

*V. V. Fedorovych, E. I. Fedorovych, N. P. Babik, R. S. Oseredchuk.
Productive qualities of animals of different breeds of cattle*

Increasing the number and improving the quality of milk and meat are the main goal and main focus of cattle breeding. The purpose of our research was to study milk and meat productivity of animals of different breeds which are bred in Western Ukraine.

The researches were conducted at eight farms in Western Ukraine with cows and bulls of Ukrainian Black-and-White Dairy, Ukrainian Red-and-White Dairy Red, Ayrshire, Red Polish, Simmental, Carpathian Brown, Limousin and Volyn Beef breeds.

Evaluation of milk production of cows of dairy and dual-purpose breeds (yield, fat content in milk, the amount of milk fat) was carried out according to the data of zootechnical accounting (during the past 20 years) for the I, II, III, IV, V and the best lactation. The chemical composition of milk was determined in 2-3 months of lactation period in cows of full-age (the III lactation) for each breed using milk analyzer "EKOMILK TOTAL".

Researches of meat quality were conducted based on a control slaughter of 3 bulls at the age of 15 months for each breed. Live weight before slaughter was determined after a 24-hour hunger exposure. Weight of pair carcasses, internal fat weight, slaughter weight, carcass yield, the output of internal fat, and slaughter output were determined after slaughter by G. T. Shkuryn method. Weights of flesh, bones and tendons were determined in the semi-carcasses. Ratio of meatiness, calculated as the ratio of flesh to bones and tendons, and muscle-bone ratio, calculated by dividing flesh weight to weight of bones, were determined to assess meat quality. Average sample of mincemeat from three ribs cuts was selected for the chemical analysis. The samples were tested on contents of moisture, dry matter and ash by conventional techniques, of protein content – by Kjeldahl method, fat content – by Soxhlet method.

The results of the researches were processed by method of variational statistics using Microsoft Excel and "Statistica 6.1" by N. A. Plohynskiy.

It was established that cows of the studied breeds differed in terms of milk production; it is primarily due to the fact that some of them belong to the specialized breeds, others – to local (less productive). However, all of them by milk yield, fat content in milk and the butterfat number prevailed relevant standards of these breeds (exception – fat content in milk during the first lactation of the Ayrshire cows). Highest milk yield was observed during the third lactation at the most animals of the studied breeds and only for Ukrainian Red-and-White Dairy and Simmental breeds – during the fourth lactation. Milk yield of Ukrainian Black-and-White Dairy cattle, depending on lactation was within 3970.9-4537.9 kg, fat content in milk – within 3.67-3.71% and the number of milk fat – within 149.5 -168.0 kg; Ukrainian Red-and-White Dairy – in accordance within 3503.0-4471.8; 3.76-3.78 and 132.4-168.6; Red Polish – within 2838.4-3698.4; 3.70-3.73 and 107.9-138.6; Ayrshire – within 4034.3-4337.0; 4.0-4.12 and 165.4-181.7;

Simmental – within 3026.4-3810.2; 3.76-3.81 and 113.6-145.0 and Carpathian Brown breed – within 2700.5-3384.4 kg; 3.69-3.85% and 99.8-125.9 kg.

The results of the control slaughter indicated that the bulls of the studied breeds differed in slaughter qualities and morphological composition of carcasses. The Ukrainian Red-and-White Dairy bulls among dairy breeds were characterized by the highest slaughter output (55.2%) and carcass yield (56.7%), the Simmental bulls (58.1 and 59.7% respectively) – among the dual-purpose breeds, and the Limousins (63.2 and 61.4%) – among the beef breeds. The highest percentage of flesh was observed at the semi-carcasses of these animals. Higher contents of protein and fat in meat of the Polish Red bulls were observed among the dairy breeds and in meat of the Simmentals – among the dual-purpose ones. Higher protein content was in meat of the Limousins among the beef breeds and fat content – at the animals of Volyn Beef breed.

Ratio of meatiness at the animals of the dairy breeds was within 3.18-3.27, muscle-bone ratio – within 3.83-4.00, these figures were 3,38-3,51 and 4,15-4,33 respectively at the bulls of the dual-purpose breeds, and for the beef breeds – 6,42-6,78 and 6,26-6,59.

***Keywords:* breed, cows, bulls, milk yield, slaughter quality, chemical composition of milk and meat, morphological composition of semi-carcasses.**