



DAIRY EFFICIENCY OF COWS ACCORDING TO THE TYPE OF THEIR BODY BUILD

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Abstract

Studies have shown, that breeding traits and exterior features of productive cows shwis breed also involve the types of parental couples. Cows received from mothers and fathers of the milk type, characterized not only proportionally developed of body shape, but also desirable breeding attributes and fairly high level of milk production. It is ascertained that the cows received from dairy type fathers and mothers distinguish themselves with the best dairy efficiency and payment of forage by production more than their coevals which are received from pairing of dairy type bulls with dairy-meat and meat-and-milk type mothers.

Keywords: cow, breed, milk, live weight, milk factor.

I. Introduction

In meeting the requirements of the population in cattle-breeding production the great value is given to the increase of volumes of output of milk. The major factors for the achievement of this are: the perfection of dairy efficiency of cows by means of their valuable and balanced feeding, the improvement of selective breeding work as well as the conditions of their maintenance. For the perfection of dairy efficiency of cows and creation of highly productive herds a great importance is given to the type of their body build [1,2]. The “Shvitskoy” breed of cows is the zoned type of breed in our republic. This is the breed of a combined type. There are dairy, dairy-meat and meat-and-milk types of cows in this breed. These types of “Shvitskoy” breed cows are widely used in selection process. This process has important scientifically-practical value for creation of high diary herds. Considering this, we have conducted researches on “Shvitskoy” breed animals in “Shamshir al-akbar” farm which is situated in Shakhrisabz area of Kashkadarya region.

II. Materials and Methods

For that experience there were selected the analogues in three groups by their origin, type of body build, efficiency, live weight and other signs of parents. Each group had 12 goals of “Shvitskoy” breed of cows with three and more lactation.

For the I group there have been selected the cows which parents had dairy type body build, in the II group there were cows with dairy type fathers and dairy-meat type mothers; in the III group - cows with dairy type fathers and meat and milk type mothers.

The feeding of cows in all groups has been organised on the basis of their actual dairy efficiency, live weight and a physiological condition. Maintenance conditions were identical for each group, too. The dairy efficiency of cows was studied by the standard methods [3,4].

In the I group there has been spent 4306, 6 fodder units for each cow during a lactation period, in the II group - 4037,6 and in the III group - 3688,1.

The investigations showed that dairy efficiency of “Shvitskoy” breed cows depends on their body build. The dairy efficiency of cows of a various body build is resulted in Table 1.

Table 1 Dairy efficiency of experimental groups cows for a lactation

Indexes	Groups					
	I		II		III	
	X ± Sx	Cv,%	X ± Sx	Cv,%	X ± Sx	Cv,%
Yield of milk, kg	4232,2±112,7	8,83	3774,1±56,7	4,98	3248,7±94,9	9,68
Fat content of milk, %	3.99 ± 0.045	3.77	4,02±0,034	2,77	4,04±0,020	1,65
The protein content in milk, %	3,59 ± 0,029	2,71	3,61±0,021	1,95	3,62±0,013	1,16
Taken milk fat, kg	168,5 ±2,86	5,64	152,1±1,63	3,55	131,2±3,48	8,81
Taken milk protein, kg	152,4 ± 3,02	6,56	136,1±1,52	3,70	117,8±3,20	9,04
Quantity of 4 % milk, kg	4212,2±71,7	5,64	3786,2±38,7	3,39	3279,7±8,70	8,80
Dry substance %	12,51	-	12,55	-	12,57	-
Dry fat-free milk residuum, %	8,68	-	8,69	-	8,69	-
Sugar content in milk, %	4,51	-	4,52	-	4,52	-

In accordance with the received results it may be noted that the greatest dairy productivity is observed at cows with milk type body build. In particular during lactation period the animals of the I group gave higher indexes in comparison with their coevals from II and III groups: the yield of milk - on 458,1 and 983,5 kg, by taking of milk fat - on 16,4 and 37,3 kg, by taking of milk protein - on 16,3 and 34,6 kg and by taking of 4 %-s' milk - on 426 and 932,5 kg. There were not observed any notable distinctions between studied groups by such indexes as: content of dry substance in milk, dry fat-free milk residuum and sugar in milk.

