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**THE RELATIONSHIP OF UTERINE INDICATORS OF HOLSTEIN COWS OF
DIFFERENT BREEDINGS TO MILK PRODUCTIVITY**

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Annotat ion. In this article, the morphofunctional characteristics of the udder of Holstein cows belonging to different selections (udder shape and teat length, circumference, width, and conditional size of the udder) were compared and studied depending on the type of constitution, and data were presented.

Keywords: selection , breed , herd function , shoulder morphology , udder conditional size , cup-shaped , tub-shaped , udder shaped , cylindrical , conical .

Аннотация: В данной статье сопоставлены и изучены морфофункциональные характеристики вымени коров голштинской породы, принадлежащих к разным селекциям (форма вымени и длина сосков, окружность, ширина и условный размер вымени) в зависимости от типа конституции, а также представлены данные.

Introduction . The further development of the dairy industry in the world, the supply of consumer products to the population and the increase in the types of these products are of great practical importance. In our republic, great attention is paid to the livestock sector, which is provided for in the Decree of the President of the Republic of Uzbekistan dated January 28, 2022 No. PF-60 " On the Development Strategy of the New Uzbekistan for 2022-2026 " , decisions are the result of the attention paid to the livestock sector . In our research, scientific research conducted on dairy cattle is aimed at providing the population with high-quality milk and dairy products. This indicates the relevance of the topic of studying the morphofunctional characteristics of the milk-producing organ (mammary alveoli) in cows.

Materials and methods. Scientific research was conducted at the “Siyob Shavkat Orzu” cattle breeding farm to determine the dependence of udder indicators of Holstein cows of different selections on the type of constitution . Three groups were divided for the experiment: Group I - Dutch (thin-dense, strong constitution types), Group II - German (thin-dense, strong constitution types), Group III - Danish selection (thin-dense, strong constitution types), n=10 heads of each constitution type were taken.

The results obtained and their analysis. The results of our research showed that the udder shape (tub-shaped, cup-shaped) and teat shape (cylindrical, conical) of cows in the experimental groups differed significantly . Differentiation was observed in the different selections in our experimental group. In the experimental group of cows on the dairy farm, it was determined that all cows had a tub-shaped and cup-shaped udder , which is a well-known indicator in zootechnics . In Holstein cows of groups I, II and III, the proportion of cows with a thin-dense constitution type with a tub-shaped udder was from 40 to 50 percent, while cows with a strong constitution were 40-70 percent, while Holstein cows with a thin-dense type with a cup-shaped udder were 50-60 percent, and cows with a strong constitution were 30-60 percent.



The udder shape of the tub-shaped udder was more common in cows of the I experimental group with a strong constitution type, equal to 70 percent. Their counterparts in the I group with a thin-dense, II group with a thin-dense and strong constitution type, and III group with a thin-dense and strong constitution type had a higher udder shape of 20.0; 20.0; 10.0; 30.0 and 30.0 percent, respectively

Table 1

of udder and teat shape of cows in the experiment. (n= 10)

Indicators	Groups											
	Netherlands selection				Germany selection				Denmark selection			
	thin-dense		solid		thin-dense		solid		thin-dense		solid	
	b	%	b	%	b	%	b	%	b	%	b	%
The shape of the neck:												
Bathtub	5	50.0	7	70.0	5	50.0	6	60.0	4	40.0	4	40.0
Cup-shaped	5	50.0	3	30.0	5	50.0	4	40.0	6	60.0	6	60.0
Total	10	100.0	10	100.0	10	100.0	10	100.0	10	100.0	10	100.0
of the nipples :												
Cylindrical	6	60.0	6	60.0	6	60.0	5	50.0	6	60.0	5	50.0
Cone s faith	4	40.0	4	40.0	4	40.0	5	50.0	4	40.0	5	50.0
Total	10	100.0	10	100.0	10	100.0	10	100.0	10	100.0	10	100.0

Most of the groups of cows in our experimental farm had cylindrical teats. In the experimental group of group I, group II, group III, the proportion of thin-dense constitution type cows of different selections was 60 percent, and in the group I, group II, group III, the proportion of strong constitution type Holstein cows was 50-60 percent. In the thin-dense constitution type Holstein cows with conical teats, the proportion of thin-dense constitution type cows of group I, group II, group III was 40 percent, while in the cows of different selections of strong constitution type it was around 40-50 percent.

When evaluated based on appearance and exterior dimensions, it was found that the udder of the cows in the experimental groups of different selections was located densely in the abdominal area. The mammary glands were clearly visible in the Holstein cows of different selections in the experiment, depending on the type of constitution, the cows had a mostly horizontal udder, and in order to obtain complete information and analyze the main dimensions of the udder, the udder was studied (Table 2).



