engineering profession. In this regard, there is need to create mechanisms to improve the social status of the engineer in society.

Conclusion. Analysis the state of livestock production and the ways of further improving its technical and technological support will help increase the production of environmentally safe products, will provide an increase in production of organic fertilizer for crop production and help increase the level of energy autonomy livestock industry through the production and use of biofuels.

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Powered analysis results sovremennoho STATUS industry and animal husbandry development direction namecheno perspektyvnыe ego techno and technological security.

Animal husbandry, technics, technology, production of orhanycheskoe, REFINING, Preparation personnel.

Results of analysis of the current state of the livestock industry and is scheduled to promising areas of its technical and technological support are given.

Livestock, machinery, technology, organic production, processing, personnel training.

UDC 631.17: 636

PROSPECTS AND TECHNICAL AND TECHNOLOGICAL SUPPORT UKRAINE DAIRY FARMING SECTOR

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Given the generalized results of studies on technical and technological support and identified trends of dairy farming industry in Ukraine.

The device milking, farm milk production, milking parlor, biotechnical system, dairy farming.

Formulation of the problem. Today in Ukraine the number of cows majority (77.5%) is held in private farms that produce about 73% of milk and provide nearly 50% of the raw material needs of the dairy industry. This is due to a sharp reduction in the number of cows in farms between 1990 and 2000, in which there was a shortage of raw materials for the processing industry. Trying to compensate for it by private households of citizens, which takes place today, it only forced a temporary phenomenon, as a result of that collective milk is not suitable for high-quality products through an increased level of health risk and significant cost of collection and transportation.

Analysis of recent research. However, one of the tasks of the State Target Program of Ukrainian village until 2015 is to ensure food security by increasing the production of animal products, including milk, to achieve scientifically grounded norms of consumption of food and support export potential.

The purpose of research. Synthesis of the industry and domestic experience in the study parameters, operating modes and dimension-type series of technically reliable and physiologically safe milking equipment and planning technology solutions farms producing milk.

Results. At the present stage of development of the field of dairy farming Ukraine efficient production of high quality milk possible only if a comprehensive solution of some key problems of the industry, including:

- The transition to the production of milk for processing industry exclusively in industrial farms producing milk;
- The introduction of planning and modern technology solutions farms to ensure maximum comfort of the cows and the reduction of energy consumption;
- Widespread introduction of automation and automatic process control farms producing milk;
- The use of physiologically safe milking equipment with minimal negative impact on the health of the cows and the microstructure of milk fat in order to obtain high-quality organic dairy products;
- Farm equipment highly productive cows and livestock breeding organization at the national level;
- Providing high-quality environmentally friendly farms feed and implementation of modern systems of feeding;

- Comprehensive waste management issues farms, environmentally sound production of organic fertilizers and power farms;

- Providing qualified field staff from farms and finishing specialists from equipment installation and maintenance;

- Scientific support industry at all stages of production.

Ukraine produces only a year 275 kg of milk per capita, while the minimum is physiologically reasonable rate 380 kg and pheadband cows in the industrial sector shall not exceed 580 ths. heads. Thus for every thousand inhabitants account for 58 heads of cattle, and the average annual yield of about 3,900 liters (Fig. 1). However, today the US the figure is 40 cow per thousand people in Britain - 44, Canada - 41 in the EU - 45-48, Russia - 66. This average productivity of cows in Ukraine significantly less than in countries with developed dairy. Thus, the leader in terms of average yields are Israel (10 000 liters), which significantly exceeds the average European level (5900 liters).

