UDC 636,363

EQUIPMENT drinking ANIMALS

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Reasonable rational scheme of universal system of watering animals, as well as construction of drinking bowls, which can be used for watering animals in individual farms and livestock in large enterprises.

Design, watering equipment, animal.

Problem. Go to the market conditions in agriculture, particularly in such sectors as its animal requires not only increase, but also reduce the cost of the production is to increase its competitiveness.

Recently in Ukraine to increase farming, including livestock production is carried out as a result of small farms. Among the various problems of small farms should first note the extremely low level of mechanization of production processes. In this regard, the importance given to the creation of new types of machines and devices more efficient for them, including for drinking. To do this, will analyze new technical solutions related to the design and drinking water facilities, methods of scientific substantiation of parameters and operating modes.

Analysis of recent research. Avtonapuvalky is known to be divided into individual and group. Industry produces about two dozen different variants of individual and group avtonapuvalok Animal [2, 3].

The livestock farm avtonapuvalky connected to the water system; in the absence drinking bowls combined with reservoirs, which supplied water, such as auto transporter. In winter outdoors for watering animals used avtonapuvalky heated. In pastures or summer camps, far from water, animals watered using mobile equipment [2, 3].

For watering cattle fastened maintenance mainly use individual vazhelno-valve AP-1A and 1B-PA, PA-1A drinking bowls.

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We know that the cost of water for watering depends on the physiological state of the animal. The maximum water consumption is: a maternity ward (hlybokotilni novotilni and cows) 48-50 liters per day in-patient department of 60 l / day on a conventional head. By keeping dairy cows fastened flow of water within the 65-85 liters / day.

Cows in the dry period consume water for about 20-25% from dairy cows.

For watering animals, depending on their type and age recommended water that has a temperature in the range of 8 ... 25 ° C, without foreign odor, taste and color.

With an open trench 1 cow drinks water approach 1.8 times more than drinking bowls. This contributes to better meet their needs and increase productivity by 4-5%.

In a production environment Wire cup avtonapuvalok service for small farms and leads to increased employment and economic costs. For example, using napuvalok AP-1A winter often fail plastic lever and the PA-1 spring shock, always in the water and rust.

In recent years, cattle farms have been widely applied bezklapanni avtonapuvalky low pressure water supply system as livestock farms are not always high pressure.

Such drinking bowls operate on the principle of communicating vessels.

Unlike avtonapuvalok vazhelnoho type of low-pressure can cause the spread of infectious animal diseases, and the operation is often clogging the pipeline input.

The purpose of research - Eliminate these shortcomings improved structural and functional scheme drinking [1] using low-avtonapuvalok.

Results. It works as follows. Water from above vodomerezhigoes into the tank Fig. 1, which is set in the middle of the float mechanism that supports a given water level. To the bottom of the tank connected electricity distribution.

Moving water pipeline passes through a connecting pipe into the bowl.

The water level in the bowl reaches its level in the tank.

To prevent the flow of water from neighboring cups water animals when consumed in bowls provided return valve Fig. 2, which provides water movement in one direction (in the bowl). To clean drinking bowls set in its bottom drain plug. Cleaning is also possible by raising the water level in the tank above the upper edges of the bowl avtonapuvalky.

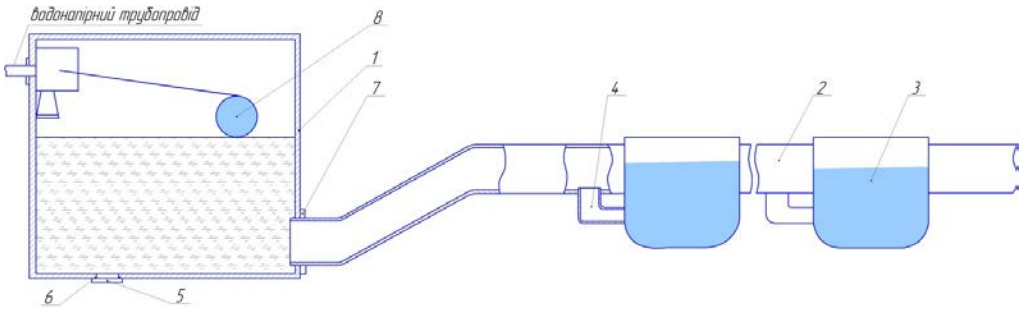

Fig. 1. Scheme of water supply: 1- Tank; 2 - Distribution pipeline; 3 - cup; 4 - tube fittings; 5 - cap; 6 - seal; 7 - Disc; 8 - float

