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Review article

Analysis and development trends of the pig industry in Kazakhstan

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Abstract

Background and Aim. The problem of increasing the efficiency of pig production is one of the most important for agriculture in the Republic of Kazakhstan. Increasing efficiency is dictated by the need to increase the volume of domestic meat production to meet the population's needs for this food product and achieve food security parameters. The aim of this study was to analyze the development of the pig breeding industry by studying the state of the breeding stock of pigs, their economically useful qualities, as well as comparing these indicators of the leading countries of the world.

Materials and Methods. Throughout the work, generally accepted zootechnical research methods were used. The state of breeding in pig farms by region, the genealogical structure of herds, and productivity records were analyzed based on the information and analytical system's database, statistical data, and the materials of zootechnical and breeding records of farms.

Results. The pork share in world meat production is 38-40%, in Russia 30-32%, and in Kazakhstan – 14-15%. The volume of pork production in the world per year is more than 108 thousand tons. A significant pig population falls on agricultural enterprises – 55.3%, households - 33.1%, and the share of IE and PF reaches 11.6%. The breeding stock of pigs is represented by the following breeds - large white (Yorkshire), Landrace, Duroc, Aksai black-and-white, Edelschwein, and Pietrain. The most common breed is significant white – more than 34%. The total number of animals surveyed was 26.062 heads.

Conclusion. Based on the research results, a reduction in the pig population over many years by 40-50%, a shortage of breeding material, and a lag in all indicators of productivity of the domestic pig population from the leading countries of the world were established.

Keywords: breeding pigs; breed; farming; pig; pig productivity; selection.

Introduction

The development of pig farming is a natural, objectively determined, economically advantageous direction for the revival of the meat complex of the Republic of Kazakhstan. To boost domestic pig farming and transfer it to an innovative path of development, it is essential to ensure the rational use of available resources and internal reserves, increase production, and improve the efficiency of the industry and the competitiveness of manufactured products.

Kazakhstan is a major producer of grain, which should stimulate the development of the pig farming industry. Further development of pig farming is the most critical factor in providing additional jobs in related industries.

Pig farming is developing rapidly globally and is one of the primary, relatively inexpensive sources of nutrition for the population. This is facilitated by the industry's economic efficiency, which is due to the early maturity of pigs and low feed costs per unit of production. In terms of feed conversion, pig farming surpasses all other livestock industries except poultry farming. Producers are tasked with obtaining young animals with high fattening and meat qualities to be competitive in the food market. This requires careful compliance with veterinary and sanitary rules, the implementation of anti-epizootic measures when growing and breeding pigs, and the widespread use of the best boars tested for the quality of their offspring. Realization of the genetic potential of pigs is possible only with adequate feeding and the creation of appropriate keeping conditions [1, 2, 3].

Modern pig farming is a branch of animal husbandry with enormous production potential [4, 5, 6]. Based on scientific achievements in our country's pig farming, existing and new highly productive breeds of pigs have been improved, and new technologies for pork production in flow production conditions have been developed; a vital achievement was that significant progressive improvements have occurred in the fields of breeding, feeding, and keeping pigs. This has increased the productivity of animals and significantly improved the industry's economic performance [7].

A significant problem on the market remains the shortage of breeding material in Kazakhstan. Profitable pork production is possible only with the widespread use of highly productive animal breeds with stable genetic potential and well-adapted to industrial technology. The pig breeding industry has practically stopped paying attention to records and evaluations. It relies on reproducing domestically bred producers, which has negatively affected the quality of the resulting offspring. Almost all economic entities do not have boars with the best genetic parameters of Kazakh selection. It must be recognized that in Kazakhstan, the methods for assessing the breeding qualities of pigs have lagged behind the best world samples.

In this regard, the relevance of the tasks solved as a result of research for socio-economic development on the scale of the Republic of Kazakhstan is emphasized. Currently, the main task of scientists is further genetic improvement of economically valuable traits of animals, which can be achieved through selection and crossing exclusively among purebred breeding animals, using modern methods of genetics, selection, biotechnological reproduction methods, and information systems for managing the accumulated database.

The industry's main task at present is organizing a domestic breeding base. Without this, the rise of pig farming in the country is impossible. Unfortunately, the industry's rise is associated only with introducing new technological solutions in pork production. The selection component of the problem is practically not discussed.

