

EVALUATION OF THE EFFECT OF ACETAMINOPHEN (PRACETAM®) ADMINISTRATION IN FEED ON THE GROWTH RATE AND HEALTH OF PIGLETS DURING POST-WEANING

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INTRODUCTION

Post-weaning is a difficult time for piglets as they undergo much stress during this period: stress from weaning, from adapting to a new environment and sometimes from vaccination as well. These stress factors put a high strain on the immune system of the animals. With this in mind, the aim of the present study was to evaluate the effect of acetaminophen (PRACETAM®), administered in feed, on the growth and health of piglets during post-weaning

MATERIALS AND METHODS

The study, conducted in a breeding-fattening farm, under blind conditions and according to Good Clinical Practices, involved 351 piglets. Upon weaning, the piglets were randomly divided in a treatment and a control group. The characteristics of the two groups are shown in Table 1. The piglets were individually weighed on days 0 (weaning), 14, 25 and 33. In order to evaluate the immunitary stimulation of the animals, blood samples were taken at the time of weighing, from a selection of 47 piglets spread over all pens. Serum haptoglobin levels were measured with a commercially available test (Tridelta Development Ltd).

Table 1: The protocol (D0 = weaning)

	Control group (n=175)	Treated group (n=176)
Days 0 to 14	Nursery feed	Nursery feed+ acetaminophen 2000 ppm
Days 14 to 25	Weaner feed	Weaner feed+ acetaminophen 1000 ppm
Days 25 to 33	Weaner feed	Weaner feed

Haptoglobin is a positive acute phase protein and is part of the early defence mechanism induced by trauma, inflammation or infection.

Each group was split between 2 different halls: hall A (212 piglets, 5 per pen, fully plastic slatted floor) and hall B (139 piglets, 10 per pen, partially slatted floor). The piglets of hall B received an additional immune stress on day 14 (vaccination against Mycoplasma).

RESULTS

An episode of diarrhoea was observed in hall B. All animals in the hall received colistine via drinking water (0.5 g/10 kg during 5 days, starting on day 11). No other treatment was given.

The main results are shown in Tables 2 and 3. In both halls, the growth of the piglets during the first fortnight was the fastest (p=0.01) in the groups treated with acetaminophen. In hall B, the growth rate was also higher for the animals treated between days 14 and 25. Finally, the animals were significantly heavier at the end

of the weaning period in hall A (+0.9 kg) and in hall B (+2.2 kg). The feed conversion rate was identical for both groups: the better growth of the treated groups was obtained by a higher feed intake.

Table 2: results in hall A

Acetaminophen	NO	YES	Diff	p
Weight (kg)	Day 0	9.1	9.1	
	Day 14	13.8	14.6	0.8
	Day 25	19.3	20.3	1.0
	Day 33	24.5	25.4	0.9
ADG (g/d)	Days 0-14	332	387	56
	Days 14-25	496	517	21
	Days 25-33	657	639	-18

Table 3: results in hall B

Acetaminophen	NO	YES	Diff	p
Weight (kg)	Day 0	9.1	9.2	
	Day 14	12.7	13.6	1.0
	Day 25	16.7	18.5	1.8
	Day 33	21.6	23.8	2.2
ADG (g/d)	Days 0-14	246	313	68
	Days 14-25	368	448	80
	Days 25-33	611	663	52

Serum haptoglobin levels of the treated and control groups were identical, apart from day 14. At that day, levels were significantly lower in the treated group in hall A (0.6 vs 1.3, p=0.01). In hall B, no difference was observed between the two groups (2.1 vs 2.0, p=0.8). Levels were very high in hall B, probably due to the episode of diarrhoea.

DISCUSSION AND CONCLUSION

In this study, the administration of acetaminophen (PRACETAM®) in feed during post-weaning significantly improved the growth rate of piglets. This effect was greater in hall B, where piglets had suffered a bout of diarrhoea and had undergone a vaccinal stress: in this hall, the ADG was significantly higher during the period prior to the vaccination. In the absence of diarrhoea (hall A), acetaminophen allowed to limit the piglet's response to the immune stress of weaning. This response was evaluated by serum haptoglobin concentrations.