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Pryvedenы results hosudarstvennыh pryemochnыh trials skrepernoy Other cleaning installations for manure usovershenstvovannым with a working body.

Skrepernaya plant, manure, trials, ugol Disclosure, ugol naklona, Speed, Quality, tselesoobraznost.

The results of state acceptance trials scraper installation manure with improved working body.

Scraper installation, manure, testing, opening angle, angle, speed, quality and appropriateness.

UDC 631.171.075.4

ANALYSIS OF MAJOR ERROR OF SPORUDZHENNISAMOPLYVNOYI manure batch TO pig

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considered basic mistakes in the construction of gravity manure systems during batchmodern construction and reconstruction of old pig farms, including breach correct geometry and depth Bath, errors samosplavnoyi when laying pipes, building a receiving tank sewage pumping station and its equipment.

Production of agricultural products manure, gravity batch system,pig farm,

Geometry baths, deep baths, samosplavna pipe, sewage pumping station, receiving tank.

Formulation of the problem. Ukraine has considerable natural potential, thus able not only to ensure their basic needs for food plants and animals, but also become an exporter of high-quality, competitive, biologically clean products [1-3].

Timely cleaning livestock buildings and manure, efficient use of it - one of the most important economic problems, the value of which increases depending on the consolidation of farms, improving their technical equipment, increasing requirements for sanitary conditions of the animals and the quality of products produced.

The problem of cleaning and disposal of manure view, considering the following issues: providing physiological comfort for the animals, the environment, using manure, primarily as an organic fertilizer.

This issue covers three difficult task: cleaning livestock buildings and manure in storage; storage, decontamination and storage; its use.

In modern construction and reconstruction of old pig always gets a huge number of questions, and unfortunately, experience shows that problems associated with the disposal and processing of manure settled last.

Meanwhile, the most important error is that the problem must be set before the start of design work, otherwise avoid delays in the introduction of the complex into operation, increased capital and operating costs for disposal of manure, which ultimately will increase the cost of basic products - meat.

Analysis of recent research. Basic requirements for technology and tools for removal, storage, processing and use of manure by regulatory and technical documents for the design of such systems, as well as veterinary and sanitary and hygienic requirements for equipment production lines cleaning, handling, decontamination and disposal of manure on livestock farms and complexes .

In the design of cleaning, removal, handling and use of manure to consider advanced technologies to conditions that ensure:

- full use of all its parts and manure as fertilizer to agricultural land or raw materials for the production of complex organic fertilizers or for other industrial purposes;
- implementation of veterinary and sanitary requirements of livestock enterprises operating with minimal water requirements and legislation on environmental protection;
- raising the level of mechanization and automation of manufacturing processes.

The system and methods of manure chosen depending on the direction of production, capacity livestock enterprise, its place of location, technology and feeding the animals, the presence of water and energy resources and so on. The importance of creating conditions for normal operation of all livestock buildings and manure removal including, in particular, has structural and technical solutions stalls or farrowing animals, and the choice of mechanization cleaning and manure.

The purpose of these studies are: review basic mistakes in the construction of gravity manure systems during batch modern construction and reconstruction of old pig farms, includingbreach correct geometry and depth Bath, errors samosplavnoyi when laying pipes, building a receiving tank sewage pumping station and its equipment.

Results. Currently, the majority of pig farms being built and reconstructed, using gravity manure removal system batch. In this system, there is accumulation of pus under the slotted floors in special channels separated by partitions into the bath.

The main mistake in the construction of baths is a violation of the right geometry and depth. Before designing bathrooms should accurately calculate their size for different groups of animals, since they manure varies in composition - varying the concentration of solids and moisture.

If the geometry baths done wrong - for example made slope toward the bottom of the tub filler drain pipe, which in itself is unacceptable; not made a special pit (Fig. 1) in a step (Fig. 2) before manual pop-neck et al., it is the operation of baths, a number of problems:

- Resetting the manure from the bath does not occur or is not completely their havoc, causing additional water consumption and labor costs for cleaning bathrooms;
- an increased level of gas emission baths (ammonia, methane, hydrogen sulfide, carbon dioxide, etc.)., which affects not only the quality of the air inside the pig, but also on animal health and therefore to increase.

Fig. 1. Wrong pit.

Fig. 2. The right of pit slope and step.

