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Book of Abstracts

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increased the abundance of *Bacteroides* genus ($p < .05$). In conclusion, the high buffering capacity of HCa diet, favours microbial genera associated with gut dysbiosis, and could explain the expression of genes related to the inflammatory response, which may cause more energy expenditure with detrimental effect on growth.

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Suitability of oil seed cakes as livestock feeds: preliminary results

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Increased pressure for land use and higher cereal grain prices have resulted in significantly higher feed costs for ruminant livestock. On the other hand, in the last few years, an increasing supply of new byproduct feeds, many derived from oil extraction became available. In this work, four of these byproducts, among the most diffused in Campania Region, were analyzed with the goal of evaluating if they would be suitable as livestock feeds. The following cakes were evaluated: Po, Pomegranate (*Punica granatum*); Th, Thistle (*Cynara cardunculus*); To, Tobacco (*Nicotiana tabacum*); He, hemp (*Cannabis sativa*). For each cake, three samples of different origin were analyzed in duplicate according to the Weende (dry matter DM; crude protein CP; fat; ash), Van Soest (neutral and acid detergent fibre, NDF and ADF; acid detergent lignin; ADL) and CNCPS (soluble proteins, SP; non-protein nitrogen, NPN; neutral and acid detergent insoluble protein, NDIP and ADIP; starch) schemes. For all samples ash content (%DM) was below 10% (overall mean 5.1 ± 1.2 sd), ranging from 4.0 ± 0.1 of Po to 7.1 ± 0.1 of He. The fat content (%DM) was relatively high for almost all cakes (7.5 ± 0.6 , 15.7 ± 4.6 , and 10.2 ± 0.8 , respectively for Th, To, and He), except Po (0.9 ± 0.1). The CP levels (%DM) were quite variable, being 14.7 ± 0.3 , 20.0 ± 0.6 , 37.1 ± 2.5 and 29.0 ± 2.8 , respectively for Po, Th, To and He. In addition, SP (%CP) largely fluctuated, being respectively 2.8 ± 1.8 , 54.9 ± 2.3 , 31.0 ± 1.5 and 14.5 ± 1.6 . By contrast, the levels of NPN %CP (overall mean 2.1 ± 0.7), and NDIP %CP

(16.7 ± 2.7) were quite constant among and within the cakes. Limited variability was observed also for ADIP %CP (9.1 ± 1.4) that it is assumed the unavailable protein fraction. Starch content (%DM) was not detectable in To, and was generally low (5.6 ± 0.