



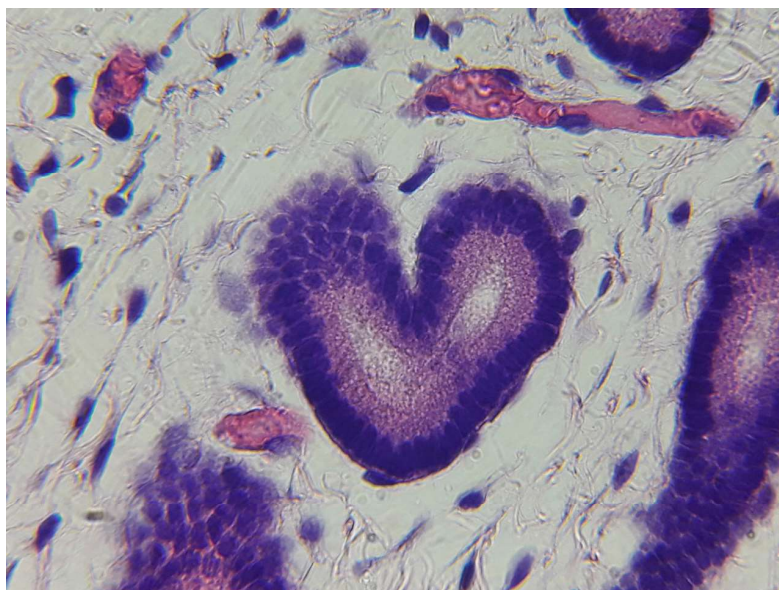
# Proceedings of the 6<sup>th</sup> FARAH-Day

Faculty of Veterinary Medicine  
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*One Health*

L'Animal et l'Homme, une même santé



## Posters

### 47. The modification of microbiota after intoxication with hypoglycin A: preliminary study

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Hypoglycin A (HGA) is a toxin found in the *Sapindaceae* botanical family. This toxin causes atypical myopathy in equids, Jamaican vomiting sickness and encephalopathy in human. Eukaryotic cells metabolize HGA in its toxic metabolite. The intestinal microbiota is able to metabolize branched amino acids through an enzymatic system similar to that used to metabolize HGA in mammals. Thus, two questions arise: does the HGA modify the microbiota and, is the toxin metabolized by the microbiota? The purpose of this preliminary study was to answer to the first question owing to the Simulator of Human Intestinal Microbial Ecosystem (SHIME<sup>®</sup>) that enables to study microbiota in different parts of the intestinal tract. After the introduction of a microbiome and a stabilization period, purified HGA (6000 µg) was added to the daily diet of the SHIME<sup>®</sup> for one week. Samples were taken in ascending colon (AC), transverse colon (TC) and descending colon (DC). Alpha diversity indices were used to quantify diversity status. Bacterial taxonomy profiling was obtained by V1V3 16S amplicon sequencing. The concentration of volatile fatty acids (VFA; acetate, propionate, butyrate) were analyzed by solid phase microextraction, gas chromatography and mass spectrometry.

After the stabilization period, the bacterial phyla and the ratio in VFA were similar from those described in the literature. After HGA intoxication, a dysbiosis was noted with (1) a general decrease of VFA, (2) a decrease in diversity index in TC and DC, (3) a sharp decrease in *Lachnospiraceae* family and an increase in *Enterobacteriaceae* family and (4), a variation in the ratio between acetate and propionate. In conclusion, HGA modified the microbiota of the SHIME<sup>®</sup>.

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### 48. Handlers' practices in feeding canicross dogs

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Canicross is a human-animal teamwork in a cross-country run. The dog is harnessed and hitched to the runner by a 2 meters elastic leash. This new sport becomes popular as a leisure and competitive sport. Nevertheless, data for the canicross dogs' nutritional requirements are scarce. The aim of this study was to collect data on handlers' practices. A paper survey was distributed to canicross runners, during competitions in Belgium, from January to June 2017. Dogs' data were collected from 156 questionnaires and the composition of 67 dry food-based diets was studied. Dogs were  $3,5 \pm 2$  y old; the sex ratio was 60% males and 40% females; the half being neutered. The mean ( $\pm$  SD) dogs' BW was  $25 \pm 8$  kg. The mean BCS was of  $2.4 \pm 0.7/5$ . Owners reported  $11 \pm 8$  h/week of total activity. The mean composition of the dry diets was (% dry mater (DM)): crude proteins (CP)  $32 \pm 6$ , nitrogen-free extract (NFE)  $34 \pm 11$ , lipids  $19 \pm 4$ , metabolizable energy (ME)  $394 \pm 33$  kcal/100g. Proteins provided  $27 \pm 5\%$  ME, lipids  $41 \pm 6\%$  and NFE  $32 \pm 9\%$ . Dogs received  $132 \pm 38$  kcal ME/kg BW<sup>0.75</sup>/day (80 – 222). This variability can be explained by at least the differences in activity level. Extra lipids were given to 45% of the dogs and 74% received leftovers and treats. Handlers used to give a variety of energy supplements just before or after the race. According to the owners, from the moment they start canicross, 42% of dogs had no BW change; 30% lost weight and 25% gained muscles. In conclusion, each handler has his own feeding and training practices but no nutritional guidelines are available. Dogs receive high energy food but the study shows that nearly half of the dogs are underweight.