It should be noted that infectious viral diseases cause enormous damage to pig farming. Untimely implementation of preventive and other veterinary measures can lead to significant economic damage, up to the complete liquidation of the farm. In turn, this will contribute to the shortfall in pig products and a decrease in raw materials in the country. It is necessary to further improve the methods of diagnosis, prevention, and disease control measures to increase the economic efficiency of veterinary measures. In addition, pig populations play an essential role in the evolution of influenza viruses, as they are a unique reservoir for the reassortment of pathogens from different hosts and can become a potential threat to public health. Swine influenza is common in most countries that have developed pig farming, including Kazakhstan. It is necessary to continuously monitor the circulation of influenza pathogens among humans and pigs in various regions of Kazakhstan to predict epidemic outbreaks promptly and implement preventive measures [8, 9, 10].

Materials and Methods

Throughout the work, generally accepted zootechnical research methods were used to evaluate, select, and recruit animals and evaluate their breeding and productive qualities.

The state of breeding in pig farms by region, the genealogical structure of herds, and productivity records were analyzed based on the information and analytical system's database, statistical data, and the materials of zootechnical and breeding records from farms.

The following indicators of pig productivity were studied during the research:

- to evaluate the reproductive abilities of sows after farrowing, the following was determined: multiple pregnancies were determined by taking into account the total number of viable piglets in the litter; milk production was taken into account by weighing the piglets (the entire litter) on the 21st day after farrowing.

- testing animals by the control fattening method and assessing the replacement young animals for their productivity was carried out based on the following indicators: determining the average daily gain during the fattening and growing period; precocity (age of reaching a live weight of 100 kg, days). During life, the length of the body from the occipital crest to the root of the tail was determined by measuring with a measuring tape the thickness of the fat above the 6-7 thoracic vertebrae using a fat meter.

During the grading, the main parameters of animal productivity were assessed by comparative analysis with the requirements of the "Instructions for the grading of pigs".

Results and Discussion

During the agricultural sector reform, due to the instability of the feed base and for several other reasons, the growth of the pig population and the rate of production of pig products in Kazakhstan have sharply decreased.

The intensive development of the pig breeding industry in the republic, based on the involvement of scientific achievements and innovative technologies, gives reason to believe that the efficiency of production will accelerate the rate of increase in the breeding stock of pigs, increase the production of commercial and replacement young animals, and increase the competitiveness of products [11].

The increase in pork production is primarily due to the intensification of the selection process and the introduction of hybridization systems in the industry. In the entire world of pig breeding, hybridization is the primary method of increasing the productivity of commercial pig breeding. To obtain maximum animal productivity, farms engaged in commercial pig breeding mainly use the heterosis effect in pig hybridization, while, as a rule, three to four, and sometimes five breeds are crossed. To achieve the best results, targeted separate selection is used: they work separately with specialized "maternal" and "paternal" lines. This ensures a guaranteed heterosis effect in the final commercial hybrid. Many genetic companies have been formed worldwide to obtain hybrids for commercial production. The formation of competitive domestic pig farming is closely linked to developing a strategy for further developing selection and genetic centers in our country. The main areas of breeding work in them should be the development and improvement of maternal and paternal specialized lines of pigs and ensuring uninterrupted reproduction of breeding and cross-bred (hybrid) young animals in the area of regional and interregional pig breeding systems [12, 13].

Pig farming is developing rapidly worldwide and is one of the primary relatively inexpensive sources of nutrition for the population. According to the USDA (US Department of Agriculture), in 2023, global production of the main types of meat amounted to about 277 Mt, including 115,2 Mt of pork, or 41,6% of the total volume of meat of the main types (Figure 1) [14].

