Effect of B-Act® supplementation on growth performance and health of weaned piglets fed low-quality diets

Experimental design

Setup

- Location: OPP Mexico
- Animals: 360 Hypor (♀ Libra x ♂ Maxter) 25-day-old weaned piglets. 24 pens with 15 piglets per pen
- Period of evaluation: 40 days from weaning (day 25) to 65 days post weaning
- Statistical analysis was performed using a generalised linear, mixed-effects model with treatment as a fixed effect.

Treatments

- Positive control (PC): standard feed including live yeast, haemoglobin, plasma powder, fishmeal and whey powder
- Negative control (NC): lower protein level diet, no live yeast, no haemoglobin, no plasma powder, no fishmeal or whey powder. Diet composition is available on request
- B-Act®: Negative control diet + 0.5 kg B-Act® 500/mT (1.6x10^9 CFU *Bacillus licheniformis*/kg)

Measured parameters

Growth, body weight, feed intake and feed efficiency were recorded at 37, 46 and 65 days of age (12, 21 and 40 days post weaning). Diarrhoea was scored on day 37 post weaning on a 3-point scale; 1=no diarrhoea; 2=visible diarrhoea; 3=severe diarrhoea.

Results

Supplementing B-Act® significantly increased piglet weight 12 and 21 days post weaning (37 and 46 days of age, respectively) when added to a low-quality feed (Figure 1).

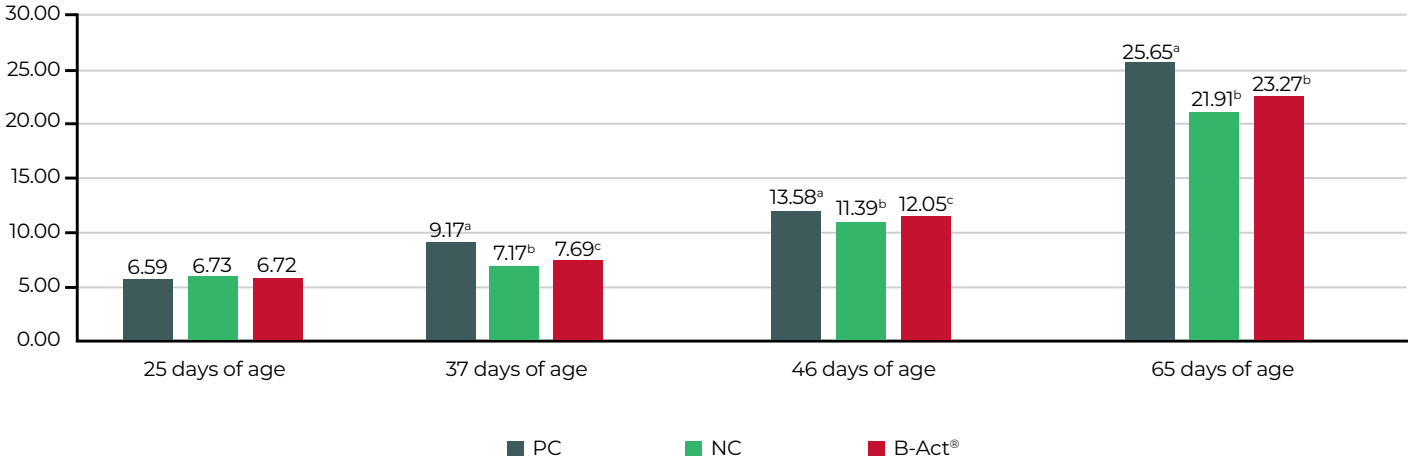

Figure 1. Weight at weaning day 25, 37, 46 and 65 days of age. Different letters mean a significant difference at $p<0.05$.

Overall feed intake from weaning to 40 days post weaning increased by 40 grams per day when adding a probiotic compared to the NC group (Figure 2). There was no impact on feed conversion based on diet type, or adding a probiotic to the feed.