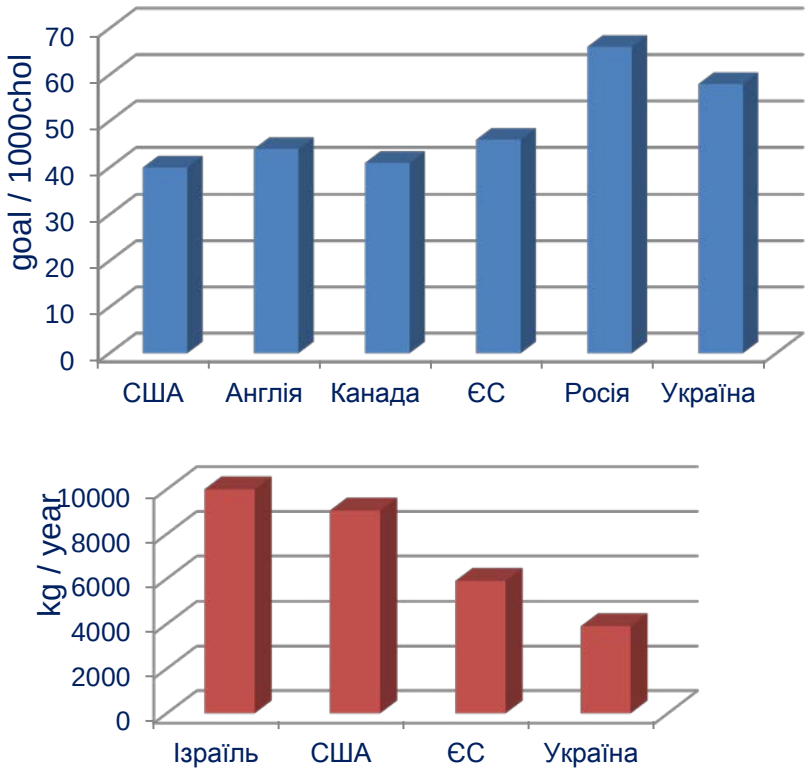


Fig. 1. Weighted average productivity of livestock and cattle in the world.

Thus, we can conclude that increasing the number of cows needed in the industrial sector management and ensure maximum realization of their genetic potential to increase the average annual yield.

The results of a NSC "IMESH" Studies indicate that food security herd of cows in the industrial sector entity shall consist of about two million head, if the average yield at 7,500 liters per head.

Of course, promising direction should be the construction of new farms Loose keeping and mandatory use of automated systems for process control milk production, without which the technology Loose lose almost all its advantages. But the first stage of upgrading and capacity building industrial milk production must be maintained, both by creating new farms and by upgrading and building on existing livestock farms with tethered maintenance.

It should be noted that the reconstruction of animals during maintenance Loose feasible only in areas of unsupported structure and the cost of such work only at 15-25% less than the construction of new modern premises.

At the NSC "IMESH" developed design and technological solutions farms producing milk of different sizes based on a room designed taking into account modern technological requirements (Fig. 2, Fig. 3).

