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Pork CRC Research Summary

2A-104 Exp 2 and 3 Lysine Requirements of Pigs from 20 to 100 kgs liveweight

Principle Investigator:
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Background:

Through genetic selection pigs now deposit relatively more protein and less fat than they did twenty years ago, primarily because of the pressure from consumers to reduce the amount of subcutaneous fat on pork products. As a consequence, the requirement for amino acids relative to energy has slowly increased over this time. It has been several years since experiments to determine the requirement for amino acids relative to energy have been conducted. The aim of this experiment was to determine the optimal available lysine per MJ dietary energy ratios for entire male and female pigs from 20 to 100 kg liveweight.

Methodology:

Two experiments were conducted, one from 20 to 50 kg and the other from 50 to 100 kg liveweight, to determine the lysine requirements of entire male and female pigs of the Australian PIC genotype. The available lysine to MJ digestible energy ratios examined from 20 to 50 kgs were 0.6, 0.7, 0.8, 0.9 and 1.0 g available lysine/MJ DE while from 50 to 100 kgs the ratios were 0.4, 0.5, 0.6, 0.7 and 0.8 g Av Lys/MJ DE. In both experiments the pigs were housed in groups of 7 with the pigs weighed and voluntary feed intake recorded weekly.

Key Findings/Conclusions:

- Entire males had a higher lysine requirement than females from 20 to 100 kg LW.
- Generally it has been assumed that entire males and females have a similar lysine requirement from 20 to 50 kg liveweight and the difference in requirement found in this experiment suggests that potentially there may be some feed cost savings in separating male and female pigs in this weight range.
- The results from this experiment have established the lysine requirements for a current Australian genotype which may be higher than the levels currently used by the Australian industry.

Potential Users of Information (including value assessment):

Nutritionists, producers

