

Grass-eating behaviours in the domestic dog, *Canis familiaris*,
in response to a mild gastrointestinal disturbance

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The purpose of grass-eating behaviour in the domestic dog remains unknown. The current study investigated the theory that grass consumption could be used to modulate gastrointestinal distress. We hypothesized that dogs would spend more time eating grass when they had diarrhoea compared to when they had normal stools. Using a cross-over design, twelve mixed-breed dogs were fed a standard diet with and without supplementation of a fructooligosaccharide (FOS), which temporarily induced loose stools, to simulate a mild gastrointestinal disturbance. The number of defecations per day, faecal consistency and faecal dry matter were determined. During both phases, dogs were presented with pots of couch (*Cynodon dactylon*) and kikuyu (*Pennisetum clandestinum*) grasses and the time spent eating grass and the number of grass-eating, grass-interaction and vomiting events were recorded. The FOS-supplemented diet did induce loose, watery faeces as demonstrated by significantly greater faecal consistency scores ($p < 0.001$) and significantly reduced faecal dry matter content ($p < 0.001$) compared to the standard diet. The current study made several novel findings. Dogs exhibited a significant preference for kikuyu compared to couch grass during both FOS-supplemented ($p = 0.01$) and standard diet periods ($p = 0.004$). Dogs did not use grass as an emetic, as there were only 2 vomiting events and 374 grass-eating events observed. Dogs spent significantly ($p = 0.03$) more time eating grass when fed the standard diet and producing normal stools than when they were fed the FOS-supplemented diet and producing loose stools. Contrary to our hypothesis, the results of this study do not support the theory that dogs eat grass in response to a diarrhoeal gastrointestinal disturbance. For further clarity, future research should examine the effect of other gastrointestinal disturbances, such as constipation (hard, dry stools) or nausea, on grass-eating behaviour in the domestic dog.

Keywords: *Canis familiaris*, diarrhoea, domestic dog, feeding behaviour, fructooligosaccharide, grass eating

First choice: oral presentation

Second choice: poster presentation