

To the problem of selection on intrabreed heterosis

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The use of inbreeding in mating of inbred parents resulted in consolidation and differentiation of animals according to their hereditary qualities, which promoted the manifestation of intrabreed heterosis in milk-yield and fat content in F_1 and heterosis consolidation and development in F_2 .

The heterosis manifestation is influenced by the quality and position of the common ancestor in pedigree, by selection of parents and other factors. Due to these factors inbreeding has become a method of control and increase of selection efficiency.

Efficiency of heterogenous selection in the improvement of cattle breed

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The paper presents the data on the results of heterogenous selection in improving the cattle breeds. The milk yield as a result of matings between *Red Gorbатовskaya* and *Red Danish* animals was as follows : for the first lactation – 3.348 kg, for the second one – 3.934 kg, and for the third one – 4.035 kg, the fat content being from 4 p. 100 to 4.04 p. 100 which exceeds the yield of the contemporaries by 839 kg, 1.041 kg and 1.272 kg respectively, the fat content being the same. As a result of the matings between the animals of the *Kostromskaya* breed and the *Swiss* one (of the American origin) the milk yield of F_1 cows for the first lactation amounted to 4.127 kg and was 522 higher than that of the contemporaries.

Results of alternate crossing of Polish black and white cattle with Holstein, Friesian and Finnish Ayrshire bulls

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Crossing of local *Black and White* cattle with *Holstein-Friesian (hf)* and *Ayrshire (ay)* bulls proved the usefulness of both breeds to create a type of cattle that is characterized by high productive parameters. Up to the present it was obtained F_1 . Fattening bulls F_{1ay} had worse daily weight gain than F_{1hf} by 11 p. 100, worse carcass dressing by 4.2 p. 100, but better feed utilization. During 305 days of lactation heifers F_{1ay} produced 3.776 kg of milk containing 3.96 p. 100 of fat, 3.19 p. 100 of protein and 12.5 p. 100 of dry matter, while F_{1hf} 4.002 ; 3.67 ; 3.05 and 11.72 respectively.