Evaluation of crosses of Holstein, Jersey or Brown Swiss sires x Holstein-Friesian/Gir dams. 2. Female liveweights

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ABSTRACT. The liveweights of 100 females sired by Holstein (H), Jersey (J) or Brown Swiss (BS) bulls out of Holstein-Friesian x Gir dams of 1/2 to 3/4 Holstein-Friesian fraction were compared. The animals were kept in a single herd under the same management. The data were analyzed separately for four age categories by least squares techniques. The models for cows and heifers older than 18 months included the fixed effects of breed of sire, Bos taurus fraction, season of weaning, days in milk class (for cows only), pregnancy status class, year and the random effect of animal nested within breed of sire x B. taurus fraction subclasses. The models for younger heifers included the same effects except for lactation and pregnancy status. Based on 2937 observations, the mean weights for 6- to 6-month-old calves for the groups with H, J or BS sires were 58 ± 1, 77 ± 1 and 75 ± 1 kg, respectively, the mean weights for 1-year-old heifers were 168 ± 2, 159 ± 2 and 155 ± 1 kg, for 2-year-old heifers, 327 ± 4, 303 ± 4 and 319 ± 4 kg, for 3-year-old heifers, 380 ± 5, 369 ± 8 and 356 ± 4 kg and for cows, 464 ± 3, 413 ± 2 and 478 ± 3 kg. Cubic growth curves, which were different in the three sire breed groups, satisfactorily explained the cow weight changes with age (R²=0.98). Maximum weight was attained at 7.8, 9.5 and 9.2 years in cows with H, J or BS sires. Although breed of sire effects were not significant in heifers (P>0.05), those with H sires were the heaviest up to two years of age. The females with BS or J sires had similar weights up to one year of age, but thereafter the former reached similar weights as the females with H sires and declined.