

## Improvement of piglet intestinal morphology with HiZox®

### Place

Institute of Subtropical Agriculture, the Chinese Academy of Sciences (Hunan, China).

### Objective

To compare the effects of low inclusions of HiZox® to ZnSO<sub>4</sub> (at nutritional dosage) or to standard ZnO (at pharmacological dosages) on piglets' gut structure.

### Material and method

**Animals:** 128 Duroc × (Landrace × Yorkshire) piglets weaned at 21 days  
8 pens x 4 piglets x 4 treatments

**Diet composition:** Corn, SBM, whey powder; CP 22.2% (0-14 days) and 21.5% (15-28 days)

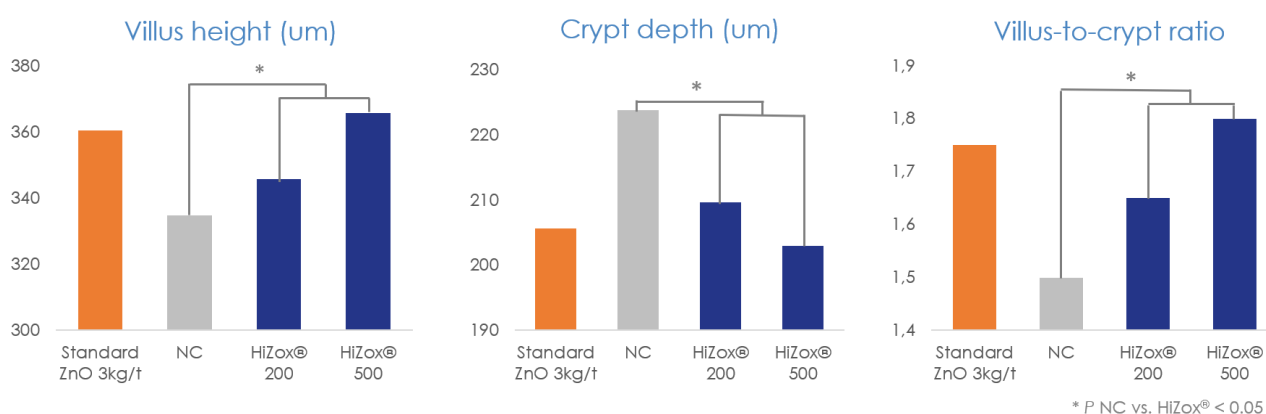
#### **4 experimental diets:**

- PC: Positive control incl. 3000 ppm of standard ZnO
- NC: Negative control incl. 100 ppm of ZnSO<sub>4</sub>
- HiZox® 200: NC + 200 ppm of HiZox®
- HiZox® 500: NC + 500 ppm of HiZox®

**Measurements:** Growth performance was measured individually at the end of trial (28 days of trial or 49 d. of age). Histomorphology of the intestinal mucosa (jejunum) was performed on 8 piglets per treatment at the end of trial using a light microscope equipped with a computer-assisted morpho-metric system.

### Results

Groups fed HiZox® tended to have higher weight gain and feed intake ( $P < 0.08$ ) and had a significantly reduced diarrhea incidence ( $P < 0.01$ ). HiZox® also showed significant higher villus height, lower crypt depth and higher villus-to-crypt ratio compared to NC ( $P < 0.05$ ). These effects were similar to those obtained with the pharmacological dosage of standard ZnO.



### Conclusion

Compared to nutritional dose of ZnSO<sub>4</sub>, HiZox® supplemented at 200 or 500 ppm significantly improved jejunal mucosa morphology, with no difference compared to the pharmacological dosage of standard ZnO.