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ECONOMICALLY USEFUL FEATURES OF COWS OF DIFFERENT PRODUCTION TYPES OF SIMMENTAL BREED

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Introduction

It is known that Simmental breed has three main production types: dairy, dairy-meat and meat-dairy. Some authors report also about the meat production type. Animals of each of these types are characterized by various economically useful features, but there are not enough data on them. Fragmentary data on the formation of productive qualities of different animals of production types do not give a complete picture of the desired type of cows of this breed.

Given the above, the purpose of our research was to examine regularity of growth and development, reproductive capacity, formation of dairy and meat productivity, exterior and constitutional features of animals of different production types of Simmental breed.

Material & Methods

Studies have been conducted on adult cows and young Simmental breed in Farm *Litynske Ltd.* of Drohobych district of Lviv region using breeding and zootechnical accounting materials and own results of research. Three groups of adult cows were formed for experiments (third lactation) and three groups of bulls and heifers 18 months of age: I group — dairy production type, II group — dairy-meat production type and III group — meat-dairy production type.

Results

It was found that the animals of the studied production types of Simmental breed in the breeding period exceeded the standard of breed. The lowest indicators of live weight, multiplicity of increase in live weight and average daily yield were characterized by dairy animals, and the highest — by meat-dairy. Quite high and reliable ($P<0.001$) influence of production type on live weight of heifers at the age of 6, 12 and 18 months (33.4–36.9%) allows to draw a conclusion about expediency of selection of animals starting from 6 months of age.Dairy animals were taller and had a longer oblique body length and, as a result, higher values of the indices of long-leggedness, lengthiness and sex index, which is characteristic of dairy cattle. And meat-dairy cows were characterized by deeper and wider breasts, greater shoulder girth, wider hips, and thicker skeleton. Dairy-meat animals took an intermediate place in terms of exterior indicators. The strength of the influence of the production type of animals on the body measurements of cows was in the range of 3.1–41.4%.The controlled breeding stock was characterized by good reproductive capacity, with the best indicators of reproductive capacity of animals of meat and dairy production type, and the worst — of dairy type.The yields of cows during the first or third lactation ranged from 4405 to 4959 kg, the fat content in milk — from 3.72 to 3.80% and the amount of milk fat — from 164.1 to 188.3 kg. The highest milk yields (5039–5401 kg) and the amount of milk fat (190.2–204.8 kg) were observed in dairy animals, and the lowest — in the same age cows of meat-dairy production type (3431–3731 and 126.4–141.5 kg respectively).Lactation curves of cows of the studied production types were quite stable. The highest average monthly milk yields were observed from the second to the fifth month of lactation, and the biggest were mostly in the third month. Animals of dairy production type in comparison with the same age cows of dairy-meat and meat-dairy types were characterized by higher average monthly milkings, more stable lactation curves and higher values of indices of lactation activity calculated by various methods. Among the animals of the studied production types, animals with a highly sustainable form of the lactation curve had the highest milk yields.It was been found that bulls and heifers of meat and dairy production type were the best in terms of slaughter qualities. Their pre-slaughter weight was 493.0 and 403.3 kg, respectively, and the slaughter yield was 55.2 and 55.7%. These animals were characterized by higher weight and percentage of first-grade cuts, as well as higher protein and fat content in muscle tissue.

Conclusions

Animals of different production types of Simmental breed differed between themselves on breeding grounds. Dairy animals were taller and had a longer oblique body length, and cows of meat and dairy type were characterized by deeper and wider breasts, larger girth of the chest behind the shoulders and the width of bones in the groats area. They had the best reproductive ability and lethal qualities meat-and-dairy animals, and the worst — dairy, instead the first were noted the lowest milk yields, and the second — the highest.