Supplementary File – for Online Publication Only (TABLES)

**Supplementary Table S1.** Average nitrogen deposition and intake ratio, and nitrogen excretion and deposition ratio of broiler males and females in response to dietary methionine+cysteine (MC, g/kg) during three rearing phases (all data)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| MC | Females | Males |  | Females | Males |
| ND/NI | |  | NE/ND | |
| Starter Phase (1-14 days) | | | | | |
| 2.53 | 0.805 ab | 0.909 a |  | 0.253 cd | 0.101 d |
| 3.62 | 0.846 a | 0.892 a |  | 0.184 d | 0.122 cd |
| 4.70 | 0.750 abc | 0.780 b |  | 0.338 bcd | 0.288 bc |
| 5.79 | 0.716 bc | 0.727 bc |  | 0.400 bc | 0.375 b |
| 6.87 | 0.698 c | 0.688 c |  | 0.433 b | 0.458 b |
| 7.96 | 0.590 d | 0.582 d |  | 0.696 a | 0.723 a |
| 9.04 | 0.556 d | 0.531 d |  | 0.801 a | 0.888 a |
| RMSEa (27 d.f.)b | 0.04 | 0.04 |  | 0.08 | 0.08 |
| F MC | <0.01 | |  | <0.01 | |
| F Sex | 0.06 | |  | 0.32 | |
| F MC\*Sex | 0.06 | |  | 0.10 | |
| Grower Phase (14-28 days) | | | | | |
| 2.26 | 0.924 a | 0.823 a |  | 0.087 d | 0.220 d |
| 3.25 | 0.868 a | 0.796 ab |  | 0.154 cd | 0.256 cd |
| 4.25 | 0.777 b | 0.725 bc |  | 0.289 c | 0.383 cd |
| 5.24 | 0.686 c | 0.712 c |  | 0.459 b | 0.408 c |
| 6.15 | 0.665 cd | 0.627 d |  | 0.506 b | 0.598 b |
| 7.14 | 0.659 cd | 0.589 d |  | 0.520 b | 0.701 ab |
| 8.14 | 0.582 d | 0.559 d |  | 0.720 a | 0.793 a |
| RMSEa (27 d.f.)b | 0.04 | 0.04 |  | 0.06 | 0.08 |
| F MC | <0.01 | |  | <0.01 | |
| F Sex | <0.01 | |  | <0.01 | |
| F MC\*Sex | <0.05 | |  | 0.08 | |
| Finisher Phase (28-42 days) | | | | | |
| 2.08 | 0.880 a | 0.704 ab |  | 0.137 e | 0.422 c |
| 2.98 | 0.789 b | 0.717 a |  | 0.270 e | 0.402 c |
| 3.89 | 0.731 b | 0.692 ab |  | 0.372 de | 0.447 c |
| 4.79 | 0.622 c | 0.605 bc |  | 0.609 cd | 0.659 bc |
| 5.70 | 0.544 cd | 0.536 cd |  | 0.844 bc | 0.880 ab |
| 6.60 | 0.479 de | 0.509 cd |  | 1.089 ab | 0.966 a |
| 7.50 | 0.448 e | 0.470 d |  | 1.253 a | 1.133 a |
| RMSEa (27 d.f.)b | 0.04 | 0.04 |  | 0.11 | 0.11 |
| F MC | <0.01 | |  | <0.01 | |
| F Sex | <0.01 | |  | 0.13 | |
| F MC\*Sex | <0.01 | |  | <0.05 | |

aRMSE: Residual mean square error; bd.f.: degrees of freedom; Means of each phase with no common letter in column differ significantly (P<0.05) by Tukey test.

**Supplementary Table S2.** Average nitrogen deposition and intake ratio, and nitrogen excretion and deposition ratio of broiler males and females in response to dietary threonine (THR, g/kg) during three rearing phases (all data)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| THR | Females | | Males |  | Females | | Males |
| ND/NI | | |  | NE/ND | | |
| Starter Phase (1-14 days) | | | | | | | |
| 1.50 | 0.745 ab | 0.756 ab | |  | 0.381 bcd | 0.325 bc | |
| 4.00 | 0.876 a | 0.809 a | |  | 0.150 d | 0.240 c | |
| 5.20 | 0.783 ab | 0.752 ab | |  | 0.283 cd | 0.331 bc | |
| 6.40 | 0.684 b | 0.707 b | |  | 0.465 bc | 0.414 bc | |
| 7.59 | 0.625 bc | 0.682 b | |  | 0.603 b | 0.466 b | |
| 8.79 | 0.501 c | 0.543 c | |  | 0.998 a | 0.849 a | |
| 9.99 | 0.484 c | 0.521 c | |  | 1.072 a | 0.931 a | |
| RMSEa (27 d.f.)b | 0.07 | 0.03 | |  | 0.13 | 0.09 | |
| F THR | <0.01 | | |  | <0.01 | | |
| F Sex | 0.49 | | |  | 0.06 | | |
| F THR\*Sex | 0.30 | | |  | 0.21 | | |
| Grower Phase (14-28 days) | | | | | | | |
| 1.30 | 0.564 ab | 0.547 b | |  | 0.831 bc | 0.844 b | |
| 3.50 | 0.667 a | 0.596 ab | |  | 0.507 c | 0.680 b | |
| 4.60 | 0.662 a | 0.629 a | |  | 0.512 c | 0.591 b | |
| 5.70 | 0.572 ab | 0.571 ab | |  | 0.750 bc | 0.761 b | |
| 6.70 | 0.544 ab | 0.540 bc | |  | 0.843 bc | 0.852 b | |
| 7.79 | 0.501 b | 0.467 cd | |  | 1.000 ab | 1.145 a | |
| 8.89 | 0.455 b | 0.430 d | |  | 1.203 a | 1.326 a | |
| RMSEa (27 d.f.)b | 0.06 | 0.03 | |  | 0.16 | 0.12 | |
| F THR | <0.01 | | |  | <0.01 | | |
| F Sex | <0.05 | | |  | <0.05 | | |
| F THR\*Sex | 0.79 | | |  | 0.80 | | |
| Finisher Phase (28-42 days) | | | | | | | |
| 1.20 | 0.752 ab | 0.732 ab | |  | 0.378 c | 0.377 cd | |
| 3.30 | 0.822 a | 0.782 a | |  | 0.217 c | 0.286 d | |
| 4.20 | 0.807 a | 0.680 abc | |  | 0.240 c | 0.478 bcd | |
| 5.20 | 0.694 abc | 0.663 abc | |  | 0.442 c | 0.518 bcd | |
| 6.20 | 0.649 bc | 0.618 bcd | |  | 0.542 bc | 0.625 bc | |
| 7.19 | 0.530 c | 0.572 cd | |  | 0.897 ab | 0.759 ab | |
| 8.19 | 0.496 c | 0.501 d | |  | 1.036 a | 1.003 a | |
| RMSEa (27 d.f.)b | 0.07 | 0.06 | |  | 0.17 | 0.13 | |
| F THR | <0.01 | | |  | <0.01 | | |
| F Sex | 0.09 | | |  | 0.29 | | |
| F THR\*Sex | 0.27 | | |  | 0.38 | | |

aRMSE: Residual mean square error; bd.f.: degrees of freedom; Means of each phase with no common letter in column differ significantly (P<0.05) by Tukey test.