At the same time, in all groups high indexes of caloric content of milk of cows are proved by high content of fat and protein. So, the fat and protein content in milk of the I group of cows exceeded standard demands on 0,29 and 0,29 %, in the II group - on 0,32 and 0,31 % and in the III group - on 0,34 and 0,32 %. The correlation of fat and protein in milk in the I group of cows has made 1,11, in the II group - also 1,11 and in the III group - 1,12; correlation of fat to dry fat-free milk residuum made up 0,46, 0,46 and 0,46; and correlation of protein in milk to dry fat-free milk residuum made up 0,41; 0,41 and 0,42.

These indexes of sustenance correlation correspond to the data of T.P.Loginova and O.A.Basonov [2], which is recommended at preparation of cheese from the cow milk.

It is also necessary to note that independently of the type of body build, the dairy efficiency of cows in skilled groups was higher from standard requirements of “Shvitskoy” breeds. For example, in the I group the quantity of a yield of milk considerably exceeded the demanded norms which were demanded to animals on the third and more lactation period on 1032,2 kg (32,2 %); in the II group - on 574,1 kg (17,9 %) and in the III group - on 48,7 kg (1,52 %) and on taking of a milk fat - on 50,1 kg (42,3 %); 33,7 kg (28,5 %) and 12,8 kg (10,8 %).

By an indicator of factor of variability of dairy efficiency there was not observed a big difference between investigated groups of cows. This testifies about close possibilities of the carrying out of a work on selection of the basic selectional signs in these groups.

The studying of properties of payment of forage by milk at the estimation of efficiency of dairy herd has an important value.

The indicators of payment of forage by milk of cows are resulted in Table 2.

Table 2 Quantity of the forages spent for manufacture of milk

Indexes	Group		
	I	II	III
Quantity of the fodder units spent for 1 cow during a lactation period	4306,6	4037,6	3688,1
Yield of milk, kg	4232,2	3774,1	3248,7
Quantity of milk of 4 % -s fat contents, kg	4212,2	3786,2	3279,7
Quantity of the fodder units spent for manufacture 1 kg of milk of natural fat content, kg	1,02	1,07	1,12
Quantity of the fodder units spent for manufacture 1 kg of 4 % of th fat content of milk, kg	1,02	1,07	1,12
For each 100 kg of fodder units there is made: milk of natural fat content, kg	98,27	93,47	88,09
Quantity 4 %-s' milk, kg	97,81	93,77	88,93

According to the indexes of the data of Table 2 it is noticed that the degree of payment of a forage by milk of cows was high. For example, in our researches the I group of cows showed the highest result in manufacturing of 1 kg of the highest efficiency of milk of natural fat content in comparison with II and III groups. Fodder units spent for cows of I group were less for 4,7 and 9 %. The similar indexes had cows of I, II and III groups on manufacturing of 4 %-s milk. However, in comparison with II and III groups the cows of the I group gave more milk of natural fat content of 4,8 kg (5,1 %) and 10,18 kg (11,56 %), and of 4 %-s' milk of 4,04 kg (4,31 %) and 8,88 (9,98 %) on each 100 kg of fodder unit.

This data says that cows of dairy type pay forages by milk production better than their coevals of other body build types.

III. Conclusion

Thus the investigations have shown that level of dairy efficiency of herds depends on types of the body build of cows. “Shvitskoy” breed’s dairy type cows differ with the highest dairy efficiency. This testifies that carrying out of selectional work on increase of relative density of cows of dairy type in herds is the token of creation of highly productive dairy herds and of perfection of breeding and productive qualities of breeds.

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