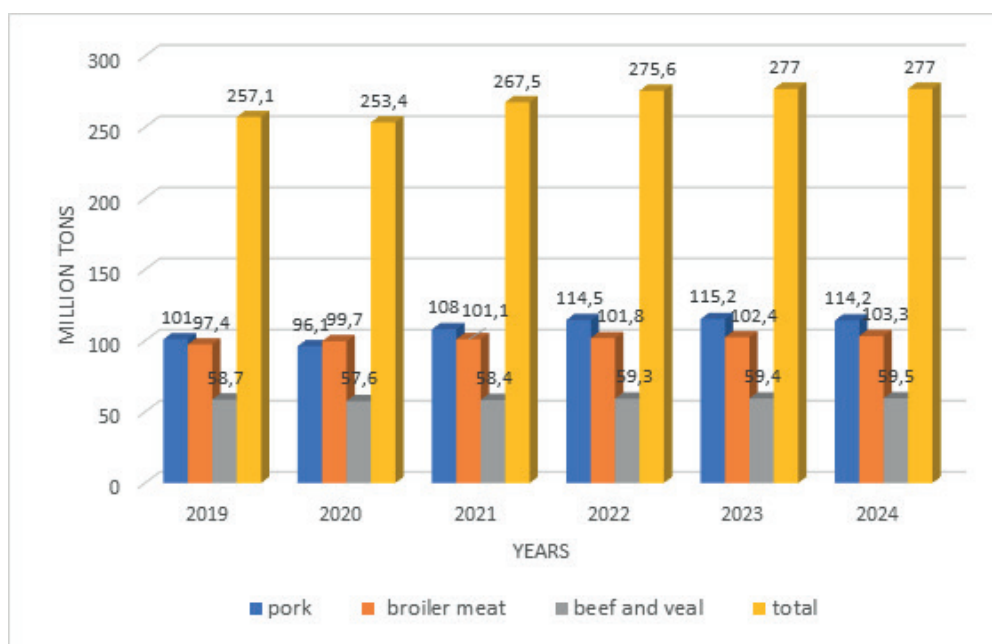


Figure 1 – Production of the main types of meat in the world

China is the world leader in pork production, with 49.4% of its global volume from there (Figure 2).

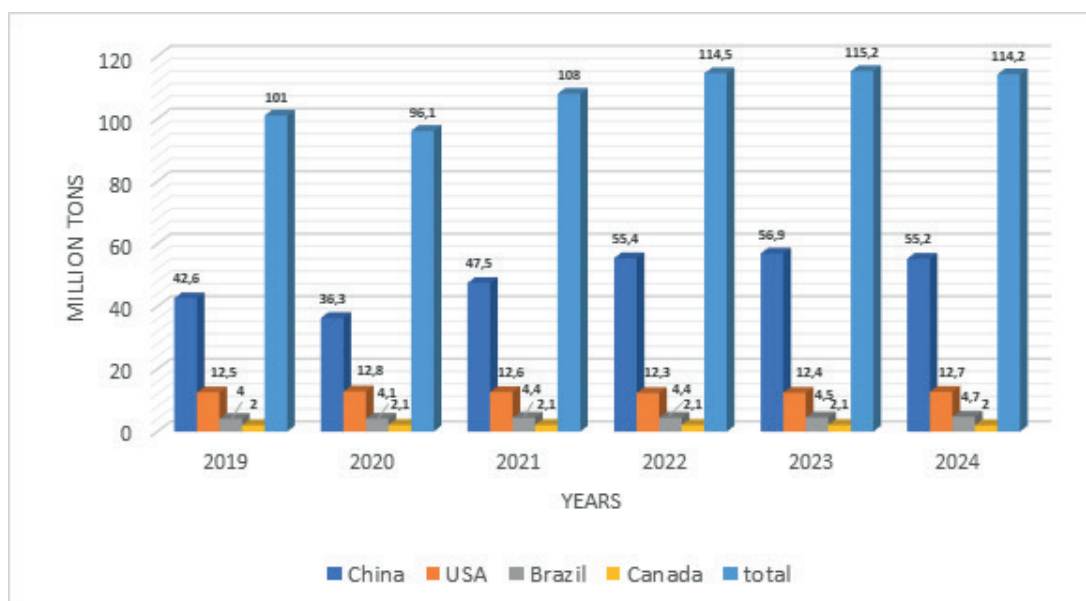


Figure 2 – Pork production in major countries

According to the National Bureau of Statistics of China, pork production in the country in 2023 amounted to 57.9 Mt, which is 4.6% higher than in 2022. China also accounts for half of the world's consumption of this type of meat - 58.7 Mt [15].

In 2024, global production of this type of meat fell to 114.2 Mt, mainly due to a decrease in its volumes in China. There, the pork sector is experiencing a long period of oversupply and insufficient domestic consumption. The USDA also reduced its production estimates for the EU and Brazil.

USDA data shows global pork consumption reached 114.5 Mt last year. Russia is among the top 5 global pork producers, surpassing Brazil by 182.000 t in 2022 [14].

