Impact of amino acid and crude protein restrictions on performance, nutrient deposition and nitrogen efficiency of grower-finisher entire male, castrated and female pigs

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Supplementary Table S1. Amino acid content in diets on apparent ileal digestibility basis (g/kg as-fed), specified for each feeding phase, dietary treatment and gender.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Grower diet | | | | |  | Finisher diet I | | | | |  | Finisher diet II | | | | |
| Dietary treatments1 | C | |  | LP | |  | C | |  | LP | |  | C | |  | LP | |
| Gender2 | EM | CA, FE |  | EM | CA, FE |  | EM | CA, FE |  | EM | CA, FE |  | EM | CA, FE |  | EM | CA, FE |
| Lysine | 8.6 | 8.1 |  | 6.8 | 6.4 |  | 6.4 | 6.0 |  | 5.1 | 4.8 |  | 5.8 | 5.6 |  | 4.7 | 4.6 |
| Methionine | 2.9 | 2.7 |  | 2.2 | 2.1 |  | 2.0 | 2.0 |  | 1.5 | 1.4 |  | 1.8 | 1.8 |  | 1.3 | 1.6 |
| Cystine | 2.3 | 2.2 |  | 2.0 | 1.9 |  | 1.9 | 2.1 |  | 1.9 | 1.8 |  | 1.8 | 1.8 |  | 1.7 | 1.6 |
| Threonine | 5.9 | 5.6 |  | 4.6 | 4.4 |  | 4.5 | 4.2 |  | 3.5 | 3.3 |  | 4.0 | 3.9 |  | 3.2 | 2.9 |
| Tryptophan | 1.8 | 1.7 |  | 1.4 | 1.3 |  | 1.4 | 1.2 |  | 1.1 | 1.0 |  | 1.3 | 1.2 |  | 1.0 | 0.9 |
| Isoleucine | 5.6 | 5.4 |  | 4.0 | 3.7 |  | 4.4 | 4.0 |  | 3.0 | 2.8 |  | 4.0 | 3.8 |  | 2.6 | 2.6 |
| Leucine | 10.4 | 10.0 |  | 7.4 | 7.0 |  | 8.6 | 7.8 |  | 5.9 | 5.6 |  | 8.2 | 7.9 |  | 5.4 | 5.7 |
| Phenylalanine | 7.2 | 6.9 |  | 5.4 | 5.1 |  | 6.0 | 5.4 |  | 4.4 | 4.2 |  | 5.3 | 5.1 |  | 3.8 | 3.7 |
| Valine | 6.7 | 6.4 |  | 4.7 | 4.5 |  | 5.5 | 5.1 |  | 3.9 | 3.7 |  | 5.0 | 4.7 |  | 3.4 | 3.3 |
| Tyrosine | 5.0 | 4.7 |  | 3.4 | 3.1 |  | 4.1 | 3.5 |  | 2.6 | 2.5 |  | 3.6 | 3.5 |  | 2.3 | 2.3 |
| Histidine | 3.0 | 2.8 |  | 2.4 | 2.3 |  | 2.4 | 2.4 |  | 2.0 | 1.9 |  | 2.1 | 2.0 |  | 1.6 | 1.6 |
| Arginine | 7.9 | 7.4 |  | 6.4 | 5.9 |  | 5.9 | 5.9 |  | 4.8 | 4.4 |  | 5.1 | 4.9 |  | 3.9 | 3.9 |

Grower, finisher I and finisher II diets were offered *ad libitum* from 20 - 60, 60 - 100 and 100 -140 kg BW, respectively.

2 C = control diet formulated to meet nutrient requirement according to the Swiss feeding requirements for growing finisher pigs in the respective growth periods; LP = low protein formulated to contain, expressed as percentage of the control diets, 80% of dietary CP, lysine, methionine + cystine, threonine and tryptophan.

3 EM = entire males; CA = castrates; FE = females

4 The amino acid digestibility coefficients from each feed ingredients were obtained from the Dutch feed database (CVB, 1996). Taking into account the relative amount of each feed ingredient in the diet, the apparent ileal digestible amino acid content was calculated.

