Effect of butaphosphan plus vitamin B12 on pig performance

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In intensive pig production systems, pigs are exposed to multiple stressors such as handling, mixing with unfamiliar conspecifics, and movement to other buildings, all of which may adversely affect performance of the animals. Stress causes the release of catabolic hormones like cortisol which can negatively affect metabolism, leading to reduced weight gain in these growing animals.

Coforta is a metabolic stimulant and tonic supplement containing 100mg butaphosphan and 0.05mg of cyanocobalamin per ml as active ingredients. It has been reported to reduce stress by reducing cortisol levels, significantly attenuate the frequency of agonistic behaviour in intermingled piglets after weaning, reduce acute phase response in farrowing sows and increase milk yield when given to farrowing sows.

This field study aimed to investigate the effects of Coforta on the weight gain of pigs when given strategically to farrowing sows and their corresponding piglets during stressful periods such as handling, weaning, and transferring to other buildings.

Materials and methods

This field study was conducted in a 300 sow level farm located in the Visayas region of the Philippines. A purposive sample of two-week production based on the number of available animals and the expected dates of farrowing were taken. Some 20 clinically healthy, pure breed sows and their corresponding piglets were divided into two groups, the control group (111 piglets) and treatment group (108 piglets).

Time	Control (ml Coforta IM)	Treatment
Sow		
Farrowing start		20.0
Day 28 (weaning day)		20.0
Piglet		
Day 3 of age		1.0
Day 10 of age	1.0	
Day 28		1.0
Day of transfer to flat deck		2.0
Day of transfer to grower building		5.0

Table 1. Treatment plan for the sows and piglets in the control group and treatment group.

In the treatment group, sows were given two injections of Coforta at 20ml per dose, with the first dose given at the start of farrowing, and the second dose at 28 days after farrowing (weaning day).

The corresponding piglets were given Coforta at the following dosages and schedules: 1ml at day three of age, coinciding with the administration of iron dextran and toltrazuril 0.4ml/kg; 1ml Coforta at day 28 (weaning day); 2ml when the piglets were transferred from the farrowing building to the flat deck, and 5ml when they were transferred from the flat deck to the grower buildings (Table 1).

Transferring of the animals from one building to another was done according to the estimated weight of the animals.

The sows and piglets from the control group remained untreated and were not given any preparation similar to Coforta, nor were they given a placebo.

However, the piglets were given 1ml Coforta at day 10 of age, coinciding with the time of piglet castration, as was the usual farm practice. All piglets were weighed at birth, at weaning, and during transfers and when they were marketed.

Results and discussion

The weight gain was adjusted to 150 days of rearing period in order to have an equal basis of comparison. At the time of market, pigs in the treatment group had a significantly higher average daily weight gain (ADG) and adjusted weight gain as shown in Table 2.

The ADG of the treatment group was greater than the control by 58g/day. This translates to an average of 8.5kg difference in the weight gain between the treatment and control groups at the end of the adjusted 150-day rearing period.

In the pre-weaning period, no significant difference in the ADG and adjusted weight gain between the two groups was observed.

However, other factors may have affected the lactation ability of the sows, such as parity distribution and body condition during the lactation period, which were not considered during the course of the study.

In the post-weaning period, the growth rate and therefore the adjusted weight gain of the treatment group was significantly higher as shown in Tables 3 and 4.

Pigs that were given Coforta were heavier at the end of the nursery and growing periods by 3 and 6kg, respectively.

Mortalities were as well recorded during

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Table 2. Growth rate of the piglets from birth to market in control and Coforta treatment groups. N[a] represents the number of animals marketed.

	Birth weight (kg)	Market weight (kg)	Av. market age (days)	Weight gain (kg)	Av. daily weight gain (kg/day)	Adjusted weight gain at 150 days
Control (N[a]=96)	1.5	92.49	174.32	90.99	0.523	78.44
Treatment (N[a]=94)	1.55	102.01	173.23	100.46	0.581	87.09
P value (T-test)					<0.05	<0.05

	Initial weight (kg)	Final weight (kg)	No. of rearing days	Weight gain (kg)	Av. daily gain (kg/day)	Adjusted weight gain (kg)
Control (96)	13.66	35.70	40.3	22.04	0.547	21.90
Treatment (96)	15.31	40.37	40.34	25.07	0.627	25.08
P value (ANOVA)					<0.05	<0.05

Table 3. Growth rate of pre-starter pigs at the flatdeck in control and Coforta treatment groups. No. represents the number of pigs by the end of the pre-starter period.

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the course of the trial. There was no significant difference in the number of deaths between the groups. In total, the mortality rate was lower in the treatment group than in the control. In the pre-weaning period, a higher percentage of mortalities were observed in the control group due to starvation.

In the post-weaning period, recorded deaths were due to intestinal torsion and respiratory diseases.

Conclusions

In this field trial, Coforta was given to pigs during stressful periods in production such as farrowing, handling, weaning and day of transfer to other buildings in order to lessen stress and to improve weight gain.

The evidence for this was confirmed by a significantly increased daily weight gain and market weight of the pigs that were treated with Coforta.

This resulted, based on the return on investment calculation, in high profitability for the farmers (approximately US$17.00 per head under conditions in the Philippines).

No treatment related side effects were observed in the piglets or in the pigs being treated. ■

References are available from the author on request

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Table 4. Growth rate of starter pigs up to market in control and Coforta treatment groups.

	Initial weight (kg)	Final weight (kg)	No. of rearing days	Weight gain (kg)	Av. daily gain (kg/day)	Adjusted weight gain (kg)
Control (94)	35.70	92.49	75.55	56.8	0.761	60.90
Treatment (94)	40.52	102.01	74.51	61.49	0.831	66.50
P value (Kruskal-Wallis/ANOVA)					<0.05	<0.05