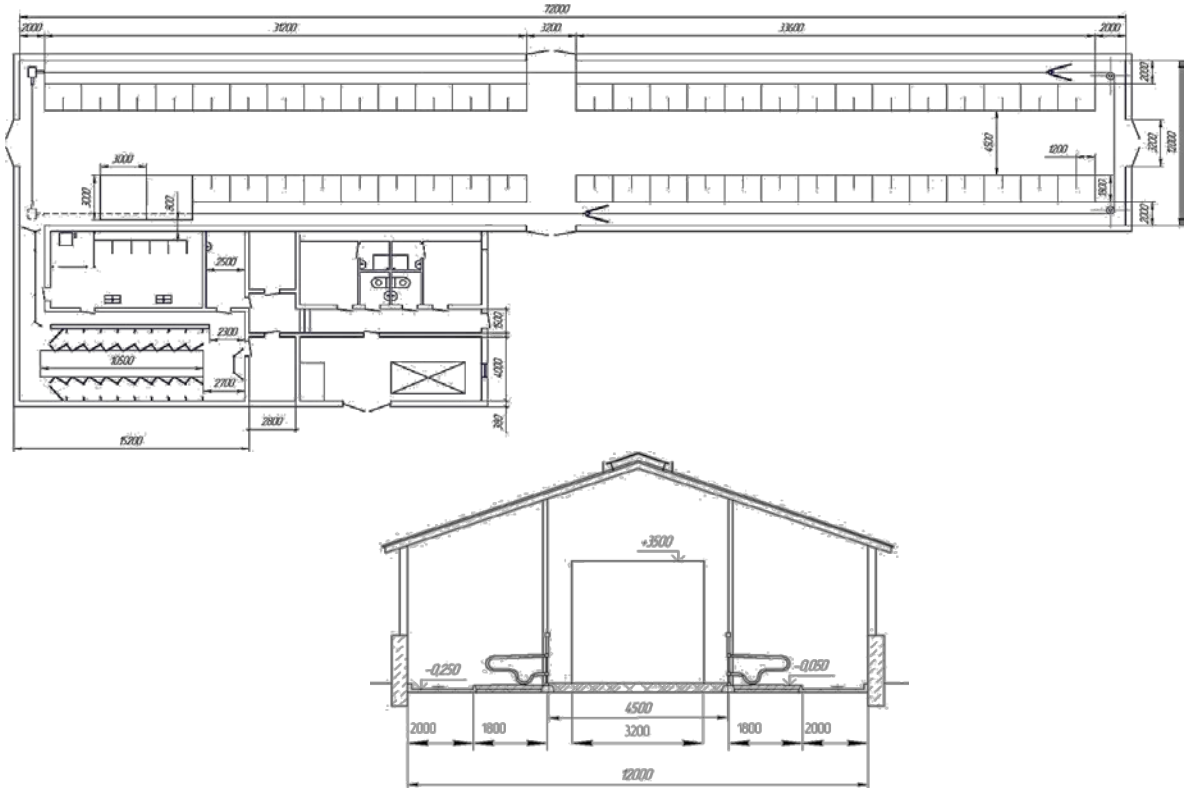
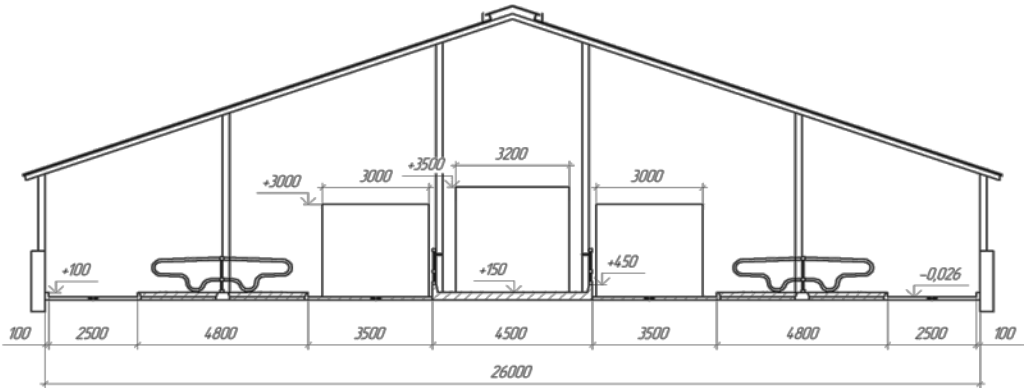


Fig. 2. Plan and cut production module 100 head of cows and milking kombiboksovym holding room.

Technological width of 6.5 m space is at par animals. Some of them tested during the reconstruction of the double row barn dairy farm experimental farm NSC "IMESH" DPDH "Olenevsky" (Fig. 4). The reconstruction included: installation of facilities cowshed new insulated

roof svitloventalyatsiynym ridge, replacing old ventilation transoms on metal, dismantle feeders and placing feed table, remodeling stalls and installation stall equipment of JSC "Bratslav", construction of dairy in the end room and installation of milking machines "Bratslavchanka ". As a result of the use of insulated roof and effective ventilation improved room climate and decreased expression condensation in winter and in summer despite the lack of ventilation curtains kept cool indoors.



The size of the room	26 × 96 m
Building area	2496 m^2
Specific area	10
$meters^2$/Goal	
Front feeding	0.7 m / goal
The width of the central passage of the feed table	4,5 m
The width of the feed passage	3,5 m
Width process passes the walls 2,5 m	
The width of the cross-aisle near napuvalok	5 m

Fig. 3. Cut Loose business premises for keeping 256 head of cows

Fig. 4. The reconstructed farm with milk production in DPDH "Olenevsky."

