Advanced vibration pneumatic separator of cleaning of seeds

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Summary

Research objective-increase of overall performance vibration pneumatic separator. Problems of work: to carry out the analysis of process of conveyance of seeds on yeast heads, a blown inclined air flow; to develop mathematical models for calculation of speed of conveyance of seeds on Deke a vibration pneumatic separator; experimentally to determine speeds of movement of seeds on yeast heads a vibration pneumatic separator and to give an assessment of division of a grain material in a fluidized layer at the raised specific loadings on a vibration pneumatic separator from the advanced wild. For the purpose of identification of a mode of influence of an air flow on the layer of the seeds moving on the punched surface, vibration pneumatic separator with delivery system of air supply with an inclined air flow was made. The car consists of a frame, flow, having zones of preliminary stratification and separate transportation, a housing of racks, the gear of the drive gear consisting of a shaft and a connecting rod, the fan. The housing is executed in the form of an air vent located under wild along a connecting rod, and its water part is connected to the delivery port of the fan, and output with the heel flow. The equations for calculation of average speed of relative conveyance of seeds for the punched fluctuating surface blown by the directed air flow are received. Application of an improved version of a vibration pneumatic separator for cleaning of elite seeds of grain crops allows, in comparison with used, to rise specific loading more than twice, to reduce specific power consumption by 30-50%.

Key words: vibration pneumatic separator, yeast heads, average speed, inclined air flow.