In its latest report, the European Commission has published EU agricultural market forecasts for 2035. This report states that sustainability issues complicate EU pork consumption which is projected to decline by 0.4% per year to reach 30 kg per capital by 2035.

Intensive pork production systems will likely face further public criticism, leading to a decline in EU pork production. African swine fever is expected to remain present in the EU without major or uncontrolled outbreaks.

EU pork exports, which have increased in the previous decade, are expected to decline by 338,000 t between the 2022-2024 average and 2035 due to the recovery of pork production in Asian countries. Given the export volumes from 2024, they are projected to remain virtually stable until 2035. Pork prices may remain higher than in the past due to rising costs and reduced supplies from the EU [16].

In Kazakhstan, the pig population is decreasing year after year. For instance, if in 2012 the pig population was 1,031,600 heads, then since 2013, there has been a decrease of 10,6%, the number of animals was affected by high grain prices and low purchase prices for meat. The main reason for the decline in the pig population since 2007 is the constant fluctuations in feed and pork prices. By 2022, the pig population in the republic had already decreased by 49,4%. The massive import of meat products also contributed to the decline in the pig population in Kazakhstan.

In 2023, pork exports in Kazakhstan fell sharply. Only 40 tons of meat and 18 t of live animals were exported abroad. In 2022, 93 t of pigs were supplied to the foreign market, with no meat sales. It should be noted that our country's industry has enormous export potential: China alone is ready to purchase up to 55 Mt of pork per year, in addition to the border regions of the Russian Federation [17].

Meanwhile, more than 6,500 t of pork are imported into the country annually. In 2017, imports amounted to 25,300 t, costing Kazakhstan 236,5 thousand dollars. The peak of imports occurred in 2018 : live pigs were imported with a total weight of 317,900 t for 2,2 million dollars. Also, worth noting is 2019, when pigs were imported for 967,1 thousand dollars. In the future, however, this figure decreases. However, the amount spent on importing live pigs over all recorded years amounted to 70 million dollars [18, 19].

According to statistics from the National Statistics Bureau of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan [20], the number of pigs as of May 1, 2024, was 539,936 heads, including 300,043 heads, or 55,6% of the total number, in agricultural enterprises (LLP, PF, FE), and 239,893 heads, or 44,4%, respectively, in households. The total pig population in Kazakhstan decreased by 9,5% compared to the previous year. At the end of 2024, the number of pigs was 476,776 heads (Table 1).

Table 1 – Number of pigs by region of the Republic of Kazakhstan, thousand heads

Region	Years								
	2003	2011	2012	2013	2020	2021	2022	2023	2024
Republic of Kazakhstan	1 368.8	1 204.2	1 031,6	922.3	816.7	776.1	509.8	483.3	476.8
Abai	-	-	-	-	-	-	10.2	4.0	3.6
Akmola	222.4	144.3	148,3	118.9	96.1	89.0	73.5	49.7	32.4
Aktobe	85.3	99.0	41,1	35.4	61.5	62.4	5.4	4.6	2.4
Almaty	131.2	111.8	101,4	97.0	52.2	56.6	29.0	22.2	23.1
Atyrau	1.0	2.7	0,9	1.0	0.2	0.6	0.3	0.3	0.2
West Kazakhstan	35.8	22.6	25,1	26.0	14.0	12.6	10.7	12.1	11.0
Zhambyl	47.8	35.0	26,1	32.1	12.9	11.8	5.9	4.2	4.0
Zhetysu	-	-	-	-	-	-	18.6	12.1	12.0
Karaganda	108.6	95.6	87,9	83.3	76.0	79.4	61.4	68.4	78.5
Kostanay	244.7	254.8	181,2	157.2	167.2	114.7	59.4	59.7	67.2
Kyzylorda	3.2	3.3	3,1	2.5	1.7	1.3	1.1	0.7	0.4
Mangistau	0.3	0.3	0,3	0.2	0.1	0.0	0.0	-	-

Continuation of Table 1

South Kazakhstan	29.0	42.6	41.2	27.0	-	-	-	-	-
Pavlodar	101.1	71.5	68.0	58.4	78.4	79.1	84.5	97.4	83.0
North Kazakhstan	202.5	221.8	213.0	195.8	180.4	194.5	103.7	112.0	133.0
Turkestan	-	-	-	-	5.5	4.2	1.9	0.3	0.4
Ulytau	-	-	-	-	-	-	0.7	0.2	0.5
East Kazakhstan	152.9	98.6	93.5	85.2	66.7	66.3	40.2	33.3	24.0
Astana	1.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Almaty	1.9	0.2	0.4	2.2	0.2	0.2	0.3	0.2	0.2
Shymkent	-	-	-	-	3.9	3.4	3.1	1.8	2.1

