Supplementary Table S2

*Adjusted body weight (BW) and weekly BW change over the first 14 lactation weeks, total BW change over the whole lactation (44 weeks) and plasma concentration of glucose, urea and NEFA for Holstein and Normande cows, in the Milk- or the Content-Group, under either the High or Low feeding system.*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Holstein | | | | Normande | | | | Model | | Significance levels2 | | | |
| Milk-Group | | Content-Group | | Milk-Group | | Content-Group | |
| High | Low | High | Low | High | Low | High | Low | σa1 | σe1 | B | B:G | FS | B×FS |
| number of lactations | 41 | 61 | 60 | 55 | 73 | 57 | 67 | 86 |  |  |  |  |  |  |
| Over first 14 weeks |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BW at calving (kg) | 678cd | 632ab | 657bc | 611a | 700d | 654bc | 703d | 656bc | 43.5 | 38.8 | \*\*\* | + | \*\*\* | 0.78 |
| BW change (kg/wk) | -3bc | -6a | -3bc | -6a | -2cd | -5ab | -2d | -4b | 1.2 | 2.7 | \*\*\* | 0.45 | \*\*\* | 0.33 |
| Over 44 weeks |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total BW change (kg) | +12b | -44a | +4b | -51a | +53c | -3b | +55c | 0b | 23.2 | 41.4 | \*\*\* | 0.58 | \*\*\* | 0.17 |
| at 20 days *post-partum* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Glucose (mg/dl) | 61.6c | 57.4ab | 62.0c | 57.9ab | 60.7bc | 56.6a | 61.9c | 57.7ab | 3.50 | 5.72 | 0.55 | 0.45 | \*\*\* | 0.76 |
| NEFA (mg/dl) | 415c | 418c | 381c | 410c | 333bc | 269ab | 237a | 282ab | 0.07 | 0.59 | \*\*\* | 0.11 | 0.84 | 0.59 |
| Urea3 (mg/dl) | 23.1abc | 19.9a | 25.3cd | 19.9a | 24.5bcd | 21.8ab | 27.6d | 21.9ab | 1.10 | 6.33 | \*\* | + | \*\*\* | 0.92 |
| at 60 days *post-partum* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Glucose (mg/dl) | 64.2de | 60.6abc | 65.2e | 61.6bcd | 63.9cde | 60.3ab | 62.3bcd | 58.7a | 2.35 | 6.49 | \*\* | 0.15 | \*\*\* | 0.28 |
| NEFA (mg/dl) | 223bc | 252c | 201abc | 227bc | 197ab | 222bc | 175a | 197ab | 0.11 | 0.48 | \*\* | \* | \*\* | 0.78 |
| Urea (mg/dl) | 26.3b | 20.6a | 26.3b | 20.6a | 27.0b | 21.3a | 27.2b | 21.5a | 2.58 | 7.53 | 0.29 | 0.98 | \*\*\* | 0.12 |

1 Standard deviation of the random terms, animal genetic and non-genetic effect (σa) and residuals (σe)

2 Effects of Breed (B), Genetic group within Breed (B:G), Feeding System (FS), Breed\*Feeding System (B×FS).

Significant levels: \*\*\* *P*<0.001; \*\* *P*<0.01; \* *P*<0.05; + *P*<0.1

3 The estimation of the animal variance component σa failed. As an alternative, an empirical Bayesian approach was implemented, assuming that a fixed prior for σa. The robustness of the other estimated was tested by checking the impact of σa on the other estimates when it was multiplied or divided by 2

a - e distinguish adjusted means that are different between breeds, genetic groups, and feeding systems (P < 0.05, Tukey’s pairwise comparison).