To increase the efficiency of the process in terms of milk production farms with tethered retention in NSC "IMESH" developed an automated system schozminnoho account of individual cows for milk production

farms with tethered maintenance (Fig. 5, Fig. 6), which is designed to automatically schozminnyy gather information about individual cows and hopes to transfer its common database for later use in the calculation rules for issuing planning concentrated feed and veterinary measures.

Fig. 5. Structural and technological scheme of control system for farms with cows in the milking stall molokoprovod.

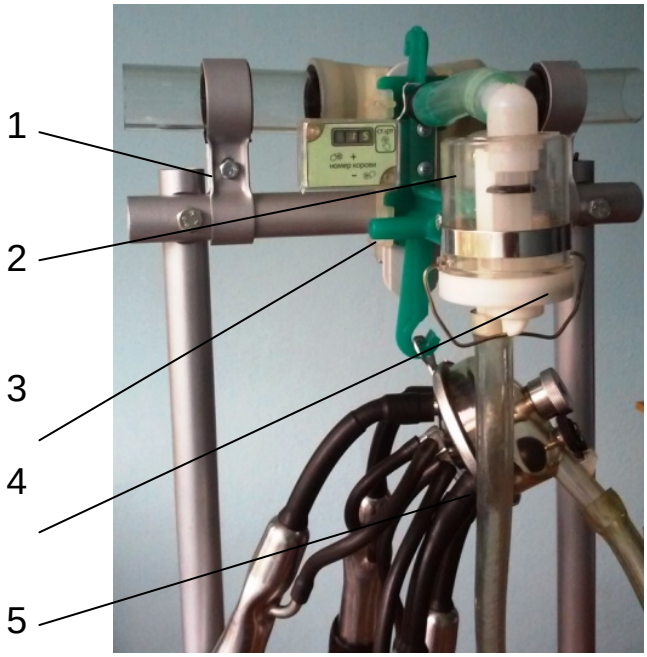


Fig. 6. General view of stand-alone module composed of milking machines: 1 - piece milk line leading from the tap; 2 - flow sensor of capacitive type; 3 - standalone module with digital indicator; 4 - dosing device; 5 - Suspension of the milking machine.

System contactless and wireless, can be integrated into existing automated process control system of farms producing milk. Standalone module provides automatic milking machines collect information about individual schozminnyy yield of cows.