Table 2

Morphofunctional indicators of the udder of cows in the experimental groups (n=10)

Indicators	Groups											
	Group I				Group II				Group III			
	thin-dense		solid		thin-dense		solid		thin-dense		solid	
	X ±Sx	Cv, %	X ±Sx	Cv, %	X ±Sx	Cv, %	X ±Sx	Cv, %	X ±Sx	Cv, %	X ±Sx	Cv, %
The circle of the world	121.7±1.16	3.02	120.9±0.88	2.3	120.4±0.79	2.1	120.1±0.73	2.29	119.4±0.81	2.14	118.8±0.77	2.05
Shoulder length	37.7±0.4	3.4	37.1±0.3	2.9	36.3±0.38	3.3	35.8±0.36	3.1	35.2±0.31	2.8	34.7±0.34	3.07
Shoulder width	31.8±0.45	4.5	31.4±0.5	5.1	30.8±0.44	4.6	30.3±0.4	4.2	29.8±0.47	4.9	29.6±0.38	4.1
Depth of the anterior thigh	28.5±0.47	5.2	28.1±0.48	4.4	27.9±0.47	5.3	27.7±0.46	5.3	27.5±0.4	4.4	27.1±0.5	5.8
Depth of the back of the thigh	31.3±0.46	4.7	31.1±0.42	4.3	30.8±0.44	4.6	30.4±0.47	4.8	29.9±0.46	4.8	29.6±0.42	4.5
Conditional volume of the udder, cm ³	3468.4	X	3397.3	X	3359.2	X	3326.8	X	3283.5	X	3219.5	X
Back length of the nipples	8.33±0.06	2.3	8.31±0.046	1.7	8.29±0.04	1.5	8.27±0.063	2.4	8.24±0.033	1.3	8.21±0.03	1.14
front suckers	7.78±0.043	1.76	7.74±0.05	2.0	7.67±0.048	1.96	7.63±0.04	1.6	7.51±0.05	2.01	7.48±0.04	1.7
Diameter of the suction cups, cm	2.31±0.014	1.9	2.29±0.015	2.1	2.3±0.018	2.4	2.28±0.014	1.9	2.26±0.015	2.0	2.23±0.011	1.6
Milking rate, kg/minute	2.26 ±0.049	6, 8.0	2.31 ±0.043	5.8	1.87 ±0.03	4.7	2.15±0.047	6.9	1.82 ±0.023	3.9	1.76 ±0.02	3.4
Yelin index,%	44.3±0.1	0.72	44.6±0.08	0.6	43.9 ±0.09	0.7	44.1±0.09	0.63	43.5±0.09	0.65	43.8 ±0.09	0.67

According to Table 2, the udder size of the Holstein breed varied depending on the type of constitution. In experimental studies, the highest indicators were observed in cows of the thin-dense and strong constitution type of group I, and their udder circumference in the II lactation was proportionally higher than that of cows of the experimental groups II and III: thin-dense type group I, 1.3 cm. or 1.07 percent, 2.3 cm. or 1.89 percent, group I, strong constitution type group II and III, 0.8 cm. or 0.66 percent, 2.1 cm. or 1.74 percent, udder length 1.4 cm. or 3.7 percent, 2.5 cm. or 6.6 percent, strong type 1.3 cm. or 3.5 percent, 2.4 cm. or 6.5 percent, udder width 1.0 cm. or 3.1 percent, 2.0 cm. or 6.3 percent, solid type 1.1 cm. or 3.5 percent, 1.8 cm. or 5.7 percent; front udder depth 0.6 cm. or 2.1 percent, 1.0 cm. or 3.5 percent, solid type Holstein cows 0.4 cm. or 1.4 percent, 1.0 cm. or 3.6 percent, rear udder depth 0.5 cm. or 1.6 percent, 1.4 cm. or 4.5 percent, solid type 0.7 cm. or 2.2 percent, 1.5 cm. or 4.8 percent, conditional volume of the udder 109.2 cm³ or 3.1 percent, 184.9 cm³ or 5.3 percent, solid constitution type 70.5 cm³ or 2.1 percent, 177.8 cm³ or 5.2 percent; length of the hind teats 0.04 cm. or 0.5 percent, 0.09 cm. or 1.1 percent, solid 0.04 cm. or 0.5 percent, 0.10 cm. or 1.2 percent; length of the front teats 0.11 cm. or 1.4 percent, 0.27 cm. or 3.5 percent, solid 0.11 cm. or 1.42 percent, 0.26 cm. or 3.4 percent, diameter of the teats 0.01 cm. or 0.4 percent, 0.05 cm. or 2.2 percent, solid 0.01 cm or 0.4 percent, 0.06 cm. or 2.6 percent; milk yield rate was 0.39 kg/min or 17.2 percent, 0.44 kg/min or 19.5 percent, solid 0.16 kg/min or 6.9 percent, 0.55 kg/min or 23.8 percent higher.

In terms of udder indices, cows of group I with a thin-dense and strong constitution type were superior to cows of group II and III with a thin-dense and strong constitution type by 0.4 or 0.9 percent; 0.8 or 1.8; 0.5 or 1.1 percent and 0.8 or 1.7 percent.

Conclusion. Thus, in the studies, in addition to udder size indicators, milk yield rate, teat diameter, and udder indices, which are selected in dairy herds in the second lactation of cows, are of great practical importance in terms of their compliance with modern requirements.



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