

### EFFECTS OF SHORT-CHAIN FRUCTOOLIGOSACCHARIDES SUPPLEMENTATION DURING WEIGHT LOSS ON LIPOPROTEIN CONCENTRATIONS IN DOGS

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Obesity is the most common nutritional disease in the dogs. In human subjects or in dogs, obesity is frequently associated with modifications in blood lipid concentrations. Short-chain fructooligosaccharides (sc-FOS) are synthetic indigestible oligosaccharides of small length (2 to 4 units) which have prebiotic and dietary fibre properties. Sc-FOS supplementation is sometimes used in hyperlipidemic obese patients according to their hypothesized hypolipidemic properties. The present study in the dog investigated the long term effects of weight loss (WL) induced by a low-energy high-protein diet, offered alone or supplemented with sc-FOS, on blood lipids concentrations.

Twelve chronically obese Beagle dogs of both genders and aged between three and nine years were used. Mean body weight (BW) was  $22 \pm 0.8$  kg. The obese dogs were allotted in two subgroups and submitted to a WL protocol with a commercial low-energy high-protein diet<sup>1</sup> supplemented or not with 2% sc-FOS until they reached their optimal BW. Finally, the dogs were maintained at their optimal BW for 6 months; during this period, dogs were fed a maintenance diet<sup>2</sup> alone or supplemented with 3% sc-FOS.

Weight loss with low-energy high-protein diet, supplemented or not with sc-FOS, resulted in a significant decrease in blood lipid concentrations and this decrease was maintained during the 6 months of observation at constant BW. Although the hypolipidemic effects of sc-FOS during the weight loss protocol were not always significant, straight decreases in blood lipid concentrations were observed, mainly for total plasma cholesterol, HDL cholesterol, total plasma triacylglycerol and VLDL triacylglycerol concentrations.

#### Footnotes

<sup>1</sup>34% protein, 10% fat, 15% carbohydrate, 15% crude fiber, 8% water, 2900 kcal/kg, as is

<sup>2</sup>24% protein, 16% fat, 38% carbohydrate, 2.5% crude fiber, 8% water, 4100 kcal/kg, as is