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Historical aspects BUDIVNYTSTVATVARYNNYTSKYH PREMISES

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In the article the basic stages of development of the science of keeping cattle in the world as well as the Ukrainian lands. An characteristic buildings in the historical and geopolitical aspects, highlights the relationship with agricultural activities. Presented developed and implementation UNDIMESH (NSC "IMESH") projects to build livestock buildings in the collective and state farms in Ukraine, which were initiated system stall-range and attachable Loose cows and methods of mechanization and technological education stream line performance manufacturing processes and operations.

Development, livestock, premises maintenance.

Formulation of the problem. The development of the livestock industry is inextricably linked to improving livestock buildings, animals, mechanization and automation. The construction of housing for cattle is an important task of agricultural development. A growing need for food has led to a significant increase in livestock of cattle in the world in terms of conditional heads of two thirds of the total population of economically useful animals.

Analysis of recent research. Questions of the animals involved: A. Mehler, Heynyh V., Adamchuk VV Fenenko AIKomarov BA, Ryazan VPetc. [1-4, 6, 10]. But the history of this problem in this literature are not covered.

The purpose of research. The main purpose of this study is to identify the trends and characteristics of the construction of housing for cattle.

The methodological basis of the study is the general principles of objectivity, historicism, which provide an objective description and analysis

events on the basis of scientific and critical use of various sources. During the used problem-chronological and comparative historical methods.

Results. The main objective of this study is to identify the trends and characteristics of the construction of housing for cattle.

Livestock played a significant role in ancient times. The high level of ancient cattle shows, for example, strips found in a tomb in El Obeid (Mesopotamia). It belongs to the reign of the first dynasty of Ur in the kingdom of the Sumerians (3500 BC). On the frieze are many details that speak of a well-organized cattle. In the middle of the frieze depicts the entrance to stall or corral. The point of entry milked cows. Along with cows fed calves. To the left of the door shepherd filtered milk through a sieve into a container, placed on the ground. Two humans keep on a large vessel, each designed for a strained milk [1].

The territory now occupied by Germany, cattle shortly before AD kept in the open, and that they fled not become prey to predators, staged fence. Only at the beginning of our era in areas with cold climates during the winter cattle began to take in the room with her and lived under one roof.

Excavations in Holland were found homes, some of which were intended for the animals, they are divided by partitions into separate stalls. Animals were head to the center of the room, the porch or along the wall. The room was feed passage, and sometimes groove to drain pus. Found in Holland houses in two rows of pillars divided into three branches. Buildings of this type were built until the late Middle Ages.

Keeping animals in stalls was very primitive. Only summer pastures in the winter weakened cow health restored. Poor maintenance and feeding in winter conditioned by low productivity of animals. In winter, the cattle got malopozhyvnu straw and rarely hay and grazed in summer unproductive grasslands and pastures. Feed was not enough, as the conditions were bad storage of forages.

At the beginning of the XIX century in Europe began building a relatively large breeding premises. It was at this period the majority of farm buildings that have survived to this day. They differed strong brick walls and heavy wooden structures. The construction of massive buildings vypravduvalosya that equipment and working methods they have changed very slowly. The term depreciation of buildings was too long and needed repairs to their relatively low cost.

Built indoors, usually with the expectation tethered livestock. With a large number of animals to reduce transport routes in the barn preferred transverse stalls. Cows were in long stalls. Distributing feed and manure is removed using twisted by hand, milked cows by hand and in stalls.

As it turned out one of the causes reduction of productivity of cows was a bad climate in the rooms, so began to use new forms of content. Important role played by the promotion of Scholem and Amshlerom accepted under a canopy (Fig. 1) [2]. Animals were kept outdoors. From

bad weather they were protected by a simple roof. However, this form of the animals was ineffective, especially for highly productive breeds of cows in the cold period. So began building closed room for tethered cattle from the attic or land conservation fodder. These facilities have a central passage for manure and narrow side aisles to hand feed. For delivery directly to the feed troughs served carts with pneumatic tires and sometimes false road. Partial mechanization of harvesting manure was limited use of bull conveyors, cable scrapers or supply water for flushing manure. The room is traditionally built of brick and wood (Fig. 2).

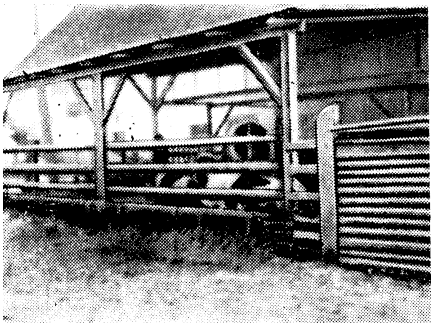

Fig. 1. Pets shed.