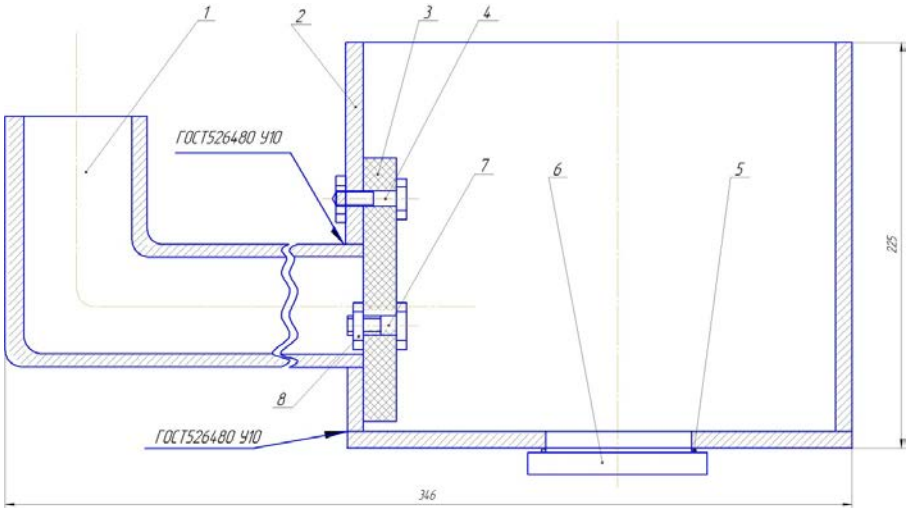

Fig. 2. The design concept of drinking bowls 1 - tube fittings; 2 - cup; 3 - valve; 4 - bolted connection M6; 5 - seal; 6 - cap; 7, 8 - M8 bolted connection.

This scheme is simple in design and reliable operation requires little labor and material costs for maintenance. If this maximum performance is ensured veterinary requirements. Setting the tank with float mechanism inside, where animals are kept, resulting in heating water, prevents colds and promote the consumption of animals.

Conclusion. In this paper we presented an improved scheme watering animals, and design, drinking bowls, low pressure. Application avtonapuvalky will meet the needs of the animals in the water and increase their productivity. Besides the opportunity to efficiently use water to improve its quality and prevent colds animals.

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Obosnovana ratsyonalnaya scheme unyversalnoy system poenyya animals, as well as constructions poylky, kotorыe mogut bыt

yspolzovanы for animals poenyya How to yndyvydualnыh economy and in so krupnыh zhyvotnovodcheskyh enterprises.

Constructions, Poenyya, equipment, animal:.

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Theoretical studies PNEVMOVTRAT TROHTRUBNOHO concentric heat recovery units

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Theoretical study pnevmovtrat trohtrubnoho concentric heat utilizers for livestock buildings. As a result of studies found

pattern of change of pressure loss and power pnevmovtrat of structural and technological parameters of heat utilizers (length, radius and outer duct feeding air flow).

Resistance parameters, air duct, power, heat recovery units, pressure.

Problem. Much of the year, and for some technologies and throughout the year, most farm animals are indoors. In this regard, the livestock buildings need to create a microclimate that meets the physiology of animals and birds and beneficial effect on their state of health, productivity and quality [1].

For maximum performance animals microclimate in livestock buildings (air and temperature) should ensure from the energy point of view, regenerative heat utilizers, the use of which saves the energy needed to heat the indoor air.

The study of the process of heat exchangers in the subject of many