Dietary protein intake influences gut health in dogs

Can high-protein diets be too much of a good thing?

Background

Negative effects on gut health in dogs have been attributed to meat-based diets; however, these diets were often higher in crude protein (CP) content.

Aim

To differentiate the effects of protein level and protein source on GI health in dogs

Methods

Meat-based diets (containing poultry meal) were compared to meat-free diets (containing maize gluten and soy meal) in dogs (n = 8) at three levels of CP (16%, 24% and 32%).

Results

Increasing dietary CP intake had a negative effect on the markers of intestinal health measured in our experiment:

- Faecal concentrations of branched-chain fatty acids were highest ($P < 0.05$) in the 32% CP diets.
- Faecal *Lactobacillus* counts decreased ($P < 0.05$) as dietary CP levels increased ($R^2 = 0.10$).
- Faecal amines increased ($P < 0.01$) with increasing CP levels ($R^2 = 0.38$) for the meat-based diets only.

Conclusions

Protein level had a greater impact on gut health than protein source.

Recommendations

High-protein diets are intended for dogs with higher CP requirements (eg. during growth, reproduction and increased activity). Diets should be fed according to their designated purpose as CP ingested in excess of requirements may have a negative impact on animal health.

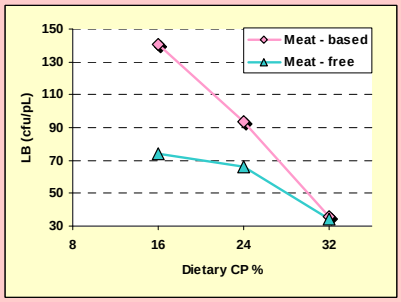

Fig 1 Faecal *Lactobacillus* counts (cfu/pL)

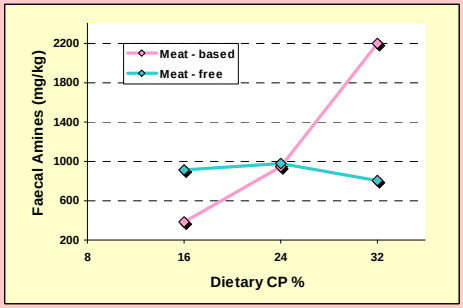

Fig 2 Biogenic amine content of dog faeces (mg/kg)

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