

GROUND INSTALLATION separation MANURE

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The article analyzes equipment for manure on livestock farms and complexes and conducted study units for separation of manure.

Pets, fractional composition of manure, manure separation, reducing costs.

Formulation of the problem. Manure is one of the most complex processes in the maintenance of cattle and other animals. It is well known [2, 4], which promptly cleaned manure from the premises for animal a positive impact on improving the microclimate and the level of hygiene. The importance of creating conditions for normal operation of all livestock buildings and manure removal including, in particular, has structural and technical solutions of mechanization cleaning and manure [2, 4].

Effective solution to the problem of mechanization of cleaning and disposal of manure requires a comprehensive approach, starting with the manufacturing operations of the entire production line from stall animals to the place of use of manure as fertilizer, with the requirements of environmental protection and provide the necessary sanitary conditions of service personnel [1].

Stationary hnoyeprybyralni conveyors markTSN andscraper installation brand CS-15 are ideal for use in bedding or bezpidstylkovomu keeping farm animals[1-5].

Analysis of recent research. The process of removal and disposal of manure transport operation involves pus from manure storage facilities or places to prepare compost. Preference in choosing either option manure from livestock buildings, especially those should be given to measures that help to reduce the volume hnoyezbirnykiv and manure storage, manure moisture reduction and increased efficiency of manure as organic fertilizer. The research results of domestic scholars recent years horny VD, Shabelnik BP, Sklar AG, Sklyar RV, MI Ikalchyk is proof of that. In 1996 Rohovoy VD, AN Brahynets

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justify the design parameters and developed installations for cleaning stalls [3]. BP Shabelnik and Ikalchyk MI dedicated their works to remove manure from the premises of the highest quality and performance

process with minimal energy costs [4]. Since 2000 Sklyar RV is working on the improvement of technological schemes of preparation of the liquid fraction of manure for use [1, 5]. In 2003, the group of authors Horny VD, Sklyar RV, Sklar AG, installation developed for the distribution of liquid manure fractions [5].

The purpose of research - Justify manure separation technology in the process of unloading it outside the room, reducing the volume of transport liquid fraction to manure storage at the disposal of manure on livestock farms and complexes and secure while reducing energy costs.

Results. Transporting manure from the manure storage to industrial facilities often carry mobile traffic for which the farm should be withdrawn soon combinations of isolated way [13].

Pozdilennya manure fractions can reduce the volume by reducing the time hnoyenakopychuvachiv quarantine. If separation (separation) of manure is not made, then by Ukrainian standards, it should be an in manure storage at least 9 months before you get on the field. In Europe - 6 months. Separated liquid fraction can successfully maintain optimal time to six months. The main advantage of separation - that is, it allows you to get a high-quality fertilizer in liquid and solid form and provides plenty of easy application. Both factions vidseparovanoho distribution of manure nutrients evenly. Thanks to the significant improvement of the physical properties of liquid manure and its uniformity, making using a hose nozzle or nozzles becomes much simpler and more accurate. In addition, due to faster penetration of the mass of manure into the soil less nitrogen is lost through volatilization of ammonia and odor spread. When using the separated manure solids content with less elements burning plant is minimized. This allows the expected rapid growth of grasses and still use the opportunity to receive additional pastures and slopes. Thus, depending on the dry matter content, the volume of the liquid fraction of manure after separation can be reduced by 10-20%.

In agricultural enterprises to separate manure fractions using auger (screw), mesh separators, dekantatsiyi centrifuges, designs and press Roller conveyor with sieves. These machines cause high costs consume a lot of energy and complicate the process line cleaning and manure. The basic requirement of separation equipment application - to avoid performance degradation hnoyeprybyrlnoho equipment. An additional advantage of separation is that the liquid fraction can make 5-7 times more than undivided manure, so you can save more on costs with current application.

