

Etiological indicators of the Simmental breed of cattle

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Annotation. The article presents data on the ethological indicators of Simmental cattle at the age of 6 and 18 months (standing, chewing, eating, sleeping, general activity index).

Keywords: cattle, Simmental breed, ethological indicators, general activity index, behavior, terms, growth, development.

Introduction. Samarkand region differs from other regions of the republic in its climatic conditions and ecological situation. Like other sectors of the economy, cattle breeding and its main branch of livestock breeding are developing in the region. As of January 1, 2022, the total number of cattle in all categories of farms in the country amounted to 13 557.6 thousand heads. In total, 1606.6 thousand heads of cattle are bred in the region in farms of various categories, including 724.3 thousand cows.

Livestock and breeding farms, such as "K. Eldor" in the Pastdargom district, also contribute to the plan for the production of milk and beef in the region.

We organized a scientific and production experience to study the growth and development of Simmental calves of different types of farms in a farm and their zoopsychological indicators.

Materials and methods. The research work is carried out by the authors within the framework of the intended topic, the experimental part of which was carried out in the conditions of the breeding livestock farm named after "K. Eldor" of the Pastdargomsky district of the Samarkand region. For the experiment, 10 heads of animals were selected from imported cattle, 30 heads of newborn pedigree and breeding calves were selected, similar in origin, sex, live weight, and the most active group I was identified, group II included moderately active and group III included Simmental breeds with passive behavior.

Animal behavior plays an important role in improving the technology of keeping and feeding animals, adapting their diet and increasing their resistance to various stressors.

The ethological parameters of experimental animals were studied according to the method of V. I. Velikyanin (1975), that is, they recorded 6 hours of observation per day for three days and recorded chronometrically [2]. Based on these indicators, their total activity index (TAI) was calculated. The following formula proposed by V.I. Velikyanin (1995):

$$TAI = \frac{\Sigma EfS + ChWS + ChLD}{360}$$

TAI – total activity index

EfS – eat food while standing

ChWS – chew while standing

ChLD – chew lying down

The results obtained and their analysis. We determined the behavioral characteristics of the animals in the experimental groups at 6 and 18 months of age and presented the results in Table 1 below.

Analysis of the results presented in Table 1 showed that the support on the legs changed significantly with age. The highest rate was noted in animals of the first experimental group at the age of 6 months, which spent 55.0% of the 6-hour period in an upright position. This figure, in turn, was 54.0% and 53.0%, respectively, among peers.

And in the opposite position, the 6-hour control was 45% in the superactive female body, 45.5% in the moderately active and 46.7% in the passive type. Sleep patterns also differed between groups: if in animals of the I-experimental groups the 6-hour observation period was 49 minutes or 13.6%, then in peers it was 50 minutes or 13.8%, respectively, and 53 minutes or 14.7%.

Table 1.

The main behavioral features of the animals of the experimental groups at the age of 6 months.

Indicators	Groups					
	I		II		III	
	X±M _x	C _v , %	X±M _x	C _v , %	X±M _x	C _v , %
Standing	198±0,37	0,89	196±0,51	1,06	192±0,66	0,82
Including meals	125±0,18	0,72	125±0,54	1,82	113±0,97	2,01
Chewing	40±0,26	3,73	38±0,56	4,15	32±0,36	2,60
Lying down	162±0,37	0,93	164±0,60	1,25	168±0,66	0,83
including chewing	82±0,20	1,12	79±0,37	1,82	77±0,45	1,27
Dream	49±0,20	1,77	50±0,43	2,30	53±0,42	1,77
General activity index	0,686±0,03	0,70	0,672±0,02	0,56	0,616±0,01	0,70

However, with age, sleep decreased, in other words, young animals slept more than adults. While the number of sleeping animals decreased with age, the number of standing animals increased. That is, as they grew older, the animals became more active, moving more and more in a standing position.

As can be seen from the table, in animals with a very active type of standing, eating and chewing, it was observed in females, and the prone position, including chewing and sleeping, was observed in passive males.

Table 2 shows that at the age of 18 months of the experiment in animals of experimental groups I, sleep was observed for 185 minutes or 51.4%, in animals of II experimental groups 184 minutes or 51.1%, in animals of III experimental groups 182 minutes or 50, 5% respectively. This is 13 minutes 6.6 percent, 12 minutes 6.1 percent, 10 minutes or 5.2 percent respectively compared to the age of 6 months.

Table 2.

The main behavioral indicators of animals of the experimental groups at the age of 18 months, in %.

Indicators	Groups					
	I		II		III	
	X±M _x	C _v , %	X±M _x	C _v , %	X±M _x	C _v , %
Standing	185±0,43	0,74	184±0,37	0,45	182±0,40	0,48
Including meals	99±0,31	1,02	98±0,51	1,16	94±0,24	0,57
Chewing	43±0,22	1,66	43±0,32	1,64	41±0,45	2,44
Lying down	175±0,43	0,78	176±0,37	0,48	178±0,40	0,51
including chewing	83±0,32	1,17	82±0,40	1,11	80±0,58	1,61
Dream	61±0,35	1,80	61±0,37	1,37	64±0,37	1,31
General activity index	0,625±0,05	2,51	0,619±0,03	0,45	0,597±0,02	0,77

The main indicator of the feeding behavior of animals is the chewing process, because the more time the animal spends in this state, the faster and better it processes the food it consumes, and this indicator is associated with the productivity of the animal. This is why a lot of time was spent on the animals in our study, experimental group I.

It should be noted that the calmer the body of the animal, the more normal all life processes proceed at the level of physiological norms, such animals sleep most of the time and spend most of the time in a lying position. It is known that animals have superficial and deep sleep. Deep sleep is usually observed from 3:00 to 6:00 in the morning.

Thus, the ethological indicators of animals belonging to different types of farms were close to each other. In feeding, chewing and vigilance, hyperactive animals of group I surpassed their peers and animals of experimental groups II and III. This means that their growth and development in the body is accelerated.

List of used literature

1. Data of the State Committee of the Republic of Uzbekistan on statistics. 2022
2. Великжанин В.И. Генетика поведения сельскохозяйственных животных. S.Pb., 1975. 204 p.
3. Akbarova G.B., Jiyamuradova Sh.X., Qurbonova Sh.E. Simmental zotli yosh qoramollarni o'sish va rivojlanish ko'rsatkichlariga ishlab chiqarish tipining ta'siri. Livestock and breeding work. No. 03.2021. Pages 17-18.