Fig. 2. stanchion barn for keeping 90 cows with forage warehouses and built on land milk.

Since 20-ies in climatically favorable US mid-latitudes appear first large experimental facilities with three wall (south side open) and roof for Loose animals. After 1945, they are widely used in Europe. Thus was achieved favorable conditions of cattle, reducing the construction cost and increase productivity. In the mid 50-ies such experimental facilities have begun to spread in Germany, particularly in Neyhatterslebene (near Magdeburg), a research institute of livestock Dummerstorfe and the Institute of Plant Breeding in Gross-Lyuzevyttse (Fig. 3) [2]. In the Ukraine, Russia and Kazakhstan in the early 20s for the animals in the yard began building trohstinnyh canopy (height 2.2 m. Length 52 m, width 4 m). Facade of it was posted to the northeast, in the direction of prevailing winds in the winter. The opposite of remained open. Part of the front wall (37 m) made from wooden boards with slotted gaps between the planks from the roof to the base (crack 1-1.5 cm). The rest of 15 m made of solid, vitronepruduvayemyh boards.

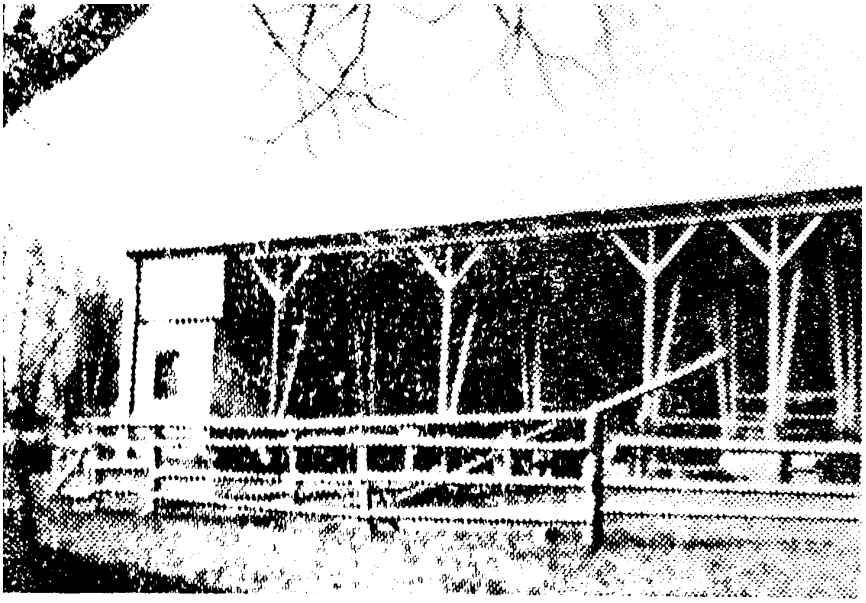

Fig. 3. Open space in Neyhatterslebeni.

The development of dairy farming in Ukraine 50-60 years based on manual labor at the fastened maintenance of cows. In the period begins to spread stall and stall-Camp system mainly cows using grassland and permanent residence construction camps, which were sent to the development of technology. The development of mechanized dairy farming starts in the early 60's, when construction was provided experimental farms in the collective and state farms Ukraine, as well as the complex "101" machinery and equipment.

The first seven research farms were built on the farm "Friendship" and the farm "Ray" Kyiv, Odesa farm №4, named. Kuibyshev Poltava, "Provalskyy" Voroshylovhrad, them. Timiryazeva Crimea, "Victory" Zaporozhye regions. The basis of these farms were assigned stall-range systems and attachable Loose cows. Removing manure from the passages and platforms vygulnyh conducted Transporter units and bulldozers, cows kept in stalls and rough litter that changed once a year [3].

Were first used items longitudinal storage lattice and the floor (farm "Provalskyy). In vygulnyh sites pus was removed by bulldozer. Distribution of feed operations performed by mobile feeding CM-5, 10 vocational schools and REM-10. In the farm "Hotovskyy", "Pereyaslav-Khmelnytsky" conducted research technology manure and distribution of screw working bodies.

Milking cows milking took place in the hall. This was made research and subsequently adjusted and mass production milking UDS-1 and UDM-8 with passable machines of the "Parallel", "Tandem" DBP-6 and DAT-12, "Christmas tree" Dae-16 and Dae-16M [4].

In the farm "Ray" Boryspil district of Kyiv region inspected processing facility kormotseha of yeast department. Rozroblyuvalys mobile technology distribution feed UNDIMESH (NSC "IMESH") developed the mechanized production process of milking cows in stalls from the basic installation MMD-100 (MMD-100B) of the "molokoprovod" [5].