The most significant number of pigs are bred in the farms of the North Kazakhstan region–132,728 heads, 28% of the total number in the Republic. In the Pavlodar region, the number is 82,541; in the Karaganda region, 78,488; and in the Kostanay region, 67,217. In the Atyrau, Kyzylorda, and Turkestan regions, the smallest number of pigs is 100 to 400 heads, bred only in households.

Three hundred four thousand four hundred fifty-three piglets were received in the Republic, a decrease of 40% compared with the previous year; per 100 sows in 2024 – 349 heads, and in 2023 – 331 heads.

Breeding base of pig breeding of the Republic in 2017-2018. 3 breeds of pigs were represented: Large White, Duroc, and Aksai Black-and-White. In 2019, Yorkshire, Landrace, Edelschwein, and Pietrain were added to this list of breeds.

As of 2024, the breeding stock of pigs is represented by the following breeds: Large White (34.4%), Yorkshire (3.7%), Landrace (7.8%), Aksai Black-and-White (0.2%), Duroc (0.6%), Edelschwein (0.04%), Pietrain (0.06%). In terms of numbers, the breeding hybrid (F1) occupies more than half of the pig population – 53.2%.

According to the information provided by the Republican Chamber for all breeds of pigs on the number of breeding stock in farms as of September 2024, the most extensive breeding stock of pigs is bred in the NKR – 17,708 heads, which is 42% of the total population of all areas and cities. In second place is the Pavlodar region - 7,593 heads, 17.6% of the total population. In third place is the Zhetysu region, with a population of 4,771.11.1%.

Of the 30 farms in the various areas of the Republic, 25 breed large white pigs: Yorkshire – 17, Landrace – 11, Duroc – 10. The Aksai black-and-white breed is bred only on one farm, the "Gavrilyuk" farm in the Almaty region. German Landrace, Edelschwein, and Pietrain are bred only in farms in the North Kazakhstan region, in "EMC Genetic" LLP and "EMC Agro" LLP.

Table 2 presents the breeding stock of pigs in farms registered in the Republican Chamber of the Republic of Kazakhstan for all breeds.

Table 2 – Breeding stock of pigs in farms of the Republic of Kazakhstan registered in the Republican Chamber for all pig breeds for 2024

Region	Total, heads	Livestock, heads	
		boars	main sows
Akmola	174	-	100
Almaty	777	71	517
East Kazakhstan	3 612	45	1 825
Zhambyl	249	-	246
Karaganda	4 058	166	3 676
Kostanay	3 129	120	1 362
Zhetysu	4 771	17	1 386

Continuation of Table 2

Pavlodar	7 593	240	5 179
North Kazakhstan	17 708	90	3 505
Shymkent	1 005	61	731
Total:	43 094	810	18 545

Table 2 shows that the most significant number of breeding boars is raised in the Pavlodar region – 240 heads, which is 29.6% of the total registered population of breeding boars.

Karaganda and Kostanay regions rank second and third in terms of breeding boars, with 166 and 120 breeding boars, representing 20% and 1.8% of the total population, respectively. North Kazakhstan region is in fourth place - 90 heads, which is 11.1%, respectively. There are no registered breeding boars in Akmola and Zhambyl regions.

The Pavlodar region has the most extensive breeding stock of primary sows – 5179 heads, which is 29.7%. The Karaganda region ranks second regarding the number of main sows, with 3676 heads, which is 19.8%. The North Kazakhstan region is in the third place with a population of 3.505 heads, which is 18.9%.

A comprehensive assessment of the main sows and stud boars was carried out, based on which the class composition by breed was determined, as shown in Table 3.