It is important not only to observe the correct geometry in the construction of bathrooms, but they operate properly. The first time Bath operational staff often does not comply with the instructions of technologists and does not fill the tub for 10 ... 15 cm water. This leads to the first pus which fell to the bottom of the tub, dries, highlights gases and bath during the descent is not removed, even if the geometry is perfect bath. If the water level in the tub below the norm (eg 5 cm), the manure will be covered with water and the top layer of his sohnutyme, calling again all the above listed problems.

In the event that the bath is operated correctly and after each descent is filled with 10 ... 15 cm water, the pus that gets in it will fall to the bottom and completely covered with water, so that no Gases and spices. After a while solid components of manure (undigested food debris, coarse particles of food, etc.) begin to stand out from the crowd and emerge thus in a bath formed carpet crust that prevents stand gases, and a new manure falling to the bathroom freely penetrates th-rough this floating crust.

In the event that the geometry of baths done wrong or are not properly maintained, then the complete removal of manure from the bath it is necessary to mix. It uses special mobile mixers (Fig. 3), which can mix manure in the bathroom, not lifting with slotted floors.

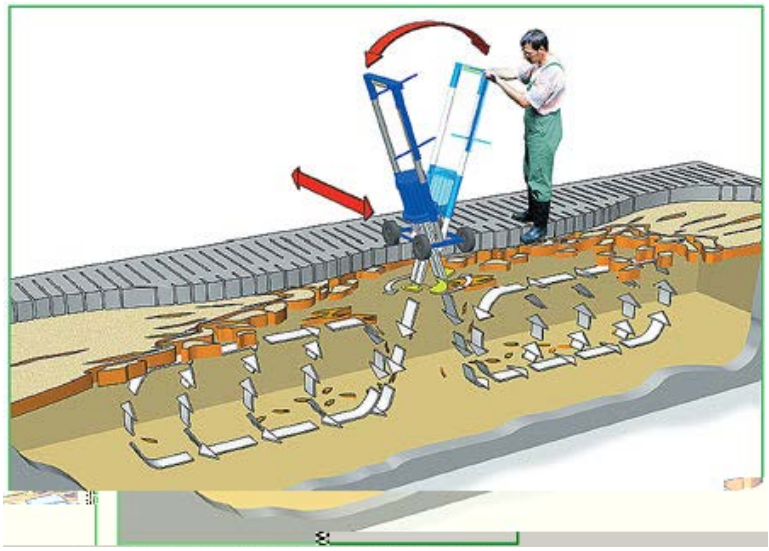

Fig. 3. mixer for mixing the manure in the bathroom.

After the descent of pus from the bath, he goes on gravity to the collector pipes to the sewage pumping station (SPS) or plant division. In this case use tubes with a diameter of 250 to 350 mm depending on the filling. Pipes of smaller diameter silt, leading to incomplete removal of manure baths. When laying pipes samosplavnoyi is important to keep its bias - it should be from 2 to 5%. A more liquid component of the manure slope away faster, and solid is removed slowly clogging the pipe. If the slope is less than 2 ... 5%, it is not ensured nezamulyuyucha flow velocity in the pipe and manure, delaminate in the pipe in the shower, zasmichuvatyme it. In the case where the pig farm located in areas that have a significant bias, the collector is performed with steps to 45º (Fig. 4). The mistake, in this case, is the fulfillment of the general slope of the collector according to the relief of more than 5%, which will lead to the fact that manure removal system just does not work.

When laying pipes samosplavnoyi turns allowed no more than 30 ... 45º, and the angles of rotation have to be installed special stops to prevent damage to pipes at water hammer. Samosplavna tube that goes from the pig must rise to the receiving tank or DPS separation plant above the maximum filling level of the reservoir. If the maximum filling level of the tank above the level of supply pipes, when filling the tank manure gets into the tube collector, stratified and settles in it. Since the collector tube is filled and clogged, then the shutter bath manure just is not deleted from it.