For the distribution of manure fractions during discharge it outside the room, we asked to improving inclined conveyors. The proposed technical solution makes it possible to perform operations inclined conveyors transporting manure and simultaneous separation into

fractions. The conveyor-separator consists of a box, which is placed in the middle of the chain-scraper, clamp with rotary drive station and stars. Under the proposed solution the lower ducts plane has made cuts at an angle less than 50 degrees to the longitudinal axis, and at the bottom along accommodate additional openings set lotik of pipe that is the opposite side of the drive station.

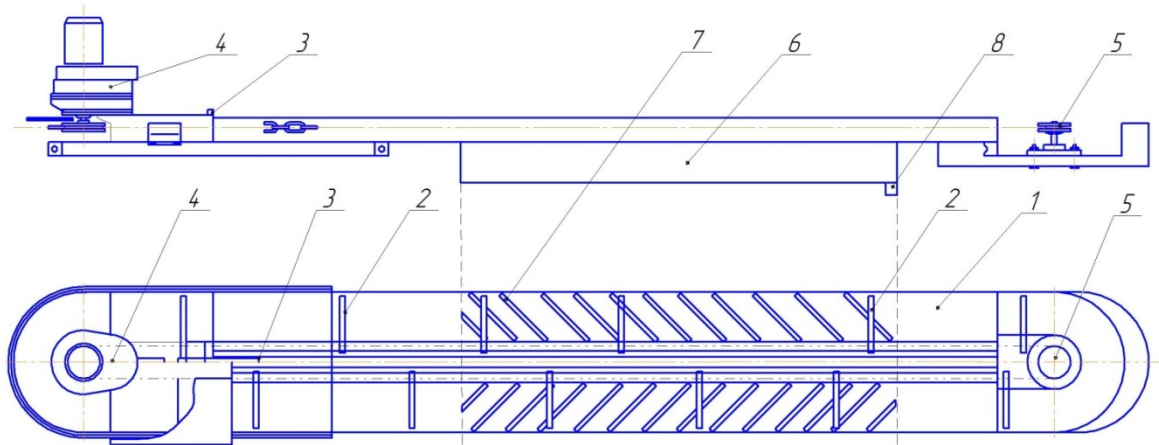


Fig. 1. General view of the conveyor 1 - box 2 - Chain-scraper, 3 - clamp, 4 - Drive station, 5 - star swivel, 6 - lotik 7 - cut slits in the bottom of the trough, 8 - port.

The conveyor-separator manure works as follows. From the pit, which is the lower part of the conveyor-separator manure supplied by chain-scraper with 4 rooms. When you move the scrapers in the area of the bottom box 1 of slits 7, the liquid fraction through the cracks 7 enters the lotik 6, which through a pipe 8 by a pump or by gravity, is transported in a separate container and solid fraction passes over the slots and transported in vehicles. The liquid fraction of the manure is removed by gravity and pressure scrapers.

The advantages of using conveyor-separator manure, compared with the prototype, is that without increasing equipment production line cleaning and discharge pus out of the room, is the distribution of manure fractions. Depending on the initial moisture content of manure solids is reduced by 35-45%. Manure separation occurs at lower energy costs, leading to a reduction in the unit cost of livestock production, as well as decreases in 1,3-1,5 times the amount of manure that must be transported to the manure storage.

conclusionsOK. The design of the conveyor-separator manure plane in which the lower box has openings are made at an angle of less than 50° to the longitudinal axis, and at the bottom along accommodate additional openings set lotik of pipe that is the opposite side of the drive station, which makes it possible to increase production operations performed by the sloping conveyor. As a result, achieve distribution of

manure fractions, which in turn will reduce power inputs and total cost of separation of manure.

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In Article wires for analysis equipment Other cleaning manure on farms and complexes zhyvotnovodcheskyh and osuschestvleno rationale installation separatsyy manure.

Contents of animals, fraktsyonnyy composition of manure, manure separyrovanye, Reduction of costs.

The paper analyzes equipment for manure on livestock farms and complexes and substantiations installation manure separation.

Keeping of animals, fractional composition of manure, separation of manure, reducing costs.