|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Parameters | Groups a | | | | | P b |
| HS1 | HS2 | HS3 | HS4 | HS5 |
| Ammonia nitrogen (mg/L) | 46.20±12.37c | 46.20±12.37c | 64.00±3.88b | 67.10±8.21b | 107.06±15.07a | <0.05 |
| Acetate (%) | 77.82a | 71.70b | 64.10b | 60.14±8.55b | 64.55±2.15b | 0.32 |
| Propionate (%) | 12.60±0.71b | 16.02±0.18b | 22.79±1.13a | 26.81±3.60a | 29.38±0.95a | <0.05 |
| Butyrate (%) | 8.25±0.38 | 10.66±1.73 | 11.30±0.40 | 11.51±2.20 | 12.02±0.40 | 0.23 |
| Isovalerate (%) | 0.79±0.10a | 0.92±0.07a | 0.83±0.02a | 0.58±0.03b | 0.72±0.09b | 0.23 |
| Valerate (%) | 0.52±0.02b | 0.70±0.04b | 0.98±0.03b | 1.11±0.04a | 1.50±0.12a | <0.05 |
| Total volatile fatty acids (mmol/L) | 74.94±10.76 | 66.12±2.95 | 65.21±1.00 | 67.44±1.56 | 61.24±7.67 | 0.11 |
| Acetate to propionate ratio (A:P) | 6.38±1.55a | 4.47±0.16a | 2.85±0.24b | 2.24±0.39b | 2.19±0.69b | <0.05 |
| pH | 6.86±0.01 | 6.83±0.03 | 6.83±0.04 | 6.63±0.06 | 6.42±0.10 | 0.41 |