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ECONOMIC EFFICIENCY OF PRODUCTION OF MEAT LIVESTOCK PRODUCTION

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INTRODUCTION

Transition of Ukrainian economy to the market is caused by fundamental changes in the concepts of development of all branches of agriculture. Intensification of animal husbandry based on the introduction of advanced technologies of production causes the need for specialization of industries, their complementarity, and in connection with this and a significant restructuring of the type of used' animals.

The problem of meat production has been one of the most important tasks in the agricultural sector of Ukraine for many years. At present, the level of production of this valuable product does not correspond to scientifically based human nutrition standards. As world practice shows, one of the main directions for increasing beef production is the development of specialized beef cattle breeding.

In modern economic conditions increase of efficiency of beef cattle production is one of the key conditions of intensive development of this branch of livestock breeding, providing the country's population with high-quality beef and growth of competitiveness of domestic products. In this connection, the study of economic efficiency of meat production from beef cattle is of particular importance not only for an individual agricultural commodity producer, but also for the industry and the country as a whole.1.

The efficiency of agricultural production, including beef cattle breeding products, as noted earlier, affects many factors of internal and external environment, which must be taken into account to ensure the effective development of the industry and agriculture as a whole. Meat cattle breeding in Ukraine is still at the stage of formation and active development due to the urgent need to ensure food security of the country. At the same time, in a number of foreign countries this livestock industry is characterized by intensive development, and beef cattle is the main source of beef produced in the country.

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1. Target and economic efficiency of the development of the beef cattle breeding industry

The lack of specialized beef cattle in Ukraine, low efficiency and high cost of imports predetermined the need to breed beef cattle taking into account the conditions of soil and climate zones. Since 1972, at the initiative of domestic scientists, the methodology of creating domestic beef breeds and further development of specialized beef cattle breeding in Ukraine was developed. In different natural and geographical zones of Ukraine 18 breeding farms were created to breed Ukrainian beef cattle. As a result of this work Ukrainian (1993), Volyn (1994) and Polissya (1999) beef cattle breeds were created and approved.[1] Now the work on creation of Znamenska, southern and Simmentalska beef cattle breeds is successfully continued. Commercial beef cattle breeding is developing especially rapidly in Polesie, which is predetermined by natural-economic, social and environmental factors.[2]

As of 01.01.2020 there are 52 subjects of pedigree business in Ukraine, which have 25674 heads of beef productive breeding cattle (including bulls – 296 heads, cows – 10654 heads), including 18715 heads contained in breeding studios, 6959 heads – in breeding reproducers. The beef breeding cattle are bred in 16 regions of Ukraine. The largest number of beef cattle is concentrated in the north and west of the country. The leaders in number are Volyn and Chernihiv regions, where concentrated 32 and 20% of breeding cattle beef direction of productivity. In Lviv region there are about 1.8 thousand beef cattle. Among the central regions of Ukraine beef cattle breeding is most developed in Cherkassy region (1,4 thousand heads) and Zhytomyr region (1,6 thousand heads). In the eastern and southern regions the livestock does not reach even 1 thousand, except for Dnipropetrovsk region (1.6 thousand heads).

Tribal resources of cattle breeding, taking into account natural and economic zones in all regions of Ukraine are distributed unevenly. In the contaminated areas, in Polissya their number is more than 50%, in the forest-steppe zone – 30% in the Steppe regions – about 20%. Natural and climatic conditions of Ukraine are favorable for the creation of a developed industry of beef cattle breeding. In the areas of the Forest-steppe and Steppe, farms specialize in the production of grain, sugar beets. In the structure of fodder

[1] Дзіцюк В. В. Сучасний стан і перспективи розвитку м'ясного скотарства в Україні. http://agroua.net/animals/catalog

[2] Каталог бугаїв м'ясних порід та типи племінних підприємств в Україні для відтворення племінного поголів'я в 2015. Київ, 2015, 53 с.

production about 80% is straw, other coarse and succulent fodder, which can be most rationally used by beef cattle. Since pastures should be an integral part of the beef cattle breeding industry, special technologies of creation and long-term use of pastures based on specially selected grass varieties have been developed for different natural and climatic zones of the country.

