



## DEPENDENCE OF PRODUCTIVE PROPERTIES OF COWS OF SIMMENTAL BREED ON BODY TYPES

Murodulla Eshonqulovich Ashirov<sup>1</sup> and Farkhod Rakhmatilloevich Sattorov<sup>2\*</sup>

<sup>1</sup>Doctor of Agricultural Sciences, Professor of Russian Natural Science Academy, Uzbek Livestock and Poultry Scientific Research Institute, Kibray district, Tashkent Region, Uzbekistan.

<sup>2</sup>Independent Researcher, Samarkand Institute of Veterinary Medicine, Samarkand, Uzbekistan.

\*Corresponding Author: Farkhod Rakhmatilloevich Sattorov

Independent Researcher, Samarkand Institute of Veterinary Medicine, Samarkand, Uzbekistan.

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### ABSTRACT

The studies have shown that the level of milk productivity, the character during the lactation, the yield of dairy products per 100 kg of live weight and the payment rate for feed by dairy products of Simmental cows are interconnected with body types. For dairy cattle, milk yield for lactation is 672,5 and 958,5 kg, respectively, for milk with 4% it is 507,4 and 735,4 kg higher, milk yield for every 100 kg of live weight is 164,9 and 228, 7 kg more than the peers of the dairy-beef and beef-dairy types. The highest monthly milk yield of dairy cows was noted in the third while for dairy-beef and beef-dairy type cows in the second month of lactation. This indicates that in dairy cattle, lactation proceeded more evenly than in peers of other types. The obtained data reveals the high efficiency of the use of dairy cows for the production of milk.

**KEYWORDS:** Cows, Simmental breed, body type, milk productivity, lactation, live weight.

### INTRODUCTION

For meeting the growing needs of the population in the world for high nutritious animal products, an increasing production of high-quality livestock products is of crucial importance. Under these conditions, the creation of highly productive herds with high breeding value of the animals used is set as a primary plan. This requires an improvement in selection and breeding, the use of recognized leading breeds with high genetic potential for productivity and high-value bull-improvers in the selection, and, of course, providing livestock with adequate feeding.

In recent years, in order to strengthen the breeding base and create highly productive herds, a number of leading livestock breeds have been imported to Uzbekistan from a number of European countries with developed cattle breeding. The livestock of these breeds is characterized by a high genetic potential for milk production of cows. However, the productive qualities of imported breeds of livestock are fully manifested only when ensuring full feeding and creating optimal conditions for their storage.

Simmental breed is considered one of the widespread breeds, successfully bred in numerous countries of the five continents of the globe and is characterized by quite high milk and meat productivity, good adaptive properties to various breeding conditions. Three

production types are distinguished in the breed, and taking into account these types, livestock rearing creates the prerequisites for the effective use of the potential of the breeds.<sup>[1,2,3,4,5,6]</sup>

### MATERIALS AND METHODS

The object of the research was cows of Simmental breed III with lactation of various production types. Three groups of cows were selected for research on the basis of analogues in the pedigree herd of "K. Eldor" farm in the Pastdargom district of the Samarkand region of Uzbekistan. The group I included dairy cows, the group II - dairy-beef and group III included beef -dairy type cattle. The origin of the cows was studied according to the pedigree records, live weight, productivity, types of cows by methods generally accepted in zootechnics.

Cows of all types were kept in the same living conditions, fed considering milk productivity, live weight and physiological state. The milk productivity parameters of cows were studied by methods generally accepted in zootechnics.

### RESULTS AND DUSCUSSION

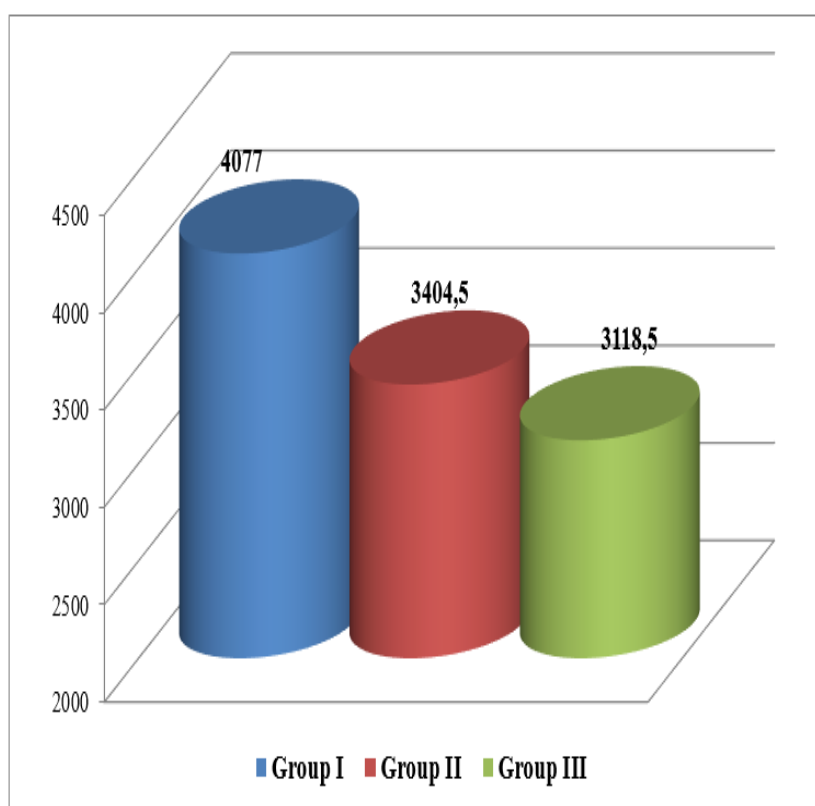
The milk productivity of different types of cows was characterized by the indicators shown in table 1.

