A Novel Corn-Expressed Phytase Improves Daily Weight Gain, Protein Efficiency Ratio and Nutrients Digestibility and Alters Fecal Microbiota in Pigs Fed with Very Low Protein Diets

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Supplementary Figures

Figure S1. Fecal rarefaction curve analysis for pigs fed with low-protein diets supplemented with a corn-expressed phytase. The rarefaction curves from fecal samples collected show the number of operational taxonomic units (OTU) found as a function of the number of reads sampled when data were analyzed based on (A) dietary groups and (B) individual pigs. Pigs are grouped based on their dietary treatments: PC (positive control): normal protein, adequate Ca and available...
Phosphorus (aP), no corn-expressed phytase (CEP) added; NC (negative control): low protein, adequate Ca and aP, no CEP added; LD: NC + CEP added at low dose, i.e. 2,000 FTU/kg of diet; HD: NC + CEP added at high dose, i.e. 4,000 FTU/kg of diet; LDR: LD with reduced calcium (Ca) and phosphorus (P); HDR: HD with reduced Ca and P. Each line represents an individual pig. \( n = 6 \) for each dietary group.

**Table S1.** Digestibility of calcium, phosphorous and nitrogen of pigs fed with low-protein diets supplemented with a corn-expressed phytase.

| Diets 1 | PC         | NC         | LD         | HD         | LDR        | HDR        | SEM 2 | \( p \)-value |
|---------|------------|------------|------------|------------|------------|------------|-------|--------------|
| **Calcium** |            |            |            |            |            |            |       |              |
| AFD ³, % | 65.59 ± 10.34 a | 67.38 ± 8.39 ab | 75.71 ± 7.94 abc | 80.82 ± 5.23 c | 76.03 ± 4.68 bc | 80.97 ± 8.53 c | 1.41  | < 0.01       |
| **Phosphorus** |            |            |            |            |            |            |       |              |
| AFD ³, % | 55.95 ± 9.05 a | 62.21 ± 9.82 ab | 69.90 ± 9.55 bcd | 80.21 ± 4.44 d | 69.42 ± 6.63 bd | 75.87 ± 7.04 cd | 1.67  | < 0.01       |
| **Nitrogen** |            |            |            |            |            |            |       |              |
| AFD ³, % | 80.42 ± 6.32 | 74.50 ± 9.99 | 78.61 ± 4.83 | 82.23 ± 3.74 | 73.98 ± 8.53 | 77.70 ± 7.57 | 1.11  | 0.22         |

1PC (positive control): normal protein, adequate Ca and available phosphorous (aP), no corn-expressed phytase (CEP) added; NC (negative control): low protein, adequate Ca and aP, no CEP added; LD: NC + CEP added at a low dose, i.e. 2,000 FTU/kg of diet; HD: NC + CEP added at high dose, i.e. 4,000 FTU/kg of diet; LDR: LD with reduced calcium (Ca) and phosphorus (P); HDR: HD with reduced Ca and P. Values are means ± standard deviations. \( n = 8 \) for each dietary group. ²SEM: standard errors of means; ³AFD: apparent fecal digestibility; a-dWithin a row, values without a common superscript letter differ \((p \leq 0.05)\).