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## AUTOMATION OF GRAIN HEATING TECHNOLOGICAL PROCESS IN CONTINUOUS GRAIN DRYER U13-SH-40

Grain drying is the main process in the technology of post-harvest grain processing, which affects the duration of storage and the cost of the harvested crop. Therefore, due attention should be paid to the processes of bringing grain to the requirements of state standards, because the price of grain during its sale will depend on the quality of their implementation[1].

The object of research: the system of automated control of grain heating in a shaft dryer. The subject of research: methods, models, and information support for grain heating control. Purpose: to improve the quality and efficiency of the grain heating control process during drying in a shaft dryer by identifying the control object and developing an automated control system.

The thesis analyzes the technological process of grain processing and describes the operation of the automation object - the U13-SH-40.M3 continuous grain dryer. Based on the principle of operation and description of the technological process of the shaft grain dryer, a scheme for automating the process of heating grain in the shaft dryer was developed (Fig. 1).

Based on the description of the technological process and the principle of operation of the dryer, a method was chosen, an active experiment plan was developed to identify the control object and obtain the transfer characteristic during the modeling of its functioning through the channel "temperature of the drying agent - temperature of grain heating".

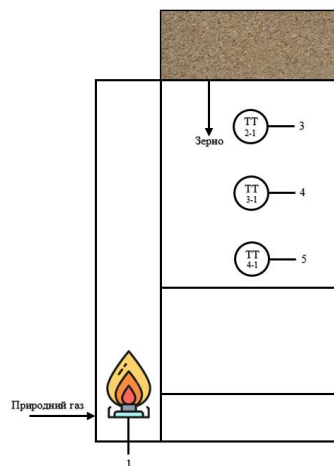


Figure 1 – Scheme of automation of grain heating in a continuous grain dryer

The developed documents of the automation project, the plan of active experimentation, and the obtaining of the transfer characteristic will improve the quality and efficiency of the grain heating process in a continuous grain dryer.

### References

1. Maslak O. *Economika processiv: sushinnya zerna* / O. Maslak, O. Solariov [Electronic resource]. – Access mode: <https://propozitsiya.com/ua/ekonomika-procesiv-sushinnya-zerna>