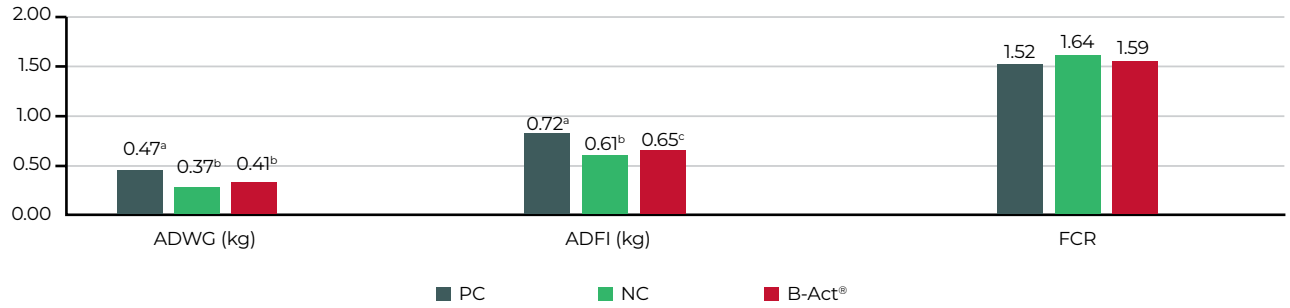

Figure 2. Average daily weight gain (ADG) in kg/day, average daily feed intake (ADFI) in kg/day and feed conversion rate (FCR) from weaning to 40 days post weaning. Different letters mean a significant difference at $p<0.05$.

The diarrhoea score 12 days post weaning in the NC group was significantly worse compared to the other three groups (Figure 3).

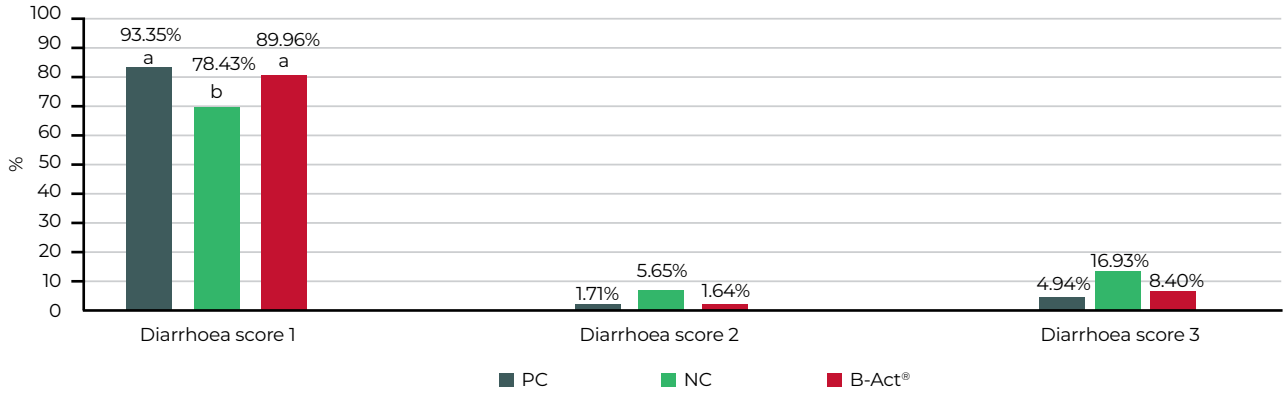

Figure 3. Diarrhoea scoring on day 37 (12 days post weaning). Different letters mean a significant difference at $p<0.05$.

Conclusion

The inclusion of B-Act® in low-quality diets for weaning piglets significantly improved body weight at 12 and 21 days post-weaning and increased daily feed intake by approximately 40 grams during the first 40 days post-weaning. While feed conversion remained unaffected, B-Act® supplementation contributed to better health outcomes, as evidenced by reduced diarrhoea scores compared to the NC group. These findings demonstrate that B-Act® is an effective solution to support growth and gut health in piglets under challenging nutritional conditions.

B-Act.TB12.EN.01026/MSD

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