**Table 1: Milk productivity of experimental cows group.**

Indicator	Group					
	I		II		III	
	$\bar{X} \pm Sx$	C <sub>v</sub> ,%	$\bar{X} \pm Sx$	C <sub>v</sub> ,%	$\bar{X} \pm Sx$	C <sub>v</sub> ,%
Milk yield, kg	4077,0±71,9	5,86	3404,5±66,6	6,40	3118,5±75,9	8,07
Fat in the milk,%	3,98±0,053	4,46	4,17±0,045	3,62	4,26±0,048	3,79
Butter fat yield, kg	162,2±0,37	5,30	142,0±1,72	4,03	132,8±1,96	4,90
Milk yield of the milk of 4%, kg	4056,6±35,5	2,91	3549,2±43,1	4,03	3321,2±49,1	4,91
Milk yielding capacity	817,5±9,83	3,98	652,3±8,53	4,34	588,8±10,2	5,77
Live weight, kg	498,7±7,97	5,30	521,9±6,36	4,04	529,6±7,15	4,48

It is obvious in table 1 that the yield in the lactation of the group I of dairy type cattle constituted 672,5 kg and 958,5 kg, milk fat yield was 20,2 and 29,4 kg, yield of

milk of 4% was 507,4 and 735,4 kg higher than in peers in group II and III.

**Figure 1: Changes milk productivity of experimental cows group.**

In the studies, the milk yield of cows of group I was 377 kg (10,2%), the fat content in milk was 0,18%, the milk fat yield was 22,2 kg higher than the requirements of the current standard of full-breed Simmental cows.

Figure 2 shows the change in the lactation curve of the cows of the experimental groups. From figure 2 of the lactation curve it is seen that the cows of the milk type are distinguished by the comparatively aligned lactation curve. Cows of this type of the group I with the highest monthly milk yield of 595 kg reached lactation in the third month and maintained this high level with a slight decrease until the fifth month, while in cows of the milk-beef type, the maximum monthly milk yield was noted in the second month, but they showed a relatively sharp

decrease milk yield by the fifth month. In dairy-beef cattle, a high monthly milk yield was also noted in the second month of lactation, but by the fifth month it decreased by 12,6% compared to the first month.

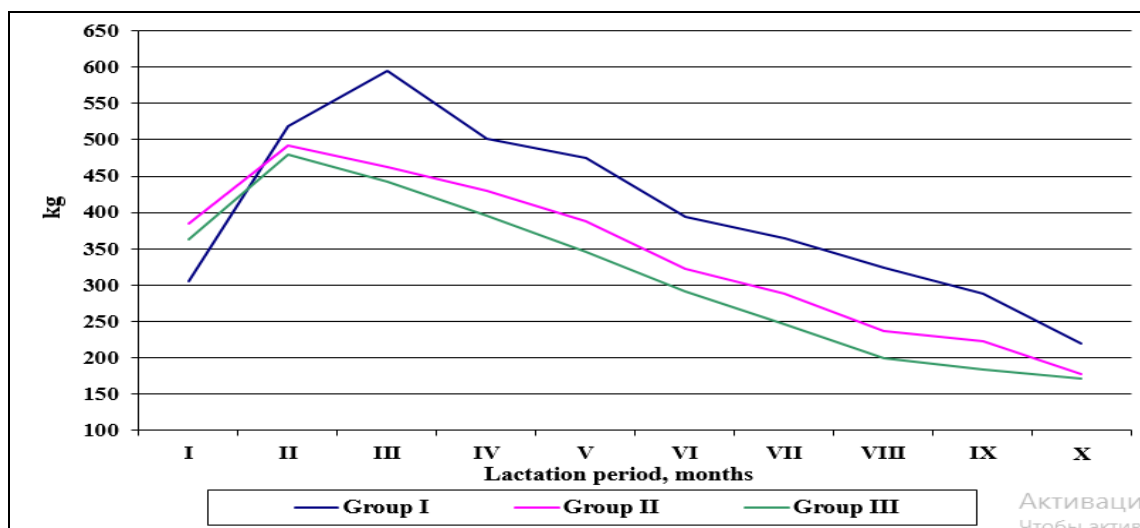


Figure 2: The change of lactation curve of cows under experiment, kg.

We've studied the yield of milk production per 100 kg for live weight of cows (Table 2).

Table 2: The yield of milk production per 100 kgs of live weight of cows.

Indicator	Group		
	I	II	III
Milk yield, kg	498,7	521,7	529,6
Milk yielding capacity, kg	817,5	652,6	588,8
Produced per 100 kgs of live weight: Milk of 4%, kg	813,4	680,3	627,1
Butter fat, kg	32,52	27,22	25,07

The data in table 2 indicate that dairy-type cows are characterized by a higher yield of dairy products per 100 kg of live weight. So, per 100 kg of live weight they produced milk at 164,9 and 228,7 kg, for 4% milk 133,1 and 186,3 kg, milk fat by 5,3 and 2,3 kg more than cows of milk-beef and beef-milk types, respectively.

## CONCLUSION

Cows of the Simmental breed of dairy production type in terms of milk productivity exceed cows of dairy-beef and beef-dairy types by 672.5 and 958.5 kg, respectively, yield of milk fat by 20.2 and 29.4 kg with a significant difference.

Dairy cattle are characterized by a high yield of dairy products per 100 kg of live weight. For dairy cows, the production for every 100 kg of live weight of dairy products was significantly higher than for peers of other types, which indicates the high efficiency of their use in the dairy herd for milk production.

The selection of dairy cattle and the formation of dairy herds by them is the key to creating highly productive herds and increasing milk production.

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