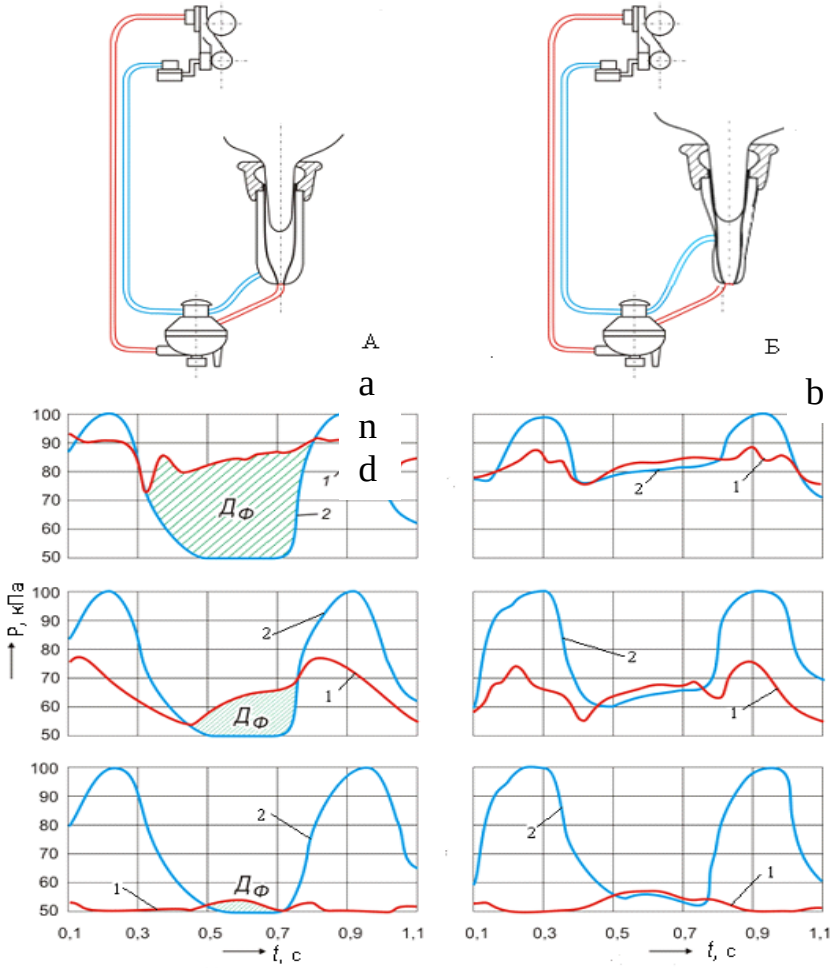


Fig. 7. Regime characteristics of the actuator - a glass of milk output intensity at 2.5 dm3 / min: A - Serial device ADU-1; B - Research unit DA-F-70; 1 - pressure piddiykovomu space; 2 - pressure mizhstinnomu space.

At the NSC "IMESH" developed physiologically safe milking apparatus (Fig. 7), which provide a stimulating treatment milking cows and milking process does not require a machine dodoyuvannya level of disease mastitis decreases in 2,5-4 times, productivity increases by 5 cows 9% fat milk increased by 0,05-0,15%, and completeness vydoyuvannya is 98,0-99,4.

Conducted in NSC "IMESH" studies show positive results on the impact of devices designed for average yield (Fig. 8). Studies were conducted at the experimental farm DPDH "Olenevsky" in the series of stall milking machines Milk.

Fig. 8. The average daily yield experimental and control groups of cows.

Conclusions

The successful development of the field of dairy farming Ukraine is expedient in the short term, based on the results of previous studies and existing domestic technical solutions to implement pilot projects on construction of industrial complexes producing milk in several basic farms, to be comprehensive production testing, which will ensure the development of complex machines farms and projects for mass implementation.

Creating a new generation of milking machinery must be conducted using the design principles physiologically safe components and conditions for wide introduction of automation to create adaptive milking equipment. This is important to create a unified adaptive automatic process control system milking, herd management and process control farm as a whole.

Conducting extensive comparative testing speed debugging of serial production of domestic appliances, increasing the pace of industrial production in dairy cattle.

Obobschenы results of research about A techno and technological trends opredelenы Provision and development of dairy animal husbandry industry of Ukraine.

Apparat doylnыy, farm for the production of milk, doylnыy room, byotehnycheskaya system, breast animal husbandry.

Given summarized the results of research on technical and technological support and identified development trends of dairy cattle breeding in Ukraine.

Machine milking, farm milk production, milking parlor, biotechnical system, dairy farming.

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EFFECTIVENESS OF MULTIPLE agricultural enterprises

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The above simulation model of agro-ecosystems of growing winter wheat, corn silage and grain, winter oilseed rape, barley, sugar beet and perennial grasses. The model provides meat of pigs, cattle, fish, chicken, milk, eggs, butter, sugar and honey, mushroom cultivation and production of compost. In addition, the proposed model involves the production of biodiesel and bioethanol in the amount required for the operation of mobile equipment, as well as biogas to generate heat and electricity.

ANDhroekosystema, crops, livestock, energy, the energy model, efficiency.

Formulation of the problem. At the present stage of the mankind faced several problems. They include providing on-

population with food (food problem), providing process technology and life energy resources (power problem) and maintenance of biological diversity of life and preserve the environment (environmental problem). Complete these tasks requires overcoming the contradiction, which is that the increase in food production or energy production and consumption leads to disruption of the ecological balance and environmental degradation and vice versa scrupulous compliance with environmental requirements will, at the current level of population growth to food deficit food and energy.

Modern agricultural production partially solve the food problem through effective crop production [1]. Livestock industry, because of the high production costs and low prices, has long been in decline, especially in the production of milk, beef and pork. Production of eggs and poultry in the last few years due to the stable nature of the significant