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T63 In vivo and in vitro procedures for measuring coat quality after dietary manipulation in dogs.

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A standardized methodology, noninvasive and practical procedure to assess coat quality in companion animals has not been described in the literature. Beneficial effects of probiotic supplementation on animal and human health have been reported. The objective was to determine whether probiotic supplementation could improve coat quality in healthy dogs using noninvasive procedures. Sixteen beagles were divided in 2 groups of 8 dogs: control (T1) and treatment (T2) supplied with 1 g/kg of ingested food of a mixture of *Bacillus amyloliquefaciens* CECT 5940 and *Enterococcus faecium* CECT4515 (5×10^8 cfu/g each strain) from Norel S.A. Procedures were carried out after the supplementation period (D1) of 39 d and after 56 d of non probiotic supplementation (D2). Each animal was evaluated by 4 trained observers who recorded different scored parameters (visual brightness, softness and optimum coat feel). These scores resulted in a final hair condition score (HCS) between 3 (less valued) and 7 (more valued). Colorimetry was used for measuring light intensity (L^*) in the parietal area by MiniScan 45/0 Lav of HunterLab. Hair samples were taken to perform an in vitro challenge. The ability of *Microsporum canis* to degrade hair's structure and develop drilling organs was used as resistance or susceptibility indicator. Data was analyzed using the MIXED procedure of SAS. On D1, T1 and T2 had similar HCS (5.34 vs. 5.36). T2 showed lower HCS in D2 than D1 ($P = 0.02$) whereas no differences were found in T1. Concerning L^* , the interaction of the main factors was statistically significant ($P = 0.047$). T2 showed greater L^* in D1 than D2 (39.19 vs. 36.83 ± 1.873 ; $P = 0.054$). However, L^* values in T1 were not different between days. No drilling organs were observed in T2 on D1, but on D2 they were detected in half of T2 samples. However, T1 showed drilling organs in both sampling periods. Data suggest differences in the coat quality after the nonprobiotic supplementation period. The combination of hair condition score, colorimetry and in vitro hair culture could be used to evaluate changes on hair quality in dogs related to dietary manipulation.

Key words: dogs, hair quality, probiotic

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