E. I. Fedorovych, O. Y. Ilnytska, N. P. Babik. Milk productivity of high-producing cows and their progeny of Precarpathian innerbreed type of Ukrainian Red-and-White Dairy breed

The studies were conducted on high-producing cows of Precarpathian innerbreed type of Ukrainian Red-and-White Dairy cattle and their progeny, according to zootechnical accounting in private farm enterprise "Mamayivske" in Kytsman district of Chernivtsi region. It was established that during the period from 1995 to 2010 the farm had 20 cows with milk yields over 8000 kg. The highest milk production by the best lactation had cows Maratka 3235, Vorovka 5982 and Chaika 3839, their milk yields were 10586; 9380 and 9008 kgrespectively, fat content in milk – 3.61, 3.79 and 3.77% and fat yield – 382.2, 355.5 and 339.6 kg. The cows had the highest milk yields mostly during the third lactation, and milk yields on average reached record in 3.85 lactations.

High-yielding cows belonged to 5 bloodlines: R. Sovering 198998, P. Astronaut 1458744, R. Citation 267150, Rigel 352882 and Hanover 1629391. The most numerous one was Astronaut bloodline (11 cows). Daughters of Tyulpan 7451 (R. Sovering bloodline) had the highest level of milk production during the best lactation. They predominated in milk yield during the best lactation over Gybrid's daughters (Citation bloodline) by 156 kg, T. Tourist's daughters (Rigel bloodline) by 401 kg , Sekret's daughters (P. Astronaut bloodline) by 473 kg and M. G. Horizont's daughters (Hanover bloodline) by 812 kg , by fat yield – by 4.6, 8.6, 9.9 and 26.8 kg, respectively but they were inferior by fat content in milk by 0.02, 0.07, 0.09 and 0.04%. Sekret's daughters had higher fat content in milk. By this trait, they predominated over Hybrid's daughters by 0.07, T. Tourist's daughters – by 0.02 and M. G. Horizont's daughters – by 0.05%. The average breeding value of bulls, daughters of whom had milk productivity of more than 8000 kg, was +276 kg.

The highest milk yields were in cows whose mothers belonged to P. Astronaut and Hanover bloodlines and fathers – to R. Sovering bloodline (daughters' milk yield was 9303 and 9008 kg respectively). High milk yield (8842 kg) also was in cows whose mothers belonged to P. Astronaut bloodline and fathers – to R. Citation bloodline. The best cows by fat content in milk were obtained from a combination of bloodlines V. Ideal – P. Astronaut (3.80%), Rigel – Rigel (3.80%), V. Ideal – Rigel (3.78%) and V. Ideal – Rigel (3.78%).

Coefficients of repeatability for milk production decreased with increase in period between the comparable lactations. By milk yield for I-VI and the best lactations they were within 0.206-0.495, and by fat content in milk – within 0.337-0.469.

The better daughters by milk yield not always were obtained from high-yielding cows and, on the contrary, the worse ones – from low-yielding cows. Most cows with high milk yields were from mothers with yields not exceeding 6000 kg of milk, and only with average milk performance of mothers not more than 7281 kg of milk, their daughters predominated in milk yields. With the increase in average productivity of mothers to 8456 kg of milk or more, daughters were inferior to their

mothers by1180-3454 kg of milk, but, in all cases, they had a higher milk yield than the average for the herd.

Positive correlations were found between mothers' milk yield and milk yield, fat content in milk and fat yield of their daughters, but their values partly depended on mothers' productivity. The highest correlation coefficients between productivity of daughters and mothers were observed at the mothers' yields not higher than 6999 kg (r = 0.221-0.273), and the lowest – at mothers' yields over 9,000 kg (r = 0.155-0.182).

It was found that bull Arbat 1577, estimated on milk production in 69 daughters, had the highest breeding value. The rank of its breeding value was P5 (improver "excellent"). Cows Maratka 3235 (+3204 and +1860 kg), Krona 8490 (+2202 and +1315 kg) Vorovka 5972 (+1710 and +1121 kg), Kava 5450 (+1626 and +1004 kg) Shchoka 5870 (+1602 and +937 kg) had the highest breeding value in terms of best lactation and based on three sources of information, respectively.

Keywords: **high-producing cows, milk yield, mothers, fathers, daughters, sons, line, repeatability and correlation coefficients, breeding value.**