Further development of dairy farming was associated with the decisions of the Plenum of the Central Committee, held in 1965 in Ukraine of republican, regional and district levels developed projects for the construction of farms and complexes. Since 1970 production has been proposed separately placed milking and dairy milking units with room for two to four settings "tree" (Project 801-314). In the improved version parlors were many draft decision farms and complexes [6, 7].

At this time, most dairy farms Ukraine all advanced technologies widely implemented milk production based on the Loose cows and milking the halls [8, 9].

In 2012, the territory of "Terezin" Belotserkovsky Kyiv region built a dairy farm with 500 cows with robotic milking system. The basis is a farm barn width 36 m, height of 15 m and a length of 150 m. The method of content - Loose-boxed, feeding - feed table with a width of 5 m.

Milking cows on this farm do eight milking robots "VMS" firm "De-Laval", who work during the day. The technology of milk production laid "motivational milking" when milking is done not by the order of the day, and at the request of animals occurs only when all physiological functions related to milking, reaching the maximum level [10].

One of the largest dairy farms is California - Yosemite National Park Jersey. Over the past five years, dairy herd grew from 1200 to 2400 dairy cows. Maintenance - Loose flushing of the system. Patients keep cows and milked separately. Dairy cows Forage mixture fed feeds that distribute once a day. Consumption of food is controlled by an automated program FeedWatchSoftware. The program allows managers to monitor feed intake per cow and easily release a herd of cows problematic. Once a three-week farm managers with consultants to review and adjust feeding diet [11].

Conclusion. Prospective construction industrial farms producing milk requires new technical and technological and building solutions that contribute to development of a significant amount of research and mostly development work that must harmoniously combine all the criteria biotechnical systems "man-machine-creature-comfort "with elements of the mechanized and automated technology.

List of references

1. *Kэmpbell Am. R.* Production of milk / AT. R.Kэmpbell, RT Marshall; Per. with English. MN Barabanshykova, VR Zelnera, DV Kartashov, EG Konopleva. - M .: Kolos, 1980. - 670 p.
2. *A. Mehler* Postroyky and equipment for large horned livestock CONTENT / A. Mehler, V. Heynyh; Per. s Nam. EA Davis and V. Afanasyev. - M .: Kolos, 1974. - 560 p.
3. *Adamchuk V.* Этapы mehanyzyrovannoho development and production of milk in Ukraine hovyadynы / VV Adamchuk, AI // Breast Fenenko case. - 2014. - №2. - P. 13-16.
4. *Adamchuk V.* Kontseptualnыe aspects of development of farms for the production of milk / VV Adamchuk, AI // Breast Fenenko case. - 2010. - №12. - P. 14-17.
5. *Komarov BA* Weather sent Improvement of mechanization in dairy skotovodstve / BA Komarov // mechanization and эlektryfykatsyya proyzvodstvennыh processes in animal husbandry: Sat. scientific. tr. / VNYPTYMЭSH. -Zernograd, 1989. - 12 S.-21.
6. *Iskandaryan MI* Rationale and Choice doylnыh units / MI Iskandaryan // mechanization and эlektryfykatsyya social. agricultural sector. 1974. -Number 9.- 18 S.-20.
7. *Borshch AV* Osobennostyadaptatsyy vыsokoproduktyvnыh cows for doenyyu for installation of "Parallel" / AV Borsch, LT Kosyor, Э.V. Lanyn XVI // Materials of International Symposium on machine doenyyu selskohozyaystvennыh animals. 2012. - S. 191-194.
8. *IK Tekuchev* Perspektyvnaya technics to implement the longevity vыsokoproduktyvnыh cows / IK Tekuchev, MS Tekucheva // эlektryfykatsyya mechanization and agricultural sector. - 2011. - №4. - P. 17-20.
9. *Ryazantsev VP* Problems of technical equipping of farms malыh zhyvotnovodcheskyh / VP Ryazantsev // эlektryfykatsyya mechanization and agricultural sector. -1991. -Number 2. -S. 13.
10. http://www.milkua.info.

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The development, animal husbandry, the premises, content.

The paper depicts the main stages of the cattle keeping development either in the world or in Ukraine. It's given the quarters' characteristics in their historical and geopolitical aspects, it's covered the correlation with the agricultural activities. It presents the projects developed implementation by, Institute of Mechanization and

Electrification of Agriculture (IMEA) for the new cattle farm and state farm buildings in Ukraine, where they used the system of the stall-backyard, harness and tether cow keeping, as well as mechanization and flow production lines manufacturing processes and operations formation.

Development, livestock, quarters, contents.