Table 3 – Class composition of the main sows and stud boars by breed

Breed	Age and gender group	Total, heads	Of these			
			by class, heads			
			elite-record	elite	I	II
Large White	boars	311	-	239	8	-
	sows	7483	8	4930	1099	16
Edelschwein	boars	6	-	3	-	-
	sows	10	-	10	-	-
Landrace	boars	117	-	78	3	2
	sows	2300	1	1809	-	-
Duroc	boars	217	-	147	1	-
	sows	19	-	19	-	-
Yorkshire	boars	117	3	97	6	3
	sows	687	-	677	6	-
Aksay Black-and-White	boars	13	-	13	-	-
	sows	32	-	32	-	-
German Landrace	boars	7	-	5	-	-
	sows	116	-	101	-	-
Breeding Hybrid (F1)	boars	-	-	-	-	-
	sows	7945	2	6924	75	3
Total:		19 380	14	15 084	1 198	24

The analysis of Table 3 showed that out of the assessed pig population, 15.084 heads correspond to the elite class, or 78%, to the elite-record class –14 heads, or 0.07%, to the I and II classes, 6.18% and 0.12%, respectively. Non-class animals amounted to 3.060 heads, or 15.8%.

The analysis covered the data of only registered breeding stock of agricultural formations (LLP, PF, farming), which limits the completeness of the research. Only with complete data can a correct conclusion be made about the overall state of pig breeding in the republic, which is important for planning and developing measures.

Based on the appraisal results conducted by breed across various regions of the country, we assessed the economically advantageous traits of pigs in LLP «SGC Karatal», Zhetysu region; LLP «EMS Agro», LLP «EMS Genetic», NKR; LLP «ZhK Leninskoye», Kostanay region; LLP «Rubikom», Pavlodar

region; LLP «VK-Bekon», East Kazakhstan region; LLP «PKF Medeo», LLP «APK Volynsky», Karaganda region (Table 4).

Table 4 –Economically advantageous traits of pigs in selected enterprises by breed

№ i/o	Farm	Prolificacy heads	Nest weight at 21 days, kg	Average daily gain, g	Early maturity, days	Body length, cm
1	2	3	4	5	6	7
Large White Breed						
1	LLP «Rubikom»	12.9	66.0	705	168	136
2	LLP «VK-Bacon»	11.2	51.8	555	180	93
3	LLP «PKF Medeo»	11.0	92.6	620	172	121
4	LLP «APK Volynsky»	11.0	53.4	737	185	95
5	LLP «ZhK Leninskoye»	14	72.0	800	182	118
6	LLP «EMC Genetic»	13.0	60.0	920	168	119
7	LLP «SGC Karatal»	12	50.0	850	185	127
Breed average:		12.2	63.6	741	177.1	115.5
Landrace						
1	LLP «Rubikom»	10.1	66.0	750	162	140
2	LLP «VK-Bacon»	10.9	51.6	540	185	96
3	LLP «PKF Medeo»	13.0	80.0	650	171	125
4	LLP «EMS Agro»	13.0	60.5	951	152	119
5	LLP «APK Volynsky»	11.3	53.7	738	182	95
6	LLP «ZhK Leninskoye»	18.0	80.0	845	180	117
7	LLP «EMC Genetic»	12.0	62.5	845	180	117
8	LLP «SGC Karatal»	11.0	55.0	880	182	128
Breed average:		12.4	63.6	774.8	174.3	117.1
Yorkshire						
1	LLP «VK-Bacon»	10.8	50.0	550	181	94
2	LLP «PKF Medeo»	11.0	88.5	640	170	123
3	LLP «EMS Agro»	15.0	65.8	950	151	119
4	LLP «APK Volynsky»	11.2	53.2	739	181	94
5	LLP «ZhK Leninskoye»	16.0	80.0	820	182	116
6	LLP «EMC Genetic»	-	-	950	162	121
Breed average:		12.8	67.5	774.8	171.1	111.1
Duroc						
1	LLP «Rubikom»	10.1	66.0	800	150	142
2	LLP «VK-Bacon»	10.5	51.1	560	178	92
3	LLP «EMS Agro»	-	-	982	148	125
4	LLP «APK Volynsky»	8.9	52.0	745	180	95
5	LLP «ZhK Leninskoye»	12.0	73.0	840	180	118
6	LLP «SGC Karatal»	10.0	64.0	920	175	135
Breed average:		10.3	61.22	807.8	168.5	117.8
Pietrain						
1	LLP «EMS Agro»	-	-	987	149	123

The total number of animals examined was 26.062, including Large White - 9.185 heads (35% of the total number), Landrace - 3.035 heads (11%), Yorkshire - 1.362 heads (5.3%), Duroc - 1.463 heads (5.7%), F1 crossbreeds - 11.002 heads (43%) and Pietrain - 15 heads (0.05%).

