## Supplemental Table 4. Ingredients and chemical composition of diets used in this study.

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| *Ingredients* | *Chemical composition* |
| *g/kg as feed* | *MJ/kg* |
| Wheat | 380 | Metabolisable energy | 13.0 |
| Barley | 300 | *g/kg dry matter* |
| Soybean meal | 232 | Dry matter | 889 |
| Corn starch/Zinc Oxide1 | 10 | Crude ash | 68 |
| Limestone | 20 | Crude protein | 197 |
| Monocalcium phosphate | 20 | Crude fibre | 35 |
| Mineral & Vitamin Premix2 | 15 | Ether extract | 35 |
| Soy oil | 17.5 | Starch | 376 |
| Salt | 2.0 | Lysine | 11.7 |
| Lysine HCl | 2.5 | Methionine | 4.0 |
| Methionine | 1.0 | Threonine | 7.2 |
|  |  | Tryptophan | 2.4 |
|  |  | Calcium | 11.0 |
|  |  | Phosphorus | 8.0 |
|  |  | Sodium | 3.1 |
|  |  | Magnesium | 2.2 |
|  |  | *mg/kg dry matter* |
|  |  | Zinc3 | 34 |
|  |  | Iron | 308 |
|  |  | Manganese | 41 |
|  |  | Copper | 8 |

1 Corn starch in the basal diet was partially replaced in the diets containing 50, 150, and 2500 mg/kg zinc with analytical grade zinc oxide (Sigma Aldrich, Taufkirchen, Germany) to adjust for the zinc level.

2 Mineral and Vitamin Premix (Spezialfutter Neuruppin Ltd., Neuruppin, Germany), providing per kg feed: 1.95 g Na (as sodium chloride), 0.83 g Mg (as magnesium oxide), 10,500 IU Vitamin A, 1,800 IU Vitamin D3, 120 mg Vitamin E, 4.5 mg Vitamin K3, 3.75 mg Thiamine, 3.75 mg Riboflavin, 6.0 mg Pyridoxine, 30 *µ*g Cobalamine, 37.5 Nicotinic acid, 1.5 mg Folic acid, 375 *µ*g Biotin, 15 mg Pantothenic acid, 1200 mg Choline chloride, 75 mg Fe (as Iron-(II)-carbonate), 15 mg Cu (as Copper-(II)- sulfate), 90 mg Mn (as Manganese-(II)-oxide), 675 *µ*g J (as Calcium-iodate), 525 mg Se (as Sodium-selenite).

3 Analysed concentration of zinc in the basal diet without ZnO supplementation. The experimental diets contained 57, 164, and 2425 mg/kg, respectively.