

# Assessment of a new high protein – low carbohydrate diet in cats with chronic gastrointestinal disease

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## Introduction

Dietary therapy plays a major role in the management of most gastrointestinal (GI) disorders. The most commonly used strategy is to feed a highly digestible food.

**The objective of this study was to evaluate the efficacy of a new dry high protein - low carbohydrate (HP-LC) diet intended for the management of chronic maldigestion-malabsorption in cats.**

## Animals, materials and methods

Forty six client-owned cats with chronic GI disease were followed up for 2 months. During the first month (M1), after a 4-day diet transition, they were fed exclusively the tested diet (Table 1). During the second month (M2), they were fed again their usual dry diet.

No medical management was allowed during the study. To describe the clinical improvement, 5 digestive parameters were assessed 6 times: at inclusion, then each week of M1, and finally at the end of M2 (Table 2). Wilcoxon sign rank tests were used for statistical analyses, with a significant threshold of 5%.

**Table 1: Characteristics of the tested diet**

Metabolisable Energy (ME) (kcal/100g)	419
Protein (% ME)	40
Fat (% ME)	45
Carbohydrate (% ME)	15
Soluble fibre (% DM)	1.2
Insoluble fibre (% DM)	10.3
Apparent digestibility coeff of protein (%)	86
Apparent digestibility coeff of fat (%)	91

**Table 2: List of the digestive parameters**

Freq defecation	from <1 to >5 times a day
Faecal score	from 1=dry and firm to 5=watery
Faeces odour	from very slightly odorous (very acceptable) to very odorous (unbearable)
Faeces quantity	from very small to very large
Flatulence	from never to very often (several times a day)

## Results

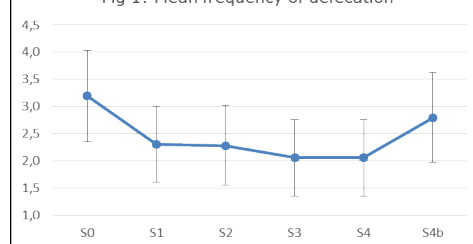
The tested diet resulted in significant improvements as attested by comparison of % cats with normal digestive parameters at the different times of the study (Table 3). The mean frequency of defecation and the mean faecal score significantly improved between inclusion and M1 ( $p<0.0001$ ), and then degraded between the

end of M1 and M2 with the usual diet ( $p<0.0001$ ) (Figures 1 & 2). The improvement was significant within the first week for the 2 parameters ( $p<0.0001$ ). After 1 month fed the tested diet, 72% cats were completely cured (all parameters normal), 26% were partially improved, and only 2% were unchanged.

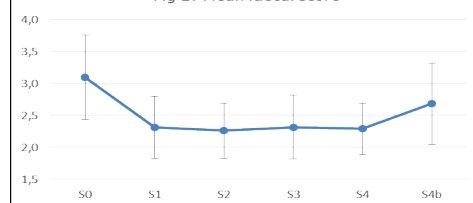
**Table 3: % cats with normal digestive parameters at different time points**

Digestive parameter	Considered as normal when :	% normal cats		
		Inclusion	End M1	End M2
Freq of defecation	$\leq 2$ times/day	15	80	39
Faecal score	$\leq 2.5$	43	91	63
Faeces odour	$\leq$ slightly odorous	0	85	48
Faeces quantity	$\leq$ normal	65	100	74
Flatulence	never	41	98	87

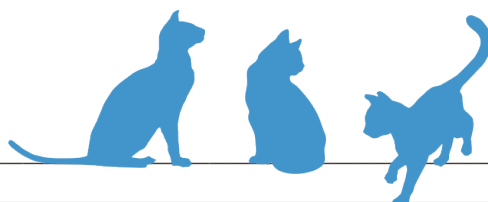
**Fig 1: Mean frequency of defecation**



**Fig 2: Mean faecal score**



## Conclusion



**These results confirm the clinical efficacy of the new highly digestible HP-LC diet for chronic gastrointestinal disorders management and recurrence prevention in cats.**

# Assessment of a new high protein – low carbohydrate diet in dogs with chronic gastrointestinal disease

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## Introduction

Dietary therapy plays a major role in the management of most gastrointestinal (GI) disorders. The common strategy is to feed a highly digestible food.