The following average indicators of economically valuable traits were obtained for pig breeds on pig farms: for the Large White breed - prolificacy – 12.2 heads, milk yield - 63.6 kg, average daily gain - 741 g, precocity - 177.1 days, body length - 115.5 cm; for the Landrace breed - 12.4 heads, 63.6 kg, 774.8 g, 174.3 days, 117.1 cm, respectively; for the Yorkshire breed - 12.8 heads, 67.5 kg, 774.8 g, 171.1 days, 111.1 cm, respectively; for the Duroc breed - 10.3 heads, 61.2 kg, 807.8 g, 168.5 days, 117.8 cm, respectively; Pietrain (only boars) - average daily gain - 987 g, precocity - 149 days, body length - 123 cm.

These indicators of economically valuable traits will be used in further work on the development and determination of selection parameters for the selection and hybrid center (SHC), as well as for the selection of farms that meet the criteria of the SHC.

Pig breeding in our country is currently far behind economically developed countries in efficiency and, consequently, in pork competitiveness on the world market. The analysis showed that our country is lagging behind the leading nations of the world in all indicators of the breeding stock of pigs. Thus, the percentage of insemination is 10-15% lower, and the average annual offspring from one sow is 3-6 heads lower. The costs of maintaining the breeding stock are very high; if sows in the herd structure make up 6-8%, then the share of the expenses for their maintenance, taking into account piglets for growing, reaches 25-26% of the total indicators. The breeding stock and boars have low productive potential in consumer herds, the absence of breeding development programs in farms, unsatisfactory zootechnical accounting, which hinders the introduction of progressive technologies in selection and breeding work, and a shortage of breeding young animals have been revealed.

Most farms use dry feeding, and only a few use wet feeding. Poor provision of farms with modern equipment, feed, and feed additives hurts pig fattening. If the average daily weight gain of fattening pigs in developed countries is within 700-800 g, then in most farms in Kazakhstan, it is 450-600 g. In advanced European countries, feed additives are 100 percent, but in Kazakhstan, they are much lower and barely reach 30%.

Thus, one of the reasons for the decline of the pig breeding industry is the lack of an intense breeding base. In global pig breeding, hybridization is the primary method of increasing the productivity of commercial pig breeding and is one of the main factors in producing high-quality pork [21]. In countries with intensive pig breeding, up to 90% of commercial pigs are hybrids. To solve the problems of domestic pig breeding, special attention should be paid to the strategy of development of breeding and hybrid centers (BHC), which will become the basis for the implementation of hybridization programs and the organization of pig breeding on a qualitatively new genetic basis [22, 23]. This will optimize the uterine composition and facilitate the maximum transfer to commercial farms of the entire genetic potential that has been accumulated and improved at breeding facilities, obtain the best animals in terms of breeding qualities with subsequent implementation in the form of breeding sales, the use of three-line crossing will allow obtaining highly productive fattening young animals at commercial complexes, targeted selection of breeding pigs will contribute to an increase in the fertility of hybrids, an increase in the viability and growth rate of young animals, and an improvement in the efficiency of feed use.

Conclusion

The paper analyzes the state of the pig breeding industry in Kazakhstan and the dynamics of the pig population over the past 20 years. It determines the average indicators of economically valuable traits for pig breeds across various regions of the country.

Based on the research results, a reduction in the pig population over many years by 40-50%, a shortage of breeding material, and a lag in all indicators of productivity of the domestic pig population from the leading countries of the world were established. To solve this situation in the industry, it is necessary to introduce regional breeding systems and create selection and hybrid centers.

Authors' contributions

SV, RA, AD: conceptualized and designed the study, conducted a comprehensive literature search, analyzed the collected data, and drafted the manuscript. SP and CD: performed final editing

and proofreading of the manuscript. All authors read, reviewed, and approved the final version of the manuscript.

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Қазақстандағы шошқа шаруашылығын талдау және даму тенденциялары

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Түйін

Алғышарттар мен мақсат. Шошқа шаруашылығының тиімділігін арттыру мәселесі Қазақстан Республикасының ауыл шаруашылығы үшін маңызды мәселелердің бірі болып табылады. Тиімділіктің артуы халықтың осы азық-түлік өніміне қажеттілігін қанағаттандыру және азық-түлік қауіпсіздігінің параметрлеріне қол жеткізу үшін отандық ет өндірісінің көлемін ұлғайту қажеттілігінен туындап отыр.

