shaft. In all variants of work, the tests were performed in more repetitions, the results presented in the experimental study being the average of these repetitions.

Keywords: flat sieves, sliding regimes, relative motion