

## TECHNICAL BULLETIN #2

### SUPPLEMENTATION IN POST WEANING PIGLETS TO IMPROVE ZN ABSORPTION AND GROWTH PERFORMANCES

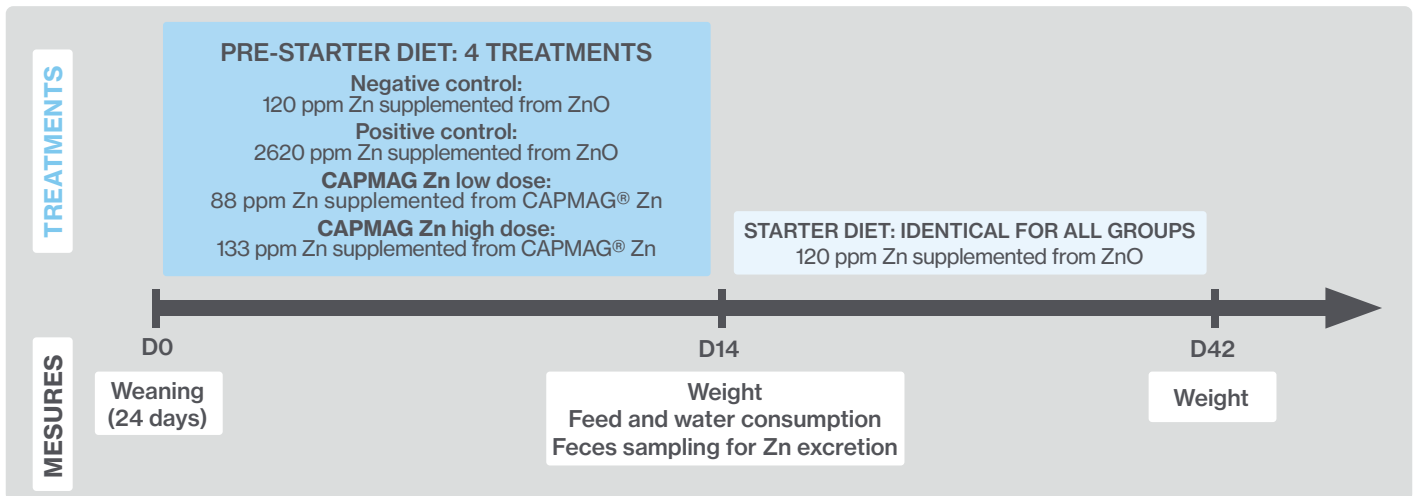
#### INTRODUCTION

An early weaning, typically from 21 or 28 days of age, impairs the piglet gastrointestinal tract. This, combined with other challenges such as the separation from the sow, mixing piglets from different litters, results in a weakening of immune fitness and decreased growth performances. Pathogens may develop in the tractus leading to post weaning diarrhea (PWD). For over three decades, zinc oxide (ZnO) has been widely used in pig production globally as a preventative measure against this PWD in piglet. With the ban of medicated ZnO levels in European piglet feed (European Medicines Agency, 2017), ensuring the health and performance of piglets is one of the major challenges of the swine industry.

This experiment aims to confirm that the technology CAPMAG<sup>®</sup> Zn is able to improve growth in weaning piglets compared to ZnO at nutritional and pharmacological levels, thanks to its higher bioavailability.

#### MATERIAL & METHODS

The trial has been set up in 2022, in a Spanish experimental farm. Piglets (Danbred x Duroc) were weaned at 24 days ( $\pm$  6kg) and allotted to 4 treatments with 9 repetitions (pens) per treatment. Each pen was composed of 8 piglets. Animals were fed the experimental diets during the pre-starter phase, from day 0 up to 14 days post-weaning (PW) and then animal performance were followed day 15 to 42 PW (end of post-weaning and of the trial).



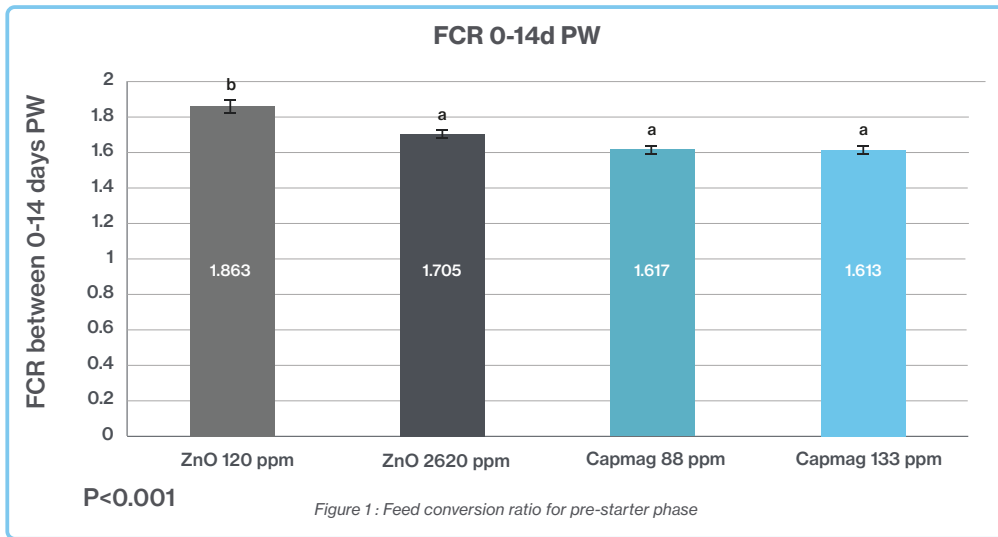
Supplementation's effects on these parameters were analyzed using the GLM procedure of SAS (SAS Ins. Inc., Cary, NC). When significant differences among treatments were detected, mean values were separated using the Tukey test. All differences were considered significant at  $P < 0.05$ .