In order to successfully develop beef cattle breeding, given the diversity of natural and climatic zones of Ukraine, it is necessary to have more meat breeds, to create their «market», which would number at least 15-20 meat breeds. For each zone, it is necessary to have several meat breeds that crossbreed well with each other as well as with livestock zoned dairy breeds. Natural and climatic conditions in Ukraine are favorable for the creation of a developed industry of beef cattle breeding. For different natural and climatic zones of the country, special technologies for the creation and long-term use of pastures based on specially selected varieties of grasses, which could become an integral part of the beef cattle breeding industry.

2. Analysis of the development of the beef cattle breeding industry in Ukraine

The largest number of breeding beef cattle is kept in breeding farms of Volyn, Chernihiv, Lviv, Dnipropetrovsk and Zhitomir regions. Less developed is pedigree beef cattle breeding in Rivne, Kherson and Poltava regions. According to the analysis, from 2019 to 2020 significantly (by 46-47%) decreased the number of beef cattle in Kherson, Rivne and critically (by 71%) in Odessa region.[3]

The dynamics of the number and development of breeds requires constant detailed analysis and generalization of breeding information. Conducting such an analysis we can state a decrease in the number of breeding animals by 7% for the last year (since January 1, 2019) and by 18-20% for the last 5 years. During this time 35 breeding farms have not confirmed their breeding status, reorganized and went bankrupt.

Today in Ukraine butcher cattle breed 11 breeds, including 6 breeds of domestic selection, namely Ukrainian beef cattle, Volyn beef cattle, Polesian beef cattle (including Polesian beef cattle breed of Znamensky type), Simmental beef cattle breed, Southern beef cattle, Ukrainian gray and 5 breeds of foreign selection: Aberdeen Angus, Charolais, Limousin, Light Akvitan, Hereford (figure 1).

Aberdeen-Angus breed is the most numerous breeding stock in Ukraine. The specific weight of the number of cows of the breed in the total breeding

[3] Лаврук А., Лаврук В. Проблемы возрождения и развития отрасли животноводства в Украине. Przegląd wschodnioeuropejski X/1 2019: 201–213

beef herd is 36%. There are 9345 heads of pedigree Aberdeen-Angus cattle in total, from them 102 bulls and 3712 cows.[4]

Polesian breed ranks second (15%) in the number of breeding beef cattle. The total breeding stock is 3152 heads (2388 heads in breeding plants, 764 heads in breeding reproducers). The third largest in Ukraine is the Volyn beef cattle. The breeding stock is 3503 heads, they breed in 7 breeding farms, including 1516 heads in stud farms, 304 heads in breeding reproducers.[5]

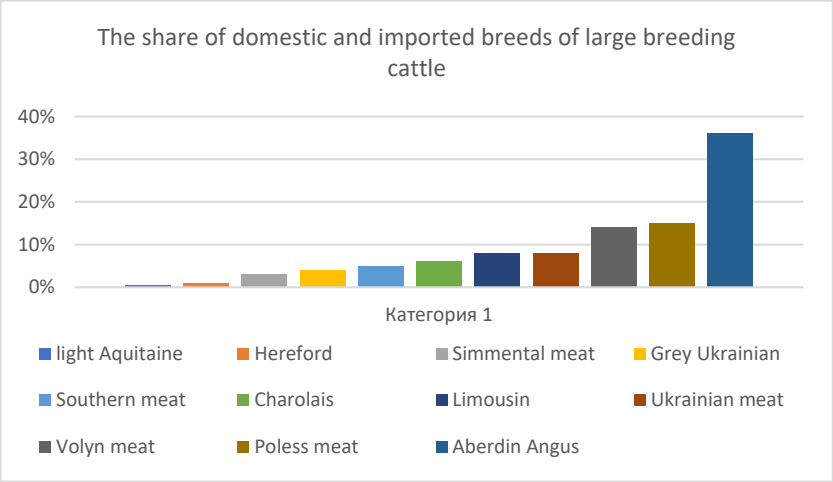

Fig. 1. The share of domestic and imported breeds of large breeding cattle in Ukraine

Ukrainian Beef and Limousin breeds have 8% of the total number. The total number of breeding cattle of Ukrainian beef breed is 1977 heads in 2 breeding plants. Limousine breed is the fourth among foreign breeds of beef production. The total number of breeding stock of this breed is 1909 heads. This breed is bred in 4 breeding farms.[6]

The grey Ukrainian breed has 912 heads at 2 breeding enterprises (in the breeding plant – 740 heads, in Plemreproductor 172 heads).

