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TECHNICAL MEANS FOR MECHANIZATION OF TECHNOLOGICAL PROCESSES ON LIVESTOCK FARMS

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One of the reasons hindering the development of animal husbandry in an innovative way is the lack of a promising program of technical and technological equipment, programs for the creation and production of machinery, programs for the development of specialized engineering for animal husbandry and feed production. In Ukraine, there are no specialized plants for the production of innovative equipment, the destroyed base of repair and technical service and the system of training of engineering personnel for animal husbandry. Regional and regional management bodies of the agricultural sector do not implement technical policy in the field of mechanization and automation of animal husbandry. Restoration and development of the domestic base of agricultural machinery for animal husbandry should be carried out on the basis of a promising program of mechanization and automation of the industry, which includes promising resource-saving production technologies and technologies for processes and operations [1.2]. Improving the efficiency of milk production is possible not only by strengthening the technical equipment of farms with sets of machines, but also by improving technology and organization of production: increasing the proportion of farms with loose animals to 30-35% of livestock, as the most effective way to keep animals; expansion of milking cows in milking parlors with machines "Yalinka", "Tandem", "Parallel", "Carousel" to 35-40%; application of multifunctional feed dispensers-mixers, multifunctional front loaders providing cutting off of forages from a monolith and their loading in mobile feeders, self-propelled units of multipurpose purpose carrying out loading, crushing, mixing and distribution of forages, and also for maintenance of machines and equipment calves under 3-4 months of age, including technical means for cooking, drinking whole milk substitutes and issuing concentrate feed and stem feed; modernization of existing equipment based on the use of new

components and units, automation systems, which will not only increase the service life of existing machines and installations, but also raise their technical and economic parameters to a qualitatively new level: reliability, productivity, specific energy and other resources, to improve the working conditions of farm workers.

On Ukrainian farms, more than 80% of cows are kept on a leash. This method of maintenance requires large amounts of manual labor from farm workers. Lack of equipment for dosed feeding of cows causes high feed costs for milk production. Conditions for keeping cows do not ensure their long-term use [3,4]. Studies show that feeding cows with concentrates from feed stations before or after milking is biologically most rational, as a uniform supply of nutrients is achieved. The automated individual feeding station consists of a machine with a feeding trough, an operational hopper with a level sensor, a compound feed dispenser, an animal identification system, a "controller" that controls the feeding process, and a device for weighing cows. When the animal enters the station machine, the signal from the sensor of the individual number located on the neck, through the "controller" enters the control panel, which automatically turns on the dispenser of individual portions. After that, the feed is dispensed into the feeder in the form of elementary portions weighing 80… 200 g every 13s. A single dose of feed is not more than 1 kg. Then the dispenser switches off automatically. The dispenser will be switched off also in case of independent premature departure of the animal from the station. The next single dose, by analogy with the described process, the animal of a particular individual number can receive after a set period of time sufficient for complete digestion of food that has entered the stomach. The assimilation of feed is constantly in small portions and as a result increases the digestibility of nutrients and increases milk productivity. Loading and loading with feed of operative capacity of the batcher of individual portions in the course of work is carried out automatically [5,6]. The tethered feeding line is a new word in dairy farming. It is quite natural that when handed out manually, the amount of feed is averaged so that animals with high average daily milk yield receive insufficient milk yield, and animals with low average milk yield receive an excess. Both indicators adversely affect the health of animals and are one of the reasons for the reduction of milk yield. The automatic feeding line, thanks to the exclusion of the human factor, allows the dosing of feed to the nearest gram. The use of individual automated feeders can provide in the process of milking individual feeding of feed in proportion to each liter of milk produced (productivity increase by 8-10%).

Ensuring the microclimate in livestock facilities should be based on: the use of highly efficient technical means based on microprocessor technology; implementation of the principle of energy efficiency based on the use of regulated air exchange, the use of biological heat of animals; air conditioning, cleaning, deodorization, air remediation; protection of the environment from pollution by ventilation emissions. allow you to decide on their applicability and effectiveness in specific conditions.

By analyzing the data of field measurements of the microclimate of a number of premises of existing farms, supported by appropriate calculations, it is established: significant impact on all indicators of microclimate of the considered premises, their specific volume, premises with a specific volume of 30...50 m^3 / head more cold-resistant, they can store a temperature of 0°C at outdoor temperatures up to -22...- 24°C,

while in rooms with a volume of 90...100 m^3 / head only up to -12°C; the most rational from the point of view of air exchange size, heat-protective qualities, integrity of a design is the device of a longitudinal protection with a window sill of height 1200...1400 mm and an air exchange opening not less than 1100 mm high, heat-insulating properties of a covering are most significant. not more than 35...40 W/m^2 that will allow to exclude possible intensive condensation, freezing of ice, trauma of people and animals; it is expedient to choose parameters of conic designs of rooms from the available standard size range, and to carry out regulation of air channels of conics by compressed air. The existing technologies and technical means of manure collection from premises and preparation of organic fertilizers do not solve the following topical issues: elimination of losses during manure transportation to the place of processing; mechanization of labor-intensive operations for cleaning stalls and litter; elimination of manure dilution by precipitation during storage due to lack of sufficient volume of closed storage facilities; preparation of manure for use as environmentally friendly organic fertilizer; preparation of organo-mineral fertilizers with a balanced composition of nutrients.

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