BREED AND CROSSING EFFECTS ON PUBERTY IN HEIFERS

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Age (AFO) and weight (WFO) at first oestrus are important traits to consider in breed production. They have a large influence on the calving percentage of heifers mated as yearlings and on the future overall production of the beef herd.

From 1970 to 1973 Hereford (H) and Friesian (F) cows were artificially inseminated to H, F, Charolais (C) and Brahman (B) bulls in an experiment described by Morgan; Saul and McKeown (1976). After weaning at eight months the heifers grazed together on improved pastures. A sterilized bull, fitted with a chin ball harness, was grazed with the mob and the resulting paint marks were recorded three times weekly. During the first month after weaning 47% of the progeny of F dams exhibited oestrus as compared with only 5% of those from H dams. The mean results for the four years of least square analysis of: age adjusted (240 d) weaning weight (AAWW), average daily gain (ADG) from weaning to 21 months, observed AFO and WFO together with percentage exhibiting oestrus in first three weeks of mating commencing at a mean age of 14 months are presented in Table 1.

The progeny of F dams were much heavier at weaning than those of F dams and, despite their slower post-weaning growth, they were still heavier at 21 months of age. Puberty was reached by the progeny of F dams at a similar liveweight but at a much younger age than the progeny of H dams. As a result a much higher proportion of the progeny of F dams exhibited oestrus in the first three weeks of mating compared to those from H dams. In the progeny of F cows, those by H, F and C sires were similar in AFO whilst those by B sires reached puberty earlier and later, respectively. In the progeny of F cows, those by H, F and C sires were similar in AFO whilst those by B sires reached puberty much later. The late puberty of the B breed is well known (Reynolds 1969). Crossing the H and F breeds reduced AFO by 18% and WFO by 6% relative to the H and F straightbreds.

In this experiment, mating was difficult to achieve in straightbreds. However, it was made feasible by the use of the F breed either as a dam or as a sire and was highest of all when the H and F breeds were crossed.


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