

CAPMAG[®] ZN

TECHNICAL BULLETIN #7

CAPMAG[®] ZN IMPROVES FECAL CONSISTENCY COMPARED TO POTENTIATED ZNO

INTRODUCTION

Post-weaning diarrhea remains a significant challenge in the swine industry. Following the ban on pharmacological doses of ZnO, nutritionists are looking for alternatives that could support intestinal health while maximizing piglet growth. Many innovative solutions are available such as prebiotics, probiotics and organic acids, as well as newer approaches utilizing zinc (Zn). Among them are a source of potentiated ZnO with an increased specific surface area, and CAPMAG[®] Zn with its atomic protection of Zn thanks to magnesium (Mg).

The objective of this trial was to compare the effects of CAPMAG[®] Zn and a potentiated ZnO source on the zootechnical performance and health of piglets during the post-weaning period.

MATERIAL & METHODS

The trial was conducted in 2024 on a commercial farm in Brittany, France, in collaboration with a premixer. Piglets ((Large White × Landrace) × Valens) were weaned at 21 days and assigned to one of two feeding treatments (8 replicates/treatment and 17 piglets/pen) for the entire post-weaning period (days 21 to 70 of life). Zootechnical parameters were evaluated per phase and mortality was recorded daily, as displayed in the Figure 1. Diarrhea frequency was evaluated daily per pen and per treatment from weaning to day 22 with the following scale: 1-Normal feces, 2-Soft feces, 3-Diarrhea.

The pen was defined as the experimental unit. Treatment responses were analyzed using ANOVA, with treatment as the fixed effect, while fecal scores were assessed using ANOVA with repeated measures (R-studio).

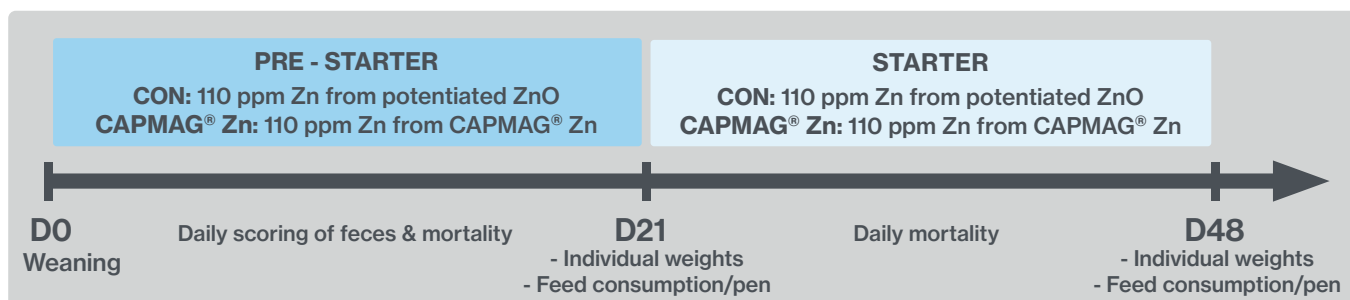


Figure 1: Experimental model

RESULTS & DISCUSSION

There was no significant difference in piglet growth between treatments during pre-starter, starter or the global post-weaning phase for the main parameters (Table 1). A numerical difference in mortality rate was observed with 6.6% (9 piglets) for the treatment with potentiated ZnO and 2.9% (4 piglets) for the CAPMAG[®] Zn group. The use of CAPMAG[®] Zn allowed to numerically diminish mortality and grow 5 more piglets.

Table 1: Zootechnical performances & mortality rate

	Potentiated ZnO	CAPMAG [®] Zn	SEM	p-value
Weight at weaning (kg)	5.3	5.3	0.04	NS
Weight at 48d (kg)	28.2	27.5	0.23	NS
ADG 0-48d (g/d)	477.2	462.6	4.41	NS
ADFI 0-48d (g/d)	684.5	676.3	9.63	NS
FCR 0-48d (kg/kg)	1.44	1.46	0.01	NS
Mortality rate (%)	6.6%	2.9%		NS

Piglets receiving **CAPMAG® Zn** showed a significantly lower prevalence of score 3 feces, corresponding to diarrhea, compared to piglets fed potentiated ZnO ($P<0.05$) during the global post-weaning phase. Calculated mean frequencies of score 3 feces (diarrhea) were 13% for potentiated ZnO and 5% for **CAPMAG® Zn**.

