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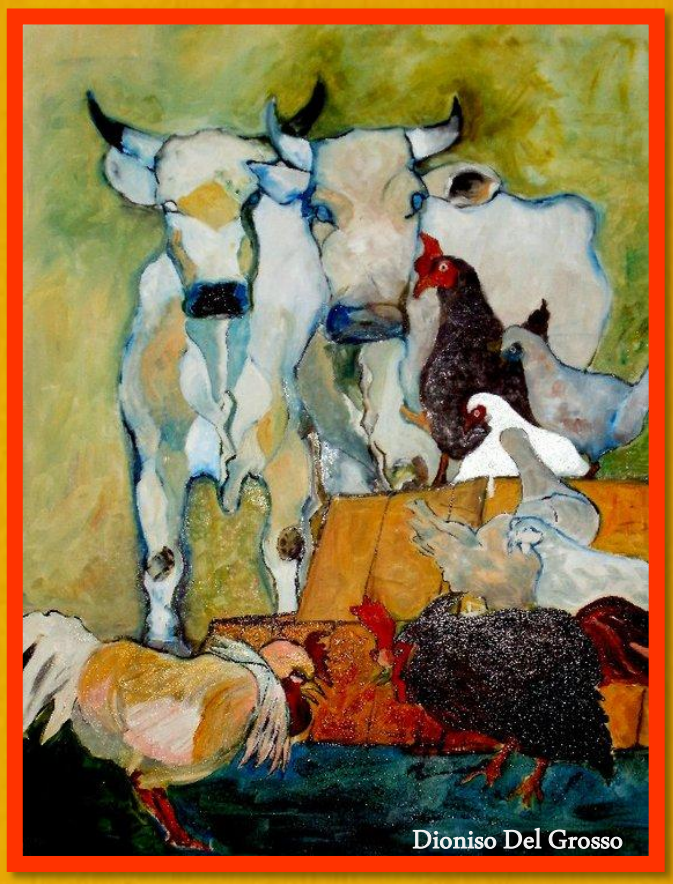

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XVIII Convegno SICV

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XV Convegno AIPVET

X Convegno ARNA

V Convegno RNIV

II Convegno ANIV

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CITTA' DI TORINO

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72° CONVEGNO SISVET

EVALUATION OF DIETARY INFLUENCE AND ABILITY OF HEMOCCULT® KIT TO DETECT OCCULT BLOOD IN FAECES OF HEALTHY DOGS.

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The guaiac-based faecal occult blood (FOB) test is still widely used for colorectal cancer screening in humans. In dogs, this assay has been reported to be able to detect FOB after oral administration of 20 mg of haemoglobin/kg body weight (mghgb/kgbw) of autologous blood [1]. Unfortunately, different diets have been reported to influence guaiac-based FOB tests [2,3]. The aims of this work, using the Hemoccult® assay, were: 1) to evaluate the ability to detect FOB in healthy dogs and to assess the influence of two diets; 2) to establish the influence of the time between faecal sampling and test results; 3) to find the lowest canine haemoglobin concentration to achieve all positive tests. This work was approved by the local Ethics Committee (n.56961). Five healthy dogs were enrolled and each dog was fed initially (day1) with a meat-free protein diet (HA Purina®) for 28 days. On day6, day10, day14, day18 and day22 dogs were fed with progressive doses of autologous blood (5, 15, 20, 25 and 40 mghgb/kgbw, respectively). The faeces of each dog were tested with Hemoccult® assay the day before starting HA diet (day0) and every defecation from day4 to day28. From day29, dogs switched from HA to gastrointestinal diet (EN Purina®) with 8 days of wash-out. Thereafter, the same schedule described above was applied to each dog fed with EN diet from day35 (day before starting EN) to day63. During the study period, no extra foods were allowed, apart from fresh or whey cheeses. Two-month after, one out of 5 dogs was fed again with HA diet for 10 days and 40 mghgb/kgbw of autologous blood was administered on day5. Faeces were tested the day before starting HA diet and 6, 18 and 42 hours after the blood-added meal. For each of these latter three time points, 7 test cards were simultaneously mounted. For each set of seven cards, test cards were assessed every two days until 14-day after collection. Finally, canine whole blood (18.0 ghgb/dL) was progressively diluted in saline solution and each dilution was directly applied on a set of three test cards until a negative result was found. Only a descriptive statistic was applied to the collected data. For the first aim, a total of 185 Hemoccult® tests were examined. Twelve (6.5%) were positive and no association between positive tests and administered amount of blood was found. None of the blood-free stool specimens was positive. Regarding the second set of samples, only one resulted positive, which was collected 42 hours after the blood meal and developed 12 days after card preparation. Finally, 6.5 µghgb/mL was the lowest concentration of fresh blood able to achieve 3/3 positive tests. In conclusion, Hemoccult® was not influenced by both HA and EN diets, but its reproducibility to detect FOB in stools was unsatisfactory. Although, Hemoccult® was able to detect up to 6.5 µghgb/mL when directly added to the card, the individual blood digestion and bowel transit time might be play a role on its poor reproducibility.

[1] Gilson SD, et al. Evaluation of two commercial test kits for detection of occult blood in feces of dogs. Am J of Vet Res. 51:1385–87, 1990. [2] Cook A, et al. Effect of diet on results obtained by use of two commercial test kits for detection of occult blood in feces of dogs. American Journal of Veterinary Research. 53:1749–51, 1992. [3] Rice JE & Ihle SL. Effects of diet on fecal occult blood testing in healthy dogs. Canadian Journal of Veterinary Research. 58:134–7, 1994.