Simmental meat breed is bred in a breeding plant and two breeding reproducers. The number of Simmental meat breed in Ukraine is 879 heads,

[4] Селекційно-генетичні та біологічні особливості породи абердин-ангус в Україні. Київ, 2002, 203 с.
[5] Програма розведення волинської м'ясної породи на 2002-2010 роки. Kiev, 2003, 80 с.
[6] Програма розведення української м'ясної породи на 2002-2010 роки. Київ, 2003, 42 с.

of which 357 heads are registered in the breeding plant and 522 heads are breeding reproducers. – in breeding reproducers.[7]

During the period 2019-2020, the number of breeding stock of Simmental and southern beef breeds decreased by 32-60%, respectively.

The Charolais breed is bred in 4 breeding farms. The total number of representatives of the breed is 1627 heads, 869 of which are registered in breeding studios, 758 heads in breed reproducers. The specific weight of the breed by the number in Ukraine is 5%.

Over the past 5 years the breed composition of beef cattle breeding in Ukraine has not changed. In 2015 the same 11 breeds were allowed for breeding as at the beginning of 2020. But during this time the quantitative ratio of breeds has changed significantly. Aberdeen Angus remains the number leader all this time, while the number of gray Ukrainian cattle and Simmental beef breed in the structure of breeding stock decreased by 14-10% respectively. Volyn beef breed, on the contrary, consolidated its leading position and increased its representation by 2%. Since 2015, there is a tendency to increase the number of some breeds of foreign selection: Light Aquitanian, Hereford, Charolais and Limousin.[8]

In the leading beef-producing countries, beef cattle make up 60-90% of the total cattle population. In particular, according to the U.S. Department of Agriculture (USA), in 2019 the proportion of beef cows in Argentina and Uruguay reached 92% of the total number of cows, in Australia – 88%, in Canada – 79%, in the USA – 77%[9]. In this connection, we consider it appropriate to analyze and summarize the key factors contributing to the effective development of beef cattle breeding in foreign countries and in the advanced farms of our country.

It should be noted that fattening cattle with grain in small quantities was carried out in many countries of the world, including the USA, where modern large fattening sites began to appear in the 1960s. The results of the analysis showed that in the USA a large-scale system of cattle fattening was created, where the capacity of some feedlots reaches 30-50 and more thousand cattle, the cattle are renewed 2-2.25 times a year.

The total number of fattening cattle in the U.S. as of July 1, 2018 was 13.3 million head, 84.8% of which were in feedlots with a capacity of 1,000 or more head. Texas (2.7 million head), Nebraska (2.4 million head) and Kansas (2.2 million head) are leading the way for beef cattle in these feedlots. However, in Canada, where the technology for raising beef cattle is similar to the United States, the main beef cattle are concentrated in the western

[7] Супрун І. О., Гетя А. А., Рубан С. Перспективи використання генетичних ресурсів м'ясної худоби в Україні. Вісник серії СНАУ Тваринництво. 2015. Вип. 23, № 28. С. 42-49.
[8] Угнівенко А. М. Українська м'ясна порода. Київ 1994, 78 с.
[9] Statistics Canada: Canada's national statistical agency.

provinces, primarily in the province of Alberta, where as of January 1, 2019 it was 4.4 million head (47% of the total beef cattle herd in the country).

In Brazil, as we know, the largest population of beef cattle is represented by the Nelore (Zebu type) breed, which is well adapted to the tropical climate, but the young of this breed has lower weight gain compared to the mixed cattle, and the resulting meat has lower quality characteristics. In this regard, to create more productive livestock, Brazil subsidized imports of seed of Aberdeen Angus, Simmental, Limousin and other European beef cattle breeds[10].

Experience of this and other countries shows that countries with developed beef cattle breeding use the best own breeds as well as foreign breeding resources for cross-breeding with local cattle for creation of highly productive breeding and marketable beef cattle population.