Table 2 : Occurrence of pens with Score-3 feces (in number of pen vs. total pen number)

%	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15	D16	D17	D18	D19	D20	D21	D22	Global occurrence (%)
Potentiated ZnO			2/8	3/8		1/8	1/8	2/8	4/8	1/8	1/8	1/8		2/8	1/8	1/8	1/8	1/8					13%
CAPMAG® Zn			2/8	2/8		1/8	1/8					1/8	1/8	1/8									5%
SEM																							0.01
<i>p-value</i>																							<0.05

The mean feces scores are presented in Figure 2. A statistical difference in feces score and diarrhea prevalence was visible at day 9, 10 and 21 ($P<0.05$). In this trial, **CAPMAG® Zn** helped to significantly reduce incidence of diarrhea in the most challenging phase of a piglet's life.

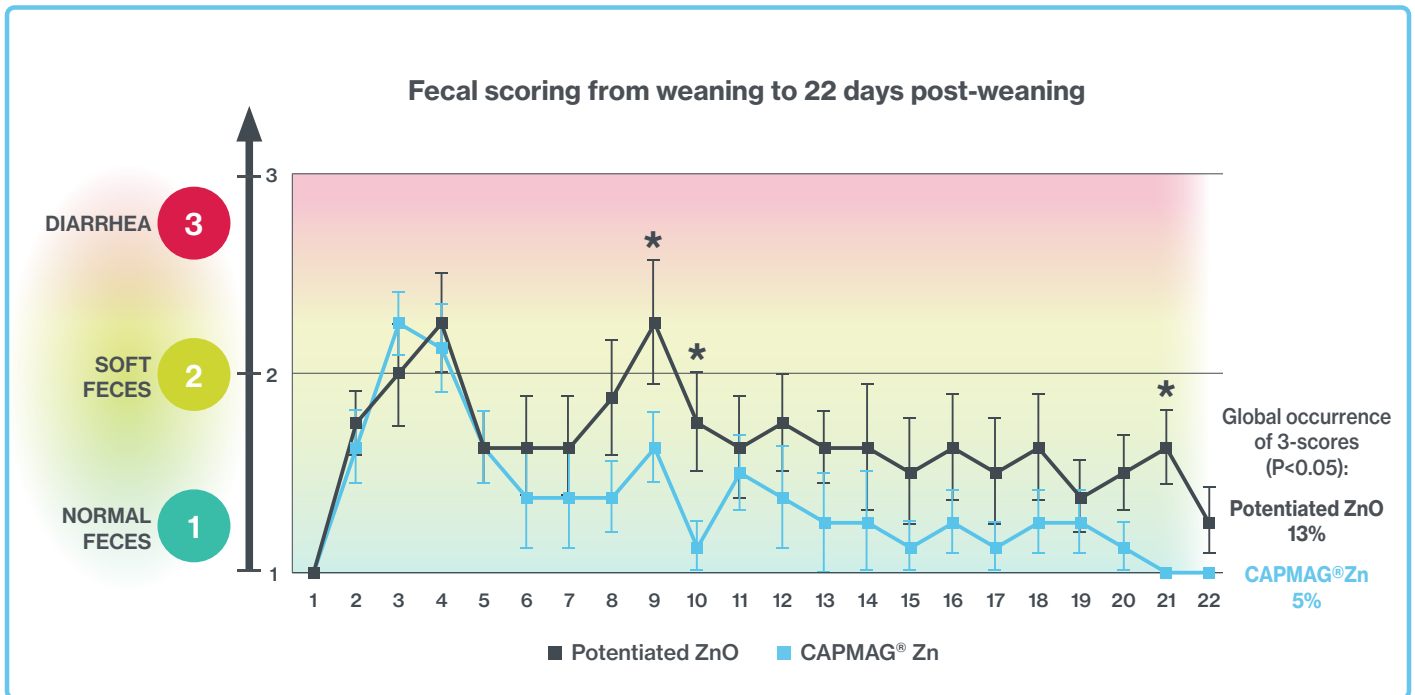


Figure 2 : Occurrence of global 3-scores

CONCLUSION

This trial shows that, at the same incorporation level, **CAPMAG® Zn** can guarantee the same growth performance as potentiated ZnO, while also **improving fecal consistency**, as shown by the reduction in the prevalence of score 3 feces. This improvement is most likely due to **better intestinal health** in piglets fed **CAPMAG® Zn**.