

Ensuring Traffic Safety in The Organization of Transportation of Agricultural Goods in Cars

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Abstract: When operating a vehicle for the transportation of agricultural goods, the final planning decision should be selected by the technical and economic calculation according to the size of the total reduced costs. In this case, it is necessary to take into account the cost of transportation, maintenance costs, operating and motor costs for each option, losses from the economy from road traffic accidents.

Key words: road transport, agriculture, transportation, rolling stock, container, cargo, body.

About 50 types of agricultural goods are transported by road transport. Transport costs make up 15-40% of the cost of agriculture. To agricultural cargo. Includes wheat, potatoes, cotton, fruit, hay pulp, wheat, fertilizer, and the like. The main features of this cargo transportation are as follows [1]:

1. Changes in transportation volume and cargo flow as a result of harvest seasonality.
2. Performance of transportation in different road conditions.
3. Transports are carried out within strictly defined periods.
4. Accuracy of volume weight of transported loads (0.12-0.90 t/m³) [1].

Work methods for organizing work in harvesting agricultural crops, regardless of the type of product:

1. Continuous work method. In this case, the product goes directly from the assembly unit to the rolling stock body.
2. A separate work method. In this case, the harvested product is stored separately in the field until it is loaded onto the body of the rolling stock.
3. Combined method of work. It combines continuous and discrete work methods.

The number of rolling stock required to work together with agricultural machines is determined as follows

1. When working together with harvester-bunker machines (for example, wheat harvesters)
2. When working together with harvester-bunker machines (for example, sugar beet, potato harvesters)

In the transportation of agricultural goods, on-board and special and rolling stock are used.

Wheat transportation is mainly carried out in the following ways (Fig. 1).

1. Combine-Thrifter-Elevator (wheat storage place).
2. Combine-Elevator.
3. Combine-Warehouse-Elevator



Figure 1. Procedure for transporting agricultural products in cars

About 70% of wheat is harvested in the first method. The wheat body is tightly closed, and it is transported with a tarpaulin and paddy on it in extended flatbed and dump trucks. As a result of raising the board, wheat in the volume of 0.40-0.83 t/m³ is additionally loaded into the body. The volume of wheat is 0.7-0.8t/m³. Car tippers are used to unload wheat from flatbed vehicles.

In the transportation of rice, dump trucks with flatbed and special tank bodies are used. Flatbed cars and trailers are densely packed and transported with a tarpaulin and tarpaulin on top of the rice on the body.

Loading works are carried out on combine harvesters and special shovel conveyors. The rice-carrying dump truck with a special tank body has a body that closes tightly and a tank cover that opens slightly from the top. In this way, rice wastage is avoided and loading and unloading operations are mechanized. Paddy is unloaded from flatbed cars in dumpers.

Potatoes are harvested, packed and transported in containers. When using tare and containers, potatoes are well preserved during transportation and storage, and loading and unloading operations are mechanized.

Potatoes can be slow to load and unload. That's why it is not allowed to drop the potato nodules at a height of more than 0.5 meters and a layer of potatoes of more than 1 meter on a hard surface.

A potato digger harvester makes a pile of potato nodules in the field. Potatoes in a pile are manually loaded onto the rolling stock with a plate conveyor or basket (Fig. 2). 40-50% of potatoes are wasted when they are harvested and transported. When transporting in cold temperatures, the body of the car and the trailer are covered with cold-resistant materials, and the top of the potato is closed.



Fig. 2. Procedure of transporting potatoes

Containers have a volume of 500-900 kg and are made of a metal frame covered with wood. Potatoes can be delivered in containers to retail chains and catering organizations.

It is also possible to organize storage of potatoes in containers for a certain period of time. When using containers, efficient operation of rolling stock is ensured.

At the end of the pile from the hopper of the cotton pickers, the rolling stock is lowered into the body. Loaders with metal spikes are used to load cotton in threshing floor. transported in rolling stock.

The upper part of the semi-trailer body was made of a grid, and the sides were covered with board material. In the inner part of the side of the body, rings are installed for tying the livestock rope. Livestock is unloaded from the side of the rolling stock from the door ladder. The interior of the body is divided into four sections by making a metal wall.

Special cars with a cage section, trailers and semi-trailers are used for transporting poultry. A tarpaulin curtain is installed on the side of the body, which can be pushed during loading and unloading operations.

It is advisable to use the most economically effective methods of transportation in order to prevent traffic accidents related to the transportation of agricultural products, to ensure the safety of equipment during road traffic and loading and unloading operations, and to increase the productivity of cargo transportation and reduce its cost.

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