Table S2 – Composition of bacterial communities at family level. The relative abundance calculated for the Aubrac breed and for the Maremmana breed in the two rearing systems. Only the families with an average relative abundance of 1%, or higher, in at least one group (i.e., Aubrac grazing, Aubrac feedlot, Maremmana grazing, Maremmana feedlot) are reported.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | AU | | MA | |  | P value | | |
| Family | Grazing (%) | Feedlot (%) | Grazing (%) | Feedlot (%) | SE | B | R | BxR |
| *Bacteroidales* RF16 group | 2.79 | 2.99 | 1.95 | 1.59 | 0.34 | 0.208 | 0.140 | 0.289 |
| F082 | 4.31 b | 3.85 b | 8.78 a | 10.69 a | 0.61 | <0.001 | 0.776 | <0.001 |
| *Muribaculaceae* | 6.35 | 8.13 | 5.56 | 9.00 | 0.85 | 0.245 | 0.070 | 0.103 |
| p-251-o5 | 0.01 b | 0.02 b | 2.76 a | 0.30 a | 0.42 | <0.001 | 0.543 | <0.001 |
| *Prevotellaceae* | 39.83 a | 38.36 a | 18.99 b | 15.51 b | 2.17 | <0.001 | 0.291 | <0.001 |
| *Rikenellaceae* | 6.11 c | 6.72 bc | 12.46 a | 9.84 ab | 0.58 | <0.001 | 0.552 | <0.001 |
| *Fibrobacteraceae* | 4.67 a | 2.97 a | 0.72 b | 0.71 b | 0.51 | <0.001 | 0.123 | <0.001 |
| *Acidaminococcaceae* | 3.71 a | 4.25 a | 0.82 b | 0.53 b | 0.40 | <0.001 | 0.839 | <0.001 |
| *Christensenellaceae* | 2.01 b | 1.68 b | 6.98 a | 7.72 a | 0.51 | <0.001 | 0.695 | <0.001 |
| Family XIII | 0.61 b | 0.66 b | 1.71 a | 2.12 a | 0.12 | <0.001 | 0.323 | <0.001 |
| *Lachnospiraceae* | 9.75 | 8.04 | 9.23 | 9.74 | 0.44 | 0.344 | 0.766 | 0.629 |
| *Ruminococcaceae* | 10.19 b | 11.78 b | 21.00 a | 22.79 a | 1.04 | <0.001 | 0.499 | <0.001 |
| *Veillonellaceae* | 1.09 a | 1.32 a | 0.36 b | 0.26 b | 0.13 | <0.001 | 0.839 | <0.001 |
| *Saccharimonadaceae* | 1.06 b | 1.05 b | 2.19 ab | 3.84 a | 0.24 | <0.001 | 0.204 | <0.001 |
| *Succinivibrionaceae* | 1.23 a | 0.94 a | 0.01 b | 0.04 b | 0.29 | <0.001 | 0.531 | <0.001 |
| *Spirochaetaceae* | 2.18 | 2.46 | 0.85 | 1.00 | 0.37 | 0.113 | 0.839 | 0.280 |
| Other Families | 1.80 | 2.17 | 3.88 | 2.61 | 0.21 | N.A. | N.A. | N.A. |
| Unclassified | 2.29 | 2.60 | 1.77 | 1.72 | 0.16 | 0.045 | 0.490 | 0.144 |

AU (Aubrac), MA (Maremmana), SE (Standard Error), B (breed), R (rearing system), N.A. (not available). a, b, c is the probability of significant effect due to interaction BxR; means within a row with different letters differ (p < 0.05).