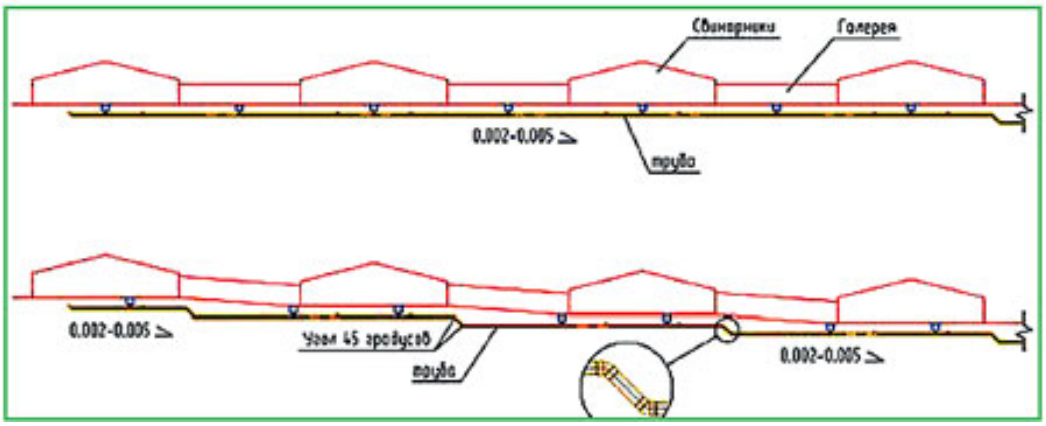

Fig. 4. Profile samosplavnoyi pipe.

The most common mistake in the construction of the receiving tank or DPS shop division is not correct his equipment. If the receiving tank diameter greater than 2 m, it must be equipped with stationary mixers (Fig. 5), pig manure as quickly stratified: 20 minutes to precipitate falls about 80% of solid manure components. If not mix the manure, the reservoir quickly zamulytsya and will require additional costs for cleaning.


Fig. 5. Mixer.

If the diameter of the receiving tank at least 2 meters, the installation of stationary mixers is not required, just install immersed pump with a high suction hole and crushing mechanism (Fig. 6) that allows you to pump out all the manure solids that precipitated. If the ANC does not use special pumps manure from cutting and crushing machinery, they periodically fail due to frequent clogging impeller. In this case again required significant costs for frequent cleaning, repair or purchase of new pumps. In addition, all work on clearing pipes and tanks, pumps repair should be carried out as soon as possible (stagnation of pus in the cases inadmissible), which requires a significant diversion of manpower and equipment from operating activities.

Fig. 6. Pump with crushing mechanism.

Conclusion

In modern construction and reconstruction of old pig always gets a huge number of questions, and unfortunately, experience shows that problems associated with the disposal and processing of manure settled last.

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In Article rassmotrenы Basic mistakes in the constructions of samotechnoy system Remove manure Periodically action t TIME sovremennыh construction and reconstruction starыh svinokompleksov, in particular violation Correct geometry and hlubynы baths, gaskets samotechnoy mistakes in the pipes, the construction of the reservoir transceivers kanalyzatsyonnoy ee pumping stations and equipment.

Production selskohozyaystvennoy production Remove hnoya, samotechnaya system Periodically action, pig farm, Geometry vannы, Depth vannы, samsplavnaya pipe kanalyzatsyonnoy pumping station.

In paper basic errors are considered at building of the drift system of moving away of manure of batch - type during building of modern and reconstruction of old pig farms, in particular violation of correct geometry and depth of baths, errors at the gasket of drift pipe , building of receiving reservoir of the sewage pumping station and her rigging.

Production of agricultural goods, moving away of pus, drift system of batch-type, pig farm, geometry of bath, depth of bath, drift pipe, sewage pump the station, receiving reservoir.

UDC 631,312

SETTING GROUND scraper installations FOR manure

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In this article the shortcomings of existing winches installations for manure. The mathematical model of interaction scrapers scraper manure. Designed scraper device with manure scrapers front work surface in a dump that will reduce energy consumption in the manure and improve the quality of cleaning manure channel.

Manure scraper, blade, quality, energy consumption.

Formulation of the problem. Timely cleaned manure from the premises for animal beneficial to improving the microclimate and the level of hygiene. Efficient manure removal system can increase the comfort level of animals, and as a result - increase their productivity. For frequent cleaning of the air decreases levels of nitrous gases and ammonia, which are bad for both the health of animals and their products.

According sanitation and hygiene - all animals and premises must be kept clean. If after cleaning places of animal manure is more 0,15-0,20 kg / m2, very

contaminated their skin and udder, the conditions of infectious diseases [1]. When evaporation of moisture from the manure left by indoor air polluted with noxious gases, increasing its relative humidity.

Analysis of recent research. The research process manure mechanical means are devoted MK Linnik, KE Rostomyan, IP Arbuzov, V. Baryshnikov, VE Veynla, AS Tsyryatyeva, AD Ahasaryana VI Beyttynka, VA Yasenetsky and other scientists.

In particular MV Levchykova developed a method of calculating the number shahu and scrapers (scrapers) installation; AA Shuvalov explored reversal zone delta scrapers scraper installation, and found the optimum weight distribution scrapers for their length; OF Cold