It is also noteworthy that the location of beef cattle across the country is largely determined by the availability and proximity of fodder resources required for each stage of cattle breeding. At that, as a rule, cows are kept in areas where forage fodder prevails, while rearing young cattle is concentrated in areas where fine grain crops (sorghum in particular) or nutritious grasses (clover, alfalfa and others) are grown. Feedlots are usually located in grain growing areas with favorable natural and climatic conditions for a long grazing period, because free-range housing in pens in open areas is the main way of keeping cattle for fattening, the advantage of which is their rapid construction and low capital costs per animal head.

Consequently, beef cattle breeding in the United States and Canada is characterized by high growth of production with the use of industrial fattening of cattle.

Most of them under the category «efficiency» understand the effectiveness, which reflects the ratio of the obtained results (effect) to the used resources or costs in one or another sphere of human activity. The effect can be expressed both in natural form (increase in production volume) and in monetary form (increase in income, profit). In this case, the effect expressed in kind, showing the final result of activity, does not reflect the amount of costs, at which this result was achieved. Whereas the cost form eliminates this disadvantage, presenting a more complete characteristic of costs in the production activity of economic entities of the market. Efficiency of production is a form of expression of the purpose of the economic entity of the market, reflects the action of objective laws of economics and the most important side of the production process – efficiency.

In agricultural production the main resource limiting economic activity is land. In this regard, economic efficiency should be understood as obtaining the maximum amount of agricultural production from each hectare of land, using the minimum cost of public labor per unit of production.

[10] Kahn, L. Cottle D. Beef Cattle Production and Trade. Csiro Publishing, 2014, 584.

3. Analysis and solution of the problem of beef cattle breeding in other countries

In South America, in particular in such major beef producers as Brazil and Argentina, the extensive system of growing and fattening beef cattle has traditionally prevailed. However, since the early 2000s, intensive methods of rearing and fattening young cattle have been introduced into beef production in these countries.

The study shows that beef cattle in Argentina have historically been raised on pastures and natural feedlots, but with the increasing demand for beef, both domestically and abroad, the country has begun to increase the number of feedlots. This has also been facilitated by an increase in global demand for grains and oilseeds in the 2000s, which has led many traditional beef producers to switch to these crops. In Argentina today, about 80% of cattle are fattened with grain before slaughter, with cattle in the fattening areas for 120-150 days. One of the key factors contributing to the growth in the number of feedlots in the country in the context of rising prices for grains and oilseeds was the introduction by the Argentine government of a subsidy scheme for sectors, including feedlots that use grains and oilseeds as fodder for cattle.

Since Argentina is one of the world's leading countries in terms of per capita domestic consumption of this type of meat, its government has paid special attention to the regulation of beef production in the country. In particular, it has taken measures such as setting minimum slaughter yields and live weights for cattle, controlling beef prices, etc.

The development of intensive fattening in Australia, where, as of June 2019, the number of beef cattle exceeded 22 million head (90% of the total number of cattle in the country). In recent years, the number of feedlots in Australia has increased, with a capacity of up to 1 million head. Feedlots, as a rule, are located near places of grain production, which reduces the cost of transporting feed. Feedlot fattening before slaughter is common in southern Australia, where feedlots vary in capacity and the length of the fattening program, which is selected depending on the intended market. A short program (60-90 days) targets local markets, restaurants and cafes. A moderate program (90-180 days) is for domestic and foreign high quality markets. A long program (180 days or more) mainly targets markets in foreign countries where there is demand for high marbling meat.

The growth of feedlot cattle is also characteristic of Brazil, where the number of feedlot cattle has more than doubled since the early 2000s, which is also due to the growing demand for beef in world markets amid the increasing attractiveness of high-yield crops. Nevertheless, despite the increase in the number of feedlots in recent years, Brazil is dominated by a pastoral system of beef cattle rearing in which fodder occupies a small part of

the animals' diet and feedlot housing is mostly short-term, particularly during severe drought or rains, and just before the slaughter of cattle.

The availability of cheap fodder resources and almost year-round pastures result in relatively low costs of cattle meat production in Brazil, which, according to the analysis and synthesis of literature sources, are significantly lower than in Australia and the USA, which contributes to the high competitiveness of Brazilian beef in the world market. In southern Australia, due to the longer grazing period and the availability of fertile soils, cattle achieve higher gains at lower costs and in a shorter period of time than cattle raised in the northern zone.

