

## ORIGINAL XP™ IMPROVED DIGESTIBILITY AND GUT MORPHOLOGY IN NURSERY PIGS

Research<sup>1</sup> was conducted by China Agricultural University, Beijing, China, to determine effects of Original XP in nursery pigs.

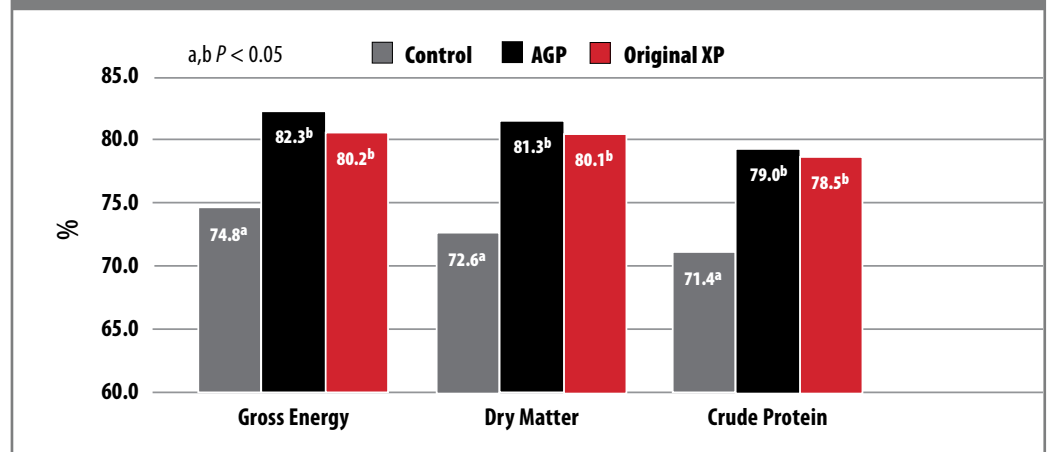
### RESEARCH SUMMARY

- 24 nursery pigs (5.8 kg of BW; 21 d of age) were randomly allotted to treatments.
- Treatments were: Control (no supplemental Antibiotic Growth Promoters (AGP) or yeast culture), AGP (80 mg/kg chlortetracycline), and Original XP (5 g/kg Diamond V Original XP™).
- Pigs were housed individually and provided feed (20% CP and 1.35% Lysine) and water ad libitum.
- Fecal samples were collected from all pigs during the last 3 d of the study and analyzed for nutrient content and to estimate digestibility of feedstuffs.
- All pigs were euthanized on d 21 to obtain intestinal tissues. Mucosal morphology (villus height and crypt depth) were measured in the middle sections of the duodenum, jejunum and ileum)

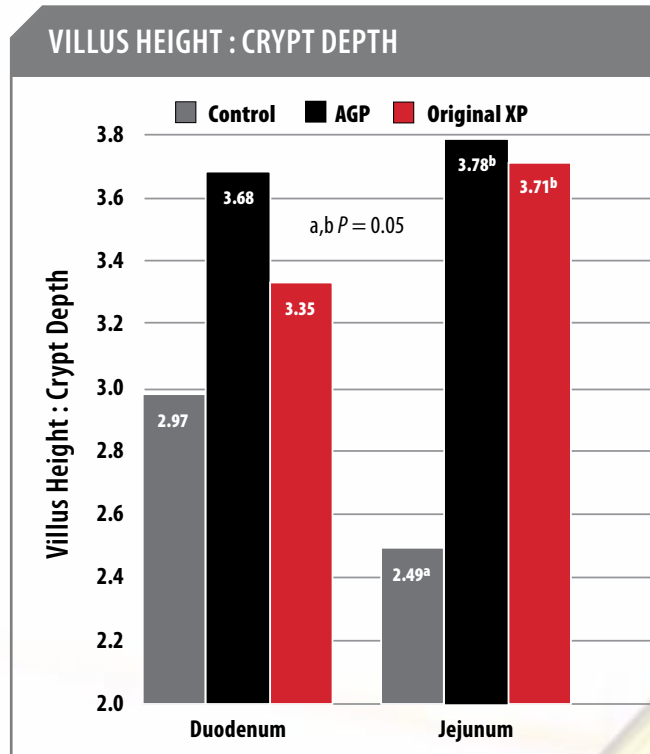
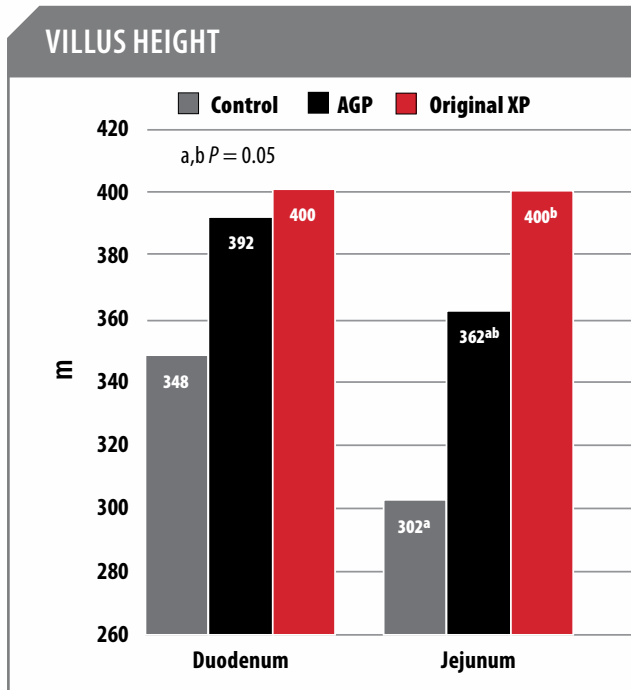
### RESULTS

- Pigs supplemented with Original XP and AGP had improved performance compared to control pigs.
- The ADG of pigs supplemented with Original XP and AGP were 346 and 338 g/d, respectively, while the control pigs gained 275 g/d ( $P = 0.034$ ).
- Gain:feed was increased ( $P = 0.081$ ) in pigs supplemented with Original XP and AGP (660 and 675 g/kg, respectively) compared to control pigs (586 g/kg).
- Supplementing nursery pigs with Original XP or AGP increased gross energy, dry matter, and crude protein digestibility compared to the control pigs (Figure below).

### NUTRIENT DIGESTIBILITY



RESULTS (continued)



- Pigs supplemented with Original XP and AGP had greater villus height ( $P = 0.02$ )

- Pigs supplemented with Original XP had greater villus height to crypt depth ratio in the jejunum ( $P = 0.01$ ) of the small intestine.

- The authors concluded that Original XP improved nursery pig performance by improving nutrient digestibility and gut morphology (villus height).

<sup>1</sup>Shen, Y.B., X.S. Piao, S.W. Kim, L. Wang, P. Liu, I. Yoon, and Y.G. Zhen. 2009. Effects of yeast culture supplementation on growth performance, intestinal health, and immune response of nursery pigs. *J. Anim. Sci.* 87: 2614-2624.

If you would like more information on this study, please contact your local Diamond V representative.

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