

The efficiency of the oilseed drying process in suspended layer

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Abstract

The drying process of oilseeds in a suspended layer is investigated in order to increase productivity, reduce energy consumption and improve the quality of seeds for multipurpose use. To study the process of drying seeds of agricultural oilseeds, an experimental installation for drying seeds in a suspended layer has been developed, tested, optimized and implemented. The developed plant for drying seeds in a suspended layer is simple in design and easy to use, has high productivity. It also automates the process and has demonstrated a high level of operational safety during testing. To evaluate the effectiveness of the process of drying seeds in a suspended layer using the developed installation, three types of seeds of oilseed crops were selected: flax seeds, grapes and white sea buckthorn seeds. The results of the conducted studies of the drying process using the developed installation are: increasing the speed of the drying process; reducing the processing time; reducing energy consumption; reduction of processing costs; reduction of cost of processed products; improvement of the quality of processed products by increasing the degree of uniformity of drying and ensuring the preservation of the basic properties of seeds during heat treatment, mainly by reducing the degree of oxidation of vegetable fats in their components. Due to the rationalization of the drying process of oilseeds based on processing in a suspended layer, a number of tasks currently facing enterprises engaged in the primary processing of agricultural products have been solved. Using the results of the study will increase productivity, reduce energy consumption and processing costs, reduce the degree of oxidation of vegetable fats in the composition of seeds and improve their quality for subsequent use in the food industry, medicine, cosmetology, pharmaceuticals, etc.

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