**The objective of this study was to evaluate the efficacy of a new dry high protein - low carbohydrate (HP-LC) diet intended for the management of maldigestion-malabsorption in dogs.**

## Animals, materials and methods

Forty-seven client-owned adult dogs with chronic GI disorders were followed up for 2 months. During the first month (M1), after a 4-day diet transition, they were fed exclusively the test diet (Table 1). During the second month (M2), they were fed again their usual dry diet.

No medical management was allowed during the study. Five digestive parameters were assessed 6 times: at inclusion, then each week of M1, and finally at the end of M2 (Table 2). Wilcoxon signed rank and Mc Nemar's tests were used for statistical analyses, with a significant threshold of 5%.

**Table 1: Characteristics of the test diet**

Metabolisable Energy (ME) (kcal/100g)	411
Protein (% ME)	33
Fat (% ME)	49
Carbohydrate (% ME)	18
Soluble fibre (% DM)	1.4
Insoluble fibre (% DM)	11.8
Apparent digestibility coeff of protein (%)	85
Apparent digestibility coeff of fat (%)	97

**Table 2: List of the digestive parameters**

Freq defecation	from <1 to >5 times a day
Faecal score	from 1=dry and firm to 5=watery
Faeces odour	from very slightly odorous (very acceptable) to very odorous (unbearable)
Faeces quantity	from very small to very large
Flatulence	from never to very often (several times a day)

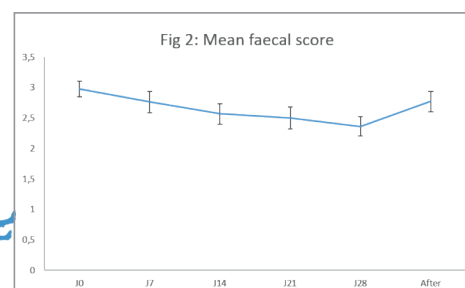
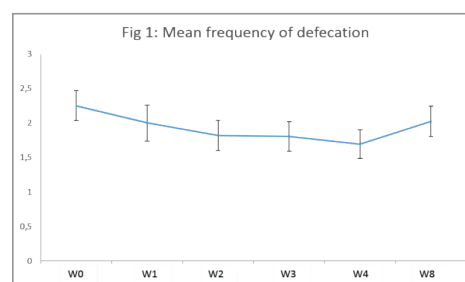
## Results

The mean frequency of defecation and the mean faecal score significantly improved between inclusion and M1 ( $p<0.0001$ ), and then degraded between the end of M1 and M2 with the usual diet ( $p=0.007$  and  $p=0.0005$  respectively) (Figures 1 & 2). Similar development was noticed for all parameters during the 2 months of the study; improvement was seen as soon as the first week of M1 for most dogs (64 to 100% dogs, depending on the parameter). The test diet resulted in clinical

improvement, as attested by comparison of % dogs with normal digestive parameters at the different times of the study (Table 3). After 1 month fed the test diet, 86% dogs were improved.

**Table 3: Dogs (%) with normal parameters at different time points (\* $p<0.05$ , \*\* $p<0.01$ , \*\*\* $p<0.0001$ )**

Digestive parameter	Considered as normal when :	Dogs (%) with normal parameter		
		Inclusion	End M1	End M2
Freq of defecation	<2 times/day	68	93**	73*
Faecal score	≤3	75	95*	80
Faeces odour	≤slightly odorous	2	77***	52**
Faeces quantity	≤normal	59	91**	75
Flatulence	never	2	46***	41



## Conclusion

**This preliminary study shows the benefit of the new highly digestible HP-LC diet for chronic gastrointestinal disorders management and recurrence prevention in dogs.**

References: Guilford WG. J Nutr 1994 ; 124 : 2663S-2669S. Davenport DJ et al. Small Anim Clin Nutr 2010 ; 1065-1074. Davenport DJ et al. Small Anim Clin Nutr 2010 ; 1135-1141.

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