



## Effects of $\beta$ -hydroxy-methylbutyrate supplementation on growth performance and carcass traits of finisher pigs between 50–110 kg

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Developing strategies to improve muscle growth and reduce carcass fatness is vital to animal production efficiency and meeting consumers' demand.  $\beta$ -hydroxy-methylbutyrate (HMB), a metabolite of leucine, is known for its anabolic effect on skeletal muscle protein accretion in neonatal<sup>(1)</sup> and young pigs.<sup>(2)</sup> The sensitivity of muscle protein synthesis to stimuli decreases with age,<sup>(3)</sup> thus it remains unknown whether the anabolic properties of HMB exist in pigs during the finisher phase (commonly referred to 50–110 kg weight production stage in Australia), particularly in the Australian genetics that has already been selected for carcass leanness. The experiment aimed to investigate the effects of HMB oral supplementation during the finisher phase on pigs' growth performance and carcass backfat thickness. Twenty-seven male and 27 female pigs (Primegro Genetics, Australia; 49.6  $\pm$  2.04 kg weight for mean  $\pm$  standard deviation) were randomly allocated to three dietary treatments—control, 0.15% HMB and 0.30% HMB supplemented diet. The control diet was wheat, barley, and canola meal based. It was formulated to contain 13.8 MJ/kg of digestible energy, 15% crude protein, 0.8% digestible lysine and 0.7% digestible leucine (as-fed basis). Pigs were housed in individual pens and had *ad libitum* access to feed and water. Data were analysed for the effect of sex, dietary treatment and their interaction using ANOVA (IBM SPSS Statistics for Windows, v26.0. Armonk, NY, USA). The initial body weight (standardised at 49.6 kg), initial backfat thickness (standardised at 5.0 mm), and live weight at endpoint (standardised at 110.3 kg) were used as covariates. Feed intake and growth performance were recorded between 50–110 kg body weight. Carcass dressing percentage (AUS meat Trim 1 standard), backfat thickness, and loin depth were measured when individual pigs reached approximately 110 kg live weight. Results showed that the HMB supplementation did not affect average daily feed intake, average daily gain, or feed conversion ratio (all  $p > 0.10$ ). The HMB supplementation did not affect the backfat thickness, loin depth or dressing percentage of carcasses (all  $p > 0.10$ ). In conclusion, 0.15–0.30% HMB supplementation did not affect the growth performance or carcass backfat of finisher pigs.

### References

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