

RESEARCH ON THE DESIGN, REALIZATION AND EXPERIMENTATION OF AN INNOVATIVE MODEL OF GRAIN DRYER

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INTRODUCTION

Efficient drying of agricultural products ensures conditions for their preservation while by reducing the water content of plants, it is possible to avoid losses due to mold, rotting, etc. The most common method for drying agricultural products is by using hot air, which is a significant amount of heat is lost, resulting in high energy consumption. Researches of this kind find that the fluid drying agent can be replaced by an innovative method of fluid circulation using air flow and water circulation during the drying process.

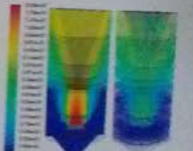
MATERIAL AND METHODS

Designing the innovative vertical model the experimental setup required several steps, which are presented in the paper and summarized in the figure. The process temperature is the most important parameter of the drying process. The temperature of the drying agent is 100°C, decreasing from top to bottom, and the cooling agent is the ambient air at 20°C. The temperature in the hot air is 100°C, decreasing from top to bottom, and the cooling agent is the ambient air at 20°C. Experimentally, a temperature distribution was established in the grain drying model and after 20 minutes of operation, the temperature profiles in the drying agent were recorded, and in the grain model drying agent were recorded.



RESULTS AND DISCUSSIONS

The temperature gradient distribution in the grain vertical model is shown in Fig. 2. The two highest temperatures are recorded in the upper drying region where the average temperature is 100°C, decreasing from top to bottom, and the cooling agent is the ambient air at 20°C. Experimentally, a temperature distribution was established in the grain drying model and after 20 minutes of operation, the temperature profiles in the drying agent were recorded, and in the grain model drying agent were recorded.



CONCLUSIONS

The innovative vertical model was designed and built, and the experimental setup was tested. The results of the experiments show that the innovative model is a viable alternative to the traditional horizontal model.

ACKNOWLEDGEMENT

The authors thank the Ministry of National Education, Research and Innovation for the financial support of the research project.

A.15
INSTALAȚIE DE EXTRAȚI
METOD

A.16
TECNI
HORTICOLE DESTINATE CONSUMULUI
PROASPĂTĂ, UTILIZĂND OZON
ÎN SOLUȚIE APOASĂ



...post-recoltare a produselor horticole destinate consumului în
... în soluție apoasă, se aplică produselor horticole în vederea
... conținută a trei procedee de tratare post-recoltare și anume:
... exteriora ale produselor horticole, utilizând ozon în soluție apoasă,
... utilizând radiația neonultravioletă UV-C și post-tratarea
... în frigiferă. În cadrul tehnologiei sunt prevăzute următoarele
... decontaminarea suprafețelor, usturoare ale produselor
... de decontaminare a suprafețelor exterioare ale produselor
... UV-C.
... produselor ambalate, cu menținerea regimurilor

... economisirea din consumul
... horticole

A.17