Special attention should be paid to cattle housing conditions in Canada. In addition to the year-round open-air housing of beef cattle in Canada, three-wall buildings of simplified design with a walking area and 24-hour access to water and roughage are used which are not expensive to build. The floor in these buildings is covered with a thick layer of straw and has a slight slope towards the open wall, which in case of too cold winters is sometimes covered with different materials []. An important role is played by the correct location of these rooms, in particular, in windless valleys, on southern slopes.

It is necessary to take into account that keeping cattle in light cattle houses requires increased consumption of fodder in winter period. However, according to experts' estimates, the cost of additional fodder resources is lower than the cost of construction of enclosed premises of the capital type and their depreciation.

Thus, the international practice of fattening beef cattle in specialized fattening facilities before slaughter has proven to be an integral component of added value in beef production. Keeping cattle in fattening facilities increases their productivity and reduces the time required to bring the animal to the required weight, which significantly reduces the cost of beef production and improves the quality of the meat produced. At the same time, the fattening of young cattle on large fattening sites contributes to an increase in labor productivity and return on investment. Somewhat different is the position that considers the efficiency of production in relation to the degree of use of productive capacity. Production efficiency should be considered not only as ensuring a high ratio of results and costs, but also as the full use of the production and economic potential of the organization.

Indeed, the ability of an economic entity to realize its resource potential is the most important condition for ensuring the effectiveness of its production activities. In the aggregate, the efficiency of production activities of business entities is manifested in obtaining maximum results from each unit of resource spent or achieving a given effect using a minimum amount of resource inputs.

An important element that reveals the essence of the concept of «efficiency» is the consideration of its types, due to the multifaceted nature of

this economic category. It should be taken into account that each type of efficiency corresponds to its own system of indicators.

The following types of efficiency are distinguished:

− economic, reflecting the efficiency of production with the help of such indicators as unit cost of production, the level of profitability;

− technological, representing the rational use of resources in the production process (material, land, labor), for the assessment of which such indicators as labor intensity, fund capacity, return of the fund are used;

− social, reflecting the satisfaction of the needs of the population for quality products, working conditions and determined on the basis of production per capita, the level of employment of the population;

− environmental, which takes into account the impact of production on the environment and is considered in terms of preserving natural resources and improving the environmental friendliness of production.

It is important to note that many economists reasonably note the interrelation of economic and social efficiency. Economic efficiency of production is the basis of well-being of the population, determines the level of satisfaction of human needs for food, clothing, housing and directly affects the indicators of reproduction of the labor force. In turn, a high level of economic efficiency of production determines social conditions. In this connection social and economic efficiency is a direct consequence of production and economic efficiency.

An important link is the consideration of environmental and economic efficiency, which connects the economic feasibility of agricultural production with its environmental safety. The criterion of ecological and economic efficiency is the production of environmentally friendly products while preserving soil fertility and reproduction of the environment.

Also allocated innovative (causes an increase in production in connection with the introduction of innovation) and investment efficiency (reflects the growth of production due to investment).

The efficiency of agricultural production is influenced by many factors that can be divided into various groups. Their most common classification distinguishes the following: natural conditions, material and labor resources, as well as organizational and managerial factors.

Among the factors affecting the efficiency of production, a special place belongs to the costs of biological origin, namely the cost of feed, bedding and other materials. In this regard, efficiency depends to a large extent on the quality, compliance with consumption rates and the cost of these biological inputs.

In addition, taking into account the possibilities of management, we can distinguish three groups of factors: regulated, difficult to regulate and

unregulated. At that, the division of all factors into macroeconomic and microeconomic, or external and internal, is more common.

The list of key factors, stimulating and restraining the effective development of production, can vary in relation to a particular branch of agriculture, which is primarily due to the industry specifics of production activities.

Meat cattle breeding, as it is known, is a sector of livestock breeding for the production of high-quality beef and is based on the breeding of specialized breeds of beef cattle. Generalization of the best world practices showed that the division of labor and intensification of dairy cattle breeding necessitated the development of specialized beef cattle breeding.