Supplementary Table S2. Amino acid content in diets on standard ileal digestible basis (g/kg as-fed), specified for each feeding phase, dietary treatment and gender.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Grower diet | | | | |  | Finisher diet I | | | | |  | Finisher diet II | | | | |
| Dietary treatments1 | C | |  | LP | |  | C | |  | LP | |  | C | |  | LP | |
| Gender2 | EM | CA, FE |  | EM | CA, FE |  | EM | CA, FE |  | EM | CA, FE |  | EM | CA, FE |  | EM | CA, FE |
| Lysine | 9.0 | 8.5 |  | 7.1 | 6.8 |  | 6.8 | 6.4 |  | 5.4 | 5.2 |  | 6.1 | 5.9 |  | 5.1 | 4.9 |
| Methionine | 3.0 | 2.8 |  | 2.3 | 2.2 |  | 2.1 | 2.1 |  | 1.6 | 1.5 |  | 1.9 | 1.9 |  | 1.4 | 1.7 |
| Cystine | 2.4 | 2.4 |  | 2.2 | 2.1 |  | 2.1 | 2.3 |  | 2.0 | 2.0 |  | 2.0 | 2.0 |  | 1.9 | 1.8 |
| Threonine | 6.5 | 6.2 |  | 5.2 | 5.0 |  | 5.0 | 4.7 |  | 4.1 | 3.9 |  | 4.5 | 4.4 |  | 3.7 | 3.4 |
| Tryptophan | 1.9 | 1.9 |  | 1.5 | 1.4 |  | 1.5 | 1.4 |  | 1.2 | 1.1 |  | 1.4 | 1.3 |  | 1.1 | 1.1 |
| Isoleucine | 6.0 | 5.7 |  | 4.3 | 4.1 |  | 4.7 | 4.4 |  | 3.4 | 3.2 |  | 4.3 | 4.1 |  | 3.0 | 2.9 |
| Leucine | 10.9 | 10.4 |  | 7.8 | 7.5 |  | 9.0 | 8.2 |  | 6.4 | 6.1 |  | 8.6 | 8.4 |  | 5.9 | 6.1 |
| Phenylalanine | 7.5 | 7.2 |  | 5.7 | 5.5 |  | 6.3 | 5.7 |  | 4.7 | 4.5 |  | 5.6 | 5.4 |  | 4.1 | 4.0 |
| Valine | 7.2 | 6.9 |  | 5.2 | 5.0 |  | 6.0 | 5.6 |  | 4.4 | 4.2 |  | 5.4 | 5.2 |  | 3.9 | 3.8 |
| Tyrosine | 5.2 | 5.0 |  | 3.6 | 3.4 |  | 4.3 | 3.8 |  | 2.9 | 2.8 |  | 3.9 | 3.7 |  | 2.6 | 2.6 |
| Histidine | 3.1 | 3.0 |  | 2.6 | 2.4 |  | 2.5 | 2.6 |  | 2.2 | 2.0 |  | 2.3 | 2.2 |  | 1.8 | 1.8 |
| Arginine | 8.2 | 6.7 |  | 6.7 | 7.1 |  | 6.2 | 6.0 |  | 5.1 | 5.0 |  | 5.4 | 4.4 |  | 4.2 | 4.1 |

Grower, finisher I and finisher II diets were offered *ad libitum* from 20 - 60, 60 - 100 and 100 -140 kg BW, respectively.

2 C = control diet formulated to meet nutrient requirement according to the Swiss feeding requirements for growing finisher pigs in the respective growth periods; LP = low protein formulated to contain, expressed as percentage of the control diets, 80% of dietary CP, lysine, methionine + cystine, threonine and tryptophan.

3 EM = entire males; CA = castrates; FE = females

4 The amino acid digestibility coefficients from each feed ingredients were obtained from the Dutch feed database (CVB, 1996). Taking into account the relative amount of each feed ingredient in the diet, the standard ileal digestible amino acid content was calculated.