
Features of the Body Structure of Cows of the Swiss Breed of Various Productivity Types

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Abstract: The results of studies conducted on cows in the third and higher lactations belonging to different productivity types (milk, milk-meat, and meat-milk) in relation to the Swiss breed sweating gland, including measurements of body dimensions and body proportionality, are presented in the article.

Keywords: Swiss breed cows are studied in relation to milk storage, lactation, body size, body index, dairy level, skin, and udder.

Introduction. Swiss breed cattle are raised as a valuable breed for meat production in eight regions of our republic. This breed was developed as a result of long-term natural selection by the local population in the mountainous areas of Switzerland. In terms of its biological aspects, it adapts quickly to various conditions, exhibits high productivity, and possesses sturdy constitution. Swiss cattle have been used to breed Kostroma, Lebedin, Olatov, Brown Carpathians, and Brown Caucasus breeds. Its most distinctive feature is a white stripe running down its forehead. The birth weight ranges from 35 to 38 kg. In the conditions of Uzbekistan, the live weight of cows is 500-550 kg, while bulls weigh between 800-950 kg. Their coloration is reddish. Daily weight gain ranges from 750 to 1000 g. Dressing percentage is 50-60%. Milk yield of cows is 3500-4200 kg, with a fat content of 3.8%.

Materials and Methods. Further improving Swiss breed cattle and studying various productivity traits, as well as creating their desirable types, hold significant importance. The anatomical features of Swiss breed cattle adapted to the warm climate conditions have not been thoroughly studied. Taking this into consideration, we studied the productivity of cows with different body structures on the "Yulduz" private farm at the Olmaliq metallurgical plant in Tashkent region.

Results and Their Analysis. The body structure of cows was evaluated visually, based on body measurements and body indices, as well as the level of milk productivity (amount of milk produced per 100 kg of live weight), and they were categorized into three groups: milk, milk-meat, and meat-milk directions.

The categorized groups differ from each other in terms of body structure, productivity, and other characteristics.

In milk-type cows, the body is relatively compact, the rear part of the body is broad, the skin is loose, and there are many folds on the neck. The udder is large, well-developed, with average-sized teats, and positioned widely. The legs are sturdy and correctly placed.

In milk-meat type cows, milk productivity indicators are well manifested, they have a strong body structure, the skin is of average looseness, the folds are well developed, and well-placed. The skin is firm and elastic, with well-placed dewlap. The legs are sturdy and correctly placed.

In meat-milk type cows, muscles are well developed in all parts, the body is relatively tall and wide, the hump is wide and well-developed towards the front. Meat productivity indicators are well manifested. The skin is not as well developed, and when pressed with the hand, it forms

accumulative folds.

To study the body structure characteristics of cows of different productivity types, information was obtained through visual evaluation of cows, taking measurements of their 12 main dimensions.

The obtained data prove the differences in body measurements among cows of different productivity types.

In milk-type cows, the hump is quite short (hump circumference ranges from 179.1 to 190.8 cm), the legs are strong (hoof circumference ranges from 18.6 to 20.1 cm), and the meat shape is well developed (half circumference of the rear part ranges from 91.6 to 98.6 cm).

Milk-meat type cows have an intermediate condition and share similarities with milk-type cows in all dimensions.

Meat-milk type cows have a wide hump (hump circumference ranges from 190.3 to 201.3 cm), well-developed meat shape (half circumference of the rear part ranges from 96.0 to 102.0 cm), and are superior to cows of other directions in terms of body measurements.

Body measurements alone do not fully explain the body structure characteristics of animals. To comprehensively and accurately assess animals, it is necessary to know the ratio of measurements related to each other, namely the body index (proportionality).

The results of studying body structure indices of cows of various productivity types are presented in Table 1.

Table-1 Body indexes of cows in the third and higher lactations of various productivity types are as follows (M±m)

Body indexes	Types of productivity		
	Milk	Milk-meat	Meat-milk
	Number of cows, head	59	111
Body elongation	118,7±0,12	118,5±0,09	118,7±0,16
Density	123,8±0,21	126,3±0,18	129,1±0,49
Swing	147,0±0,24	149,7±0,22	153,1±0,54
Loudness	66,1±0,31	68,7±0,14	68,9±0,28
Breastfeed	46,7±0,12	46,9±0,09	44,9±0,19
Pelvic floor	84,2±0,36	87,9±0,16	89,5±0,35
Ossification	15,4±0,09	15,5±0,05	15,9±0,15

According to the data in the table, the body structure of cows in the meat-milk category exhibits a relatively firm and muscular quality compared to milk and milk-meat type cows. Their brisket-hump index is high, indicating well-developed meat qualities. However, the height-to-withers index is lower.

In the livestock industry, cows belonging to the meat-milk category in the third and higher lactations displayed superiority in terms of firmness, muscularity, and brisket-hump index compared to milk and milk-meat type cows. However, the height-to-withers index was 1.3-2.0% lower.

Thus, regardless of the body structure category, when assessing cows, one of the key indicators of their health is the strength of their body. Only animals with well-developed body parts, strong and correctly placed legs, and a sound external structure can provide high-quality and productive outputs.

Conclusion. Selecting and breeding favorable breeds from various productivity directions and

further improving their lineage through purposeful selection efforts to enhance productivity is crucial.

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