Supplementary data

**Table S1.** Ingredients and composition of the gestation diet

|  |  |  |
| --- | --- | --- |
| Ingredients, % | NDF | HDF |
| Corn (CP1 8.2%) | 73.50 | 49.83 |
| Soybean meal (CP 46%) | 16.80 | 11.30 |
| Wheat bran | 2.90 | 12.00 |
| Soybean hull | 2.90 | 12.00 |
| Sugar beet pulp | - | 11.40 |
| Lysine-HCl (70%) | 0.02 | - |
| DL-Methionine (98.5%) | 0.01 | 0.04 |
| L-Threonine (98.5%) | - | 0.04 |
| CaCO3 | 1.08 | 0.67 |
| CaHPO4 | 1.70 | 1.63 |
| Sodium chloride | 0.40 | 0.40 |
| Choline chloride (50%) | 0.14 | 0.14 |
| Vitamin and mineral premix2 | 0.55 | 0.55 |
| **Analyzed nutrient levels** |  |  |
| Gross energy (MJ/kg) | 13.80 | 13.22 |
| Crude protein (%) | 13.59 | 12.48 |
| Soluble fiber (%) | 1.92 | 5.06 |
| Insoluble fiber (%) | 15.55 | 28.44 |
| Dietary fiber (%) | 17.47 | 33.50 |

1CP: crude protein.

2Provided per kg of diet: Zn 100mg, Cu 6mg, Fe 100mg; Mn 10mg, I 0.14mg, Se 0.25mg, VA 12000IU, VD3 3200IU, VB1 5mg, VB2 12.5mg, VB6 14mg, VB12 0.05mg, VC 100mg, VE 30mg, VK3 5mg, biotin 0.1mg, folic acid 2.5mg, carnitine 46mg, organic chromium 0.3 mg.

**Table S2**. Phyla with differential abundance between NDF and HDF sows

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Phylum** | **Group with the higher abundance** | ***P*-value** | **Adjusted *P*** | **Effect size** |
| *Bacteroidetes* | HDF | 0.003 | 0.04 | 0.68 |
| *Synergistetes* | HDF | 0.01 | 0.09 | 0.57 |
| *Firmicutes* | NDF | 0.02 | 0.10 | -0.53 |
| *Elusimicrobia* | HDF | 0.07 | 0.19 | 0.43 |
| *Actinobacteria* | NDF | 0.09 | 0.20 | -0.41 |

**Table S3**. Genera with differential abundance between NDF and HDF sows

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Genus** | **Group with the higher abundance** | ***P*-value** | **Adjusted *P*** | **Effect size** |
| *Campylobacter* | HDF | 0.04 | 0.33 | 0.62 |
| *Paludibacteraceae unassigned* | HDF | 0.02 | 0.19 | 0.53 |
| *Alloprevotella* | HDF | <0.01 | 0.11 | 0.74 |
| *Prevotellaceae\_unassigned* | HDF | 0.01 | 0.18 | 0.57 |
| *Rikenellaceae unassigned* | HDF | 0.02 | 0.18 | 0.55 |
| *Cellulosilyticum* | HDF | 0.03 | 0.22 | 0.51 |
| *Lachnoclostridium* | HDF | <0.01 | 0.18 | 0.61 |
| *Catenisphaera* | HDF | 0.02 | 0.18 | 0.55 |
| *Anaerovibrio* | HDF | <0.01 | 0.18 | 0.66 |
| *Mailhella* | HDF | 0.01 | 0.18 | 0.59 |
| *Sphaerochaeta* | HDF | 0.02 | 0.18 | 0.55 |
| *Pyramidobacter* | HDF | 0.01 | 0.18 | 0.57 |
| *Corynebacteriaceae unassigned* | NDF | 0.03 | 0.22 | -0.51 |
| *Clostridiales unassigned* | NDF | 0.02 | 0.19 | -0.53 |
| *Agathobacter* | NDF | 0.02 | 0.18 | -0.55 |
| *Terrisporobacter* | NDF | 0.01 | 0.18 | -0.57 |
| *Turicibacter* | NDF | 0.02 | 0.18 | -0.57 |
| *Enterobacteriaceae unassigned* | NDF | 0.03 | 0.22 | -0.51 |