

ВИЗНАЧЕННЯ ДОЦІЛЬНОЇ СХЕМИ ДОСТАВКИ ПРОДУКТІВ ХАРЧУВАННЯ В МІЖМІСЬКОМУ СПОЛУЧЕННІ

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The growing structure of food procurement, global food security concerns, and the insatiable demand for staple foods have driven the need to effectively manage the movement of food from procurement to consumption, posing numerous challenges to the operations research, decision science, and systems engineering communities. Approximately 33 percent of the edible parts of food produced for human consumption are wasted globally, amounting to 1.3 billion tons per year.

The levels of food loss observed in industrialized countries are almost the same as those observed in developing countries. The difference is that in developing countries, more than 40 percent of the food is wasted at the initial stages of the food supply chain, while in industrialized countries, about the same amount of food is wasted at the consumer and retailer level. As a result, mitigating the growing challenges of food security is a challenge in the current context, especially given the growing population.

The relevance of this topic is due to the following main factors - the growing structure of food purchases, global food security problems and the insatiable demand for basic food products determine the need to implement effective management of the movement of food products from procurement to consumption, which poses numerous tasks for scientists in the field of transport. Given the current military situation and the crisis in the economy of Ukraine, the cost of cargo delivery significantly affects the final cost of food products, which indicates the relevance and necessity of this scientific work. All these factors require new approaches and solutions that will increase the efficiency of food delivery in intercity transport.

As a result of the research, a possible technological scheme for the delivery of food products in intercity transport was selected, which includes operations for preparing the cargo for transportation, the process of supplying rolling stock from

the ATP to the consignor for loading, receiving the cargo and processing the transport documentation, operations for loading the cargo onto the vehicle, the transportation process itself and operations for unloading the cargo at the consignee.

The process of delivering food products in intercity transport is presented as a “white box” model. It allows taking into account the influence of input parameters such as the vehicle’s carrying capacity, the transportation distance and the volume of the shipment batch and external factors of technical speed and loading–unloading time on the elements of the delivery process and on the evaluation parameter in general – the total costs of delivering food products in intercity transport.

As initial data for conducting experimental studies, indicators characterizing the existing process of food delivery in intercity transport were used. Based on these data, measures were identified to increase the efficiency of food delivery in intercity transport, which consist in determining the rational load capacity and brand of rolling stock in terms of cost and productivity indicators, and choosing a rational loading mechanism for packaged shipments using pallets.

A plan for conducting experimental research was developed, according to which experimental research was carried out, and the factors were aligned in experimental calculations, in accordance with the determined maximum, minimum and average values of the arguments and the constructed experimental plan. The values of the input parameters of this experiment are statistical data, namely the maximum, average and minimum values of the indicators. The factors were selected as volume of the shipment, and the length of the ride with the load.

As a result of substantiating the relevance of the research topic, it was determined that the growing structure of food purchases, global food security problems and insatiable demand for basic food products determine the need to implement effective management of the movement of food products from procurement to consumption, which poses numerous tasks for scientists in the field of transport. Given the current military situation and the crisis in the economy of Ukraine, the cost of cargo delivery significantly affects the final cost of food products, which indicates the relevance and necessity of carrying out this scientific

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Keywords: delivery, food, scheme, costs, drivers' working hours.

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