The development of domestic beef cattle breeding is one of the promising strategic directions to increase the production of high-quality beef. The optimal combination of intensive dairy cattle breeding and developed specialized beef cattle breeding is necessary to ensure the production of the required volume of high quality beef.[11] In this case, the need to form an independent branch of specialized beef cattle breeding was noted by scientists in the 1970s.

There are a number of peculiarities of beef cattle breeding:

− beef cattle breeds have greater endurance and are well adapted to natural and climatic conditions due to their developed hair cover, which allows them to be kept in light-weight buildings or sheds with three walls;

− meat from beef cattle breeds surpasses meat from dairy cattle breeds in biological value and taste qualities;

− beef cattle are more precocious and combine high growth energy with good feed conversion.

The specifics of beef cattle breeding is also the fact that the only product of the industry is a calf, which requires breeding cows for two years and only after three or four years of the cow's life it is possible to make a profit from selling young cattle. This circumstance stipulates the necessity of obtaining a calf from each cow every year, because the costs of keeping cows are written off to the cost of young growth.

In contrast to pig and poultry breeding, cattle breeding uses mainly locally produced forage: hay, silage, green mass of grasses and others. As a consequence, natural conditions in beef cattle breeding determine the territorial division of labor to a greater extent than in other branches of livestock breeding. The competitiveness of cattle meat produced directly depends on the composition, quality and cost of feed resources. In this connection, the development of beef cattle breeding should focus on areas with sufficient areas of natural forage lands and stable production of forage and grain forage crops.

[11] Australian Bureau of Statistics. http://www.abs.gov.au

The economic factors that have the greatest influence on the process of production location also include the availability of resources, namely, the availability of the necessary material and technical base, qualified personnel and labor force. Of particular importance is the importance of staffing of the agricultural sector in solving the problem of improving the efficiency and competitiveness of agricultural production. In particular, highly qualified specialists are required to provide scientifically sound conditions for the maintenance and care of livestock, prevention and treatment of animal diseases, management of production activities.

A significant role in the placement and development of beef cattle breeding is played by the level of state support. So, the state by means of various economic methods, namely preferential crediting, development and realization of target programs, regulation of prices and other, can render stimulating influence on production of certain kinds of agricultural production with the best conditions for it. At the same time, state support may also be required to preserve agricultural production in areas with unfavorable natural and climatic conditions in order to use all the territories.

The effective use of the natural potential of a particular area or subject of the country is possible only in conjunction with economic, organizational and economic, technical and technological, social and other conditions. The example of the United States shows that the most active development is characteristic of those agro-economic regions of the country, in which high bioclimatic potential is organically combined with organizational, economic and innovative advantages.

In the effective development of beef cattle breeding the fundamental principle should be the principle of maximum approximation of cattle meat production to areas with the best natural and climatic conditions for grazing and fattening of beef cattle breeds, as well as sufficient areas of forage land. An important circumstance in this case is to ensure the sale of products on favorable conditions for agricultural producers.

Under effective development of meat cattle breeding we understand transition to a qualitatively new level of the organization of manufacture caused by activization of investment investments into branch and growth of innovative activity of managing subjects, promoting increase in volumes of manufacture of cattle meat, increase of security of the population with high-quality beef and growth of a standard of living of rural inhabitants[12].

In addition, it should be noted the importance of intensification of production as a key condition of its efficiency due to the reduction of the possibility of growth of production by extensive way. Intensification implies an increase in the useful effect from a unit of used resource and is manifested

[12] Argentina: Livestock and Products Annual. USDA Foreign Agricultural Service. September 15, 2017.

in the increase in labor productivity, capital and material productivity, which is carried out by improving the equipment used, implementation of advanced technologies and innovations in the production process, development of breeding and breeding activities.

The analysis and generalization of scientific works of scientists-economists allow us to allocate the following basic conditions necessary for effective development of beef cattle breeding from the point of view of an economic entity:

− selection of a suitable beef cattle breed, corresponding to natural and climatic conditions and the method of maintenance;

− achievement of the necessary level of herd reproduction and milk yield of cows, which is of particular importance when raising calves at suckling;

− rational placement of production, determining the possibility of pasture-based system of keeping beef cattle, availability of own fodder base and solvent demand for beef;

− ensuring balanced feeding of animals;

− creation of necessary conditions for the maintenance and care of livestock;

− availability of qualified specialists;

− availability of favorable economic conditions, in particular, state support, available credit resources and other conditions.