#### RESULTS & DISCUSSION

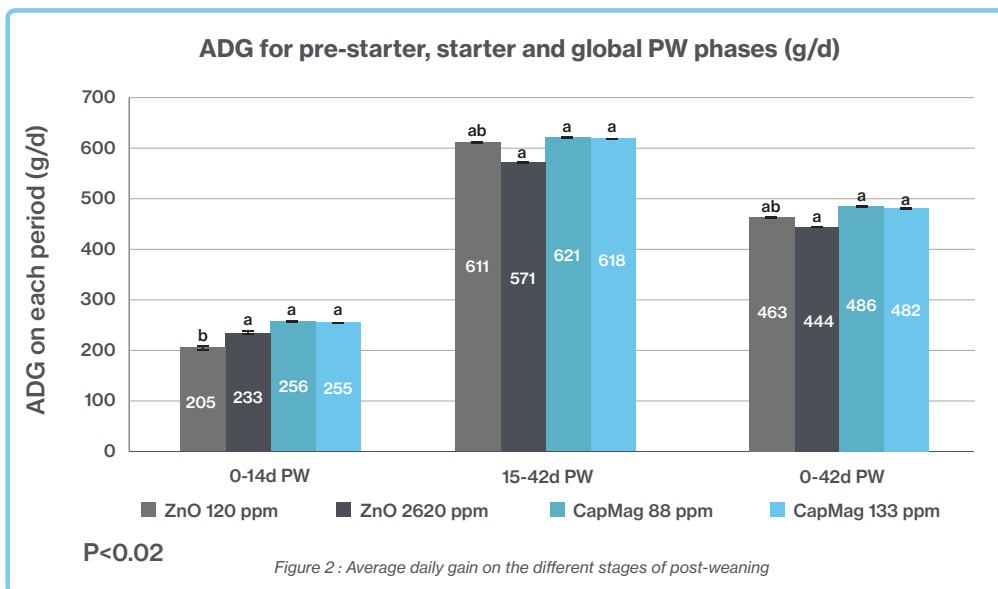
Table 1: Weight and feed consumption of piglets

	ZnO 120 ppm	ZnO 2620 ppm	CapMag <sup>®</sup> 88 ppm	CapMag <sup>®</sup> 133 ppm	p-value
Weight at 0d PW (kg)	6.75	6.74	6.73	6.77	0.997
Weight at 14d PW (kg)	9.61 b	10.01 ab	10.31 a	10.33 a	0.022
Weight at 42d PW (kg)	26.15 ab	25.33 b	27.01 ab	27.49 a	0.030
ADFI 0-15d PW (g/d)	380	395	412	409	0.180

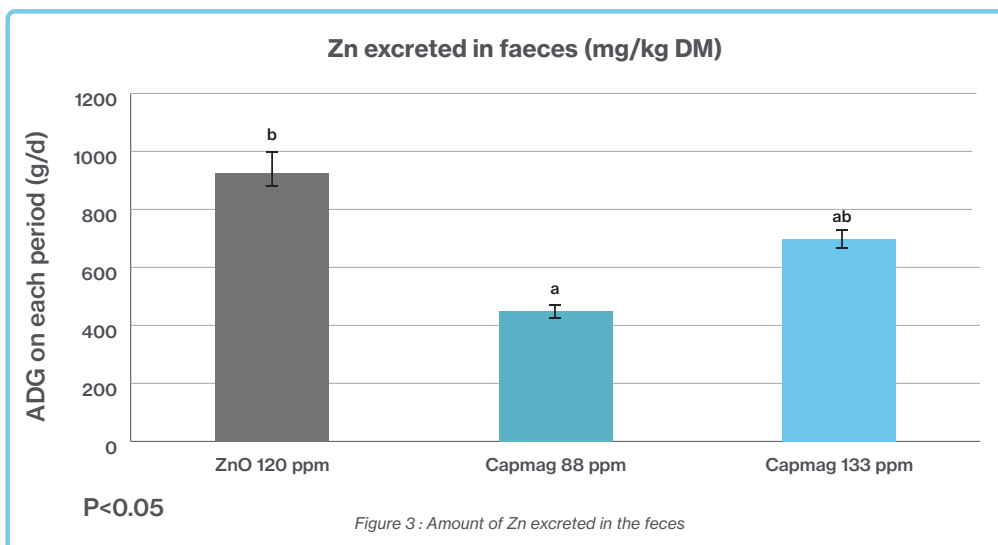
After the supplementation phase and at the end of the trial, we observe a **better growth** of piglets with CAPMAG<sup>®</sup> Zn compared to other treatments with ZnO (Table 1).



With CAPMAG® Zn, **feed conversion ratio has been decreased** as much as with high level of ZnO, compared to nutritional ZnO (Figure 1). Also, ADG has been improved on all periods during post-weaning (Figure 2).



CAPMAG® Zn allowed a **decrease in fecal zinc excretion** compared to a nutritional level of ZnO, even if the supplementation was higher (Figure 3).



## CONCLUSION

A supplementation of two levels of CAPMAG® Zn can improve **growth performances** in post-weaning piglets compared to ZnO at nutritional level and **guaranty** the same growth a high level of ZnO.