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ANALYSIS OF RESEARCH OF DISPENSER OF INDIVIDUAL DELIVERY OF CONCENTRATED FEED

Oksana Achkevych
Radchuk Vitaliy
National University of Life and Environmental Sciences of Ukraine, Kyiv
Email: achkevych@gmail.com

Keeping cattle is associated with high labor costs, due to the significant share of manual labor in the process feeding and caring for animals. When feeding, only service accounts for up to 60-70% of the total labor costs. One of the labor-intensive operations - the distribution of compound feed to cows, on average, requires about 38% of the milkmaid's working time. Reduction of these costs is possible only at mechanization and automation of this process for what development of the corresponding technical means is necessary.

In [1; 2] the authors point out the significant economic effects of the introduction an automatic system distribution the concentrated feed. Compared to the conventional cattle feeding system, labor efficiency increased by 24%. The total working time of feeding cows in farms with an automatic feeding system decreased by 50.9% compared to the usual. At the same time, investment in the introduction of automatic feeding can triple. The author in [3] indicates a reduction in feed losses during feeding by an average of 50-75%. The main reason for the introduction of automatic feeding is the reduction of working hours and workload. During the transition to automatic feeding, working time was reduced from 2.5 h·day-1 to 1.02 h·day-1 [4; 5]. At the same time, the author points to a reduction in energy consumption per unit of feed from 6.81 kW· m-3 to 0.76 kW·m-3 with the introduction of an automatic feeding system. But increased automation and mechanization can lead to increased energy consumption and costs. From 8.8 kWh before feeding automation and 52.6 after automation.

The main structural component of automatic feeding is the design the dispenser that directly dispenses food. Dispensers must meet the zootechnical conditions for productivity, accuracy and uniformity of dosing, deviation from the specified rate delivery should not exceed ± 5%. Existing design solutions for dispensers for dosing feed with differentiated delivery to animals do not fully meet these requirements.

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