A key role is played by mutually beneficial cooperation between agricultural producers, meat processing plants and retail chains, which ensures fair income distribution. It should also be noted the importance of veterinary measures, continuous control over the health of cattle, timely detection of emerging problems, which will generally reduce the risk of reducing its productivity and mortality. [13]

When analyzing the economic efficiency of beef cattle production, an important condition is the correct measurement of this category, the definition of criteria and indicators for its evaluation. In this case the dominant point of view is the one according to which the generalizing indicator and private indicators, which can be natural (production volume) and cost indicators (profit volume), are used for the assessment of economic efficiency. Profit, as it is known, is determined on the basis of three key parameters, namely the cost of production, the volume of products produced and the price level for it. Various methods are used to determine the influence of each factor, in particular, the method of absolute or relative differences, chain substitution. The important thing is to carry out the factor analysis of profit.

To assess the possibilities of expanded reproduction and comparability of the results of activities of economic entities different in scale, it is more

[13] Супрун І., Рубан С. Стан розвитку м'ясного скотарства в Україні. Болгарський журнал сільськогосподарської науки. 2016. Вип. 22, № 1. С. 140-142.

appropriate to calculate not only profit, but also relative indicators, the key of which is the level of profitability, reflecting the ratio of profits and costs.

One of the main indicators characterizing the productivity of young cattle is the average daily gain of its live weight, the increase of which reflects an increase in the volume of meat produced and the reduction of costs per 1 cwt of growth, other things being equal. The efficiency of the use of human resources is evaluated on the basis of labor productivity, in particular, the direct cost of labor per 1 cwt gain of live weight of livestock or per 1 head of cattle. In addition, to determine the efficiency of fixed assets calculates the productivity and fund-intensity.

The economic efficiency of beef cattle production is largely determined by the efficient use of feed resources. To achieve higher cattle productivity and optimize the cost of feed resources, continuous work is carried out to improve feed production technologies, to enrich them with nutrients and to ensure balanced rations of macro– and microelements. In this regard, it is necessary to control the ratio of cattle productivity and actual feed consumption in beef cattle breeding. For this purpose, feed consumption per 1 cwt of live weight gain and per 1 head of cattle is calculated.

CONCLUSIONS

The economic result, as a rule, is estimated through the volume of profit per 1 head of beef cattle or per 1 cwt of live weight sold; profitability of production, reflecting the ratio of profit to total costs; profitability of sales, determined by the ratio of profit to revenue. Also calculated costs per 1 head of beef cattle, the cost of 1 cwt of live weight gain of cattle and the cost of selling 1 cwt of live weight of cattle [14].

Thus, the development of domestic beef cattle breeding is a strategic reserve for increasing domestic cattle meat production and improving the level of food security of the country. Among key factors having stimulating influence on development of meat cattle breeding it is necessary to note realization by authorities of a policy of import substitution in agrarian sector of the country, granting of measures of the state support for the managing subjects carrying out production of production of meat cattle breeding, presence of markets with favourable conditions for agricultural commodity producers of sales of the produced meat of cattle. Thus the basic factors constraining effective development of meat cattle breeding in the country, belong the long period of payback of the investments enclosed in production of production of this branch; less favorable natural and climatic conditions concerning the largest countries-manufacturers of beef; advanced growth of full cost price concerning selling prices on produced meat of cattle; low level

[14] United States Department of Agriculture (USDA). National Agricultural Sta-tistics Service.

of solvency of the population; absence at agricultural commodity producers of means for conducting expanded.

SUMMARY

The analysis of the state of development of beef cattle breeding in Ukraine was carried out. Ukraine mainly uses up to 15 breeds of cattle for meat production. It has been established that the largest breeding stock of beef cattle is concentrated in the north and west of the country.

It has been established that mainly beef cattle are bred in the Volyn and Chernihiv regions. Currently, 52 breeding farms are registered in Ukraine. The main imported breed in terms of numbers is the Aberdeen Angus. Of the domestic breeds, mainly specialized Volyn and Polissya meat breeds of cattle are bred. The main provisions of the beef cattle breeding industry in other countries are also given.

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