Зерттеудің мақсаты. Шошқаның асыл тұқымды басының жай-күйін, олардың экономикалық пайдалы қасиеттерін зерттеу, сонымен қатар әлемнің жетекші елдерінің көрсеткіштерімен салыстыру арқылы шошқа шаруашылығы саласының дамуын талдау.

Материалдар мен әдістер. Жұмыс барысында жалпы қабылданған зоотехникалық зерттеу әдістері қолданылды. Шошқа шаруашылықтарындағы асылдандыру жағдайын аймақтар бойынша талдау, табындардың генеалогиялық құрылымы мен өнімділігін есепке алу ақпараттық-аналитикалық жүйенің деректер базасы, статистикалық мәліметтер, сондай-ақ шаруашылықтардың зоотехникалық және асыл тұқымды есепке алу материалдары негізінде жүргізілді.

Нәтижелер. Дүниежүзілік ет өндірісіндегі шошқа етінің үлесі 38-40%, Ресейде – 30-32%, Қазақстанда – 14-15%. Дүние жүзінде шошқа етінің жылдық өндіріс көлемі 108 мың тоннадан асады. Шошқа популяциясының айтарлықтай үлесін ауыл шаруашылығы кәсіпорындары – 55,3%, үй шаруашылықтары – 33,1%, жеке кәсіпкерлер мен шаруа қожалықтарының үлесі 11,6% құрайды. Шошқалардың асыл тұқымды тұқымдары келесі тұқымдармен ұсынылған: ірі ақ (Йоркшир), ландрас, дурак, ақсай қара-ақ, эдельшвейн және пиетрейн. Ең көп таралған тұқым - Үлкен ақ - 34% -дан астам.

Қаралған малдың жалпы саны 26 062 бас болды.

Қорытынды. Олар шошқа популяциясының көп жылдар ішінде 40-50%-ға қысқаруын, асыл тұқымды материалдың тапшылығын, сондай-ақ әлемнің жетекші елдерімен салыстырғанда отандық шошқа популяциясының өнімділігінің барлық көрсеткіштерінің артта қалуын белгіледі.

Кілт сөздер: шошқа шаруашылығы; асыл тұқымды шошқа; селекция; тұқым; шошқа өнімділігі.

Анализ и тенденции развития отрасли свиноводства в Казахстане

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Аннотация

Предпосылки и цель. Проблема повышения эффективности производства продукции свиноводства, является одной из важнейших для сельского хозяйства Республики Казахстан. Повышение эффективности продиктовано необходимостью увеличения объема производства отечественного мяса для обеспечения потребностей населения в данном продукте питания и достижения параметров продовольственной безопасности. Целью данного исследования является анализ развития отрасли свиноводства с изучением состояния племенного поголовья свиней, их хозяйственно-полезных качеств, а также сравнение с показателями ведущих стран мира.

Материалы и методы. При выполнении работы применены общепринятые зоотехнические методы исследования. Анализ состояния племенного дела в свиноводческих хозяйствах по регионам, генеалогическая структура стад и учёт продуктивности проведён на основе базы данных информационно-аналитической системы, статистических данных, а также по материалам зоотехнического и племенного учёта хозяйств.

Результаты. Доля свинины в мировом производстве мяса занимает 38-40%, в России – 30-32%, в Казахстане – 14-15%. Объёмы производства свинины в мире в год составляют более 108 тыс. тонн. Значительная доля поголовья свиней приходится на сельхозпредприятия – 55,3%, хозяйства населения – 33,1%, доля ИП и КХ достигает 11,6%. Племенное поголовье свиней представлено породами - крупная белая (йоркшир), ландрас, дюрок, аксайская черно-пёстрая, эдельшвайн и пьетрен. Самой распространенной породой является крупная белая – более 34%.

Общее поголовье обследованных животных оставило 26 062 головы.

Закключение. Установили сокращение поголовья свиней на протяжении многих лет на 40-50%, дефицит племенного материала, а также отставание по всем показателям продуктивности отечественного поголовья свиней от ведущих стран мира.

Ключевые слова: свиноводство; племенные свиньи; селекция; порода; продуктивность свиней.