## Economic evaluation and optimalization of breeding programs of the *Brown* cattle

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The model calculations of breeding programs made for *Brown* cattle were carried out. It was established that the genetic gain increased by 20 p. 100 if the share of the active breeding material grew from the present 12 p. 100 to 20-25 p. 100. There were differences in the genetic gain and genetic profit also with regard to various breeding systems. The effects of four breeding systems (waiting bulls, unlimited storage of frozen sperm doses, limited storage of frozen sperm doses, waiting bulls with the limited storage of frozen sperm doses) were studied. The transition from the system of waiting bulls to the system of limited storage of frozen sperm doses influenced the increase of genetic gain by 5 p. 100 and of genetic profit by 20-25 p. 100.

## Heritability of live weight of bulls of the *Czech Pied* cattle during their growth

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The genetic variability of live weight was studied in a set of young bulls (n = 901-948) of the *Czech Pied* cattle. The study was performed at the central rearing stations for breeding bulls in Czechoslovakia. The course of growth included the period from 30 to 390 days of age. The method based on the likeness of half-sibs was used for the calculation of the heritability coefficients of live weight. The results indicate that the proportion of heredity in the values of live weight in cattle varies with time. This is documented by the values of heritability coefficients determined for this production trait at an age of 30 to 390 days. Before the age of 150 days, the heritability coefficients remained almost the same (0.08 to 0.012) ; in later age periods there is an ascending trend up to the age of one year. The values of the heritability coefficients for the live weight of bulls at an age of one year ($h^2 = 0.62$) and possibly also at an age of 11 months ($h^2 = 0.55$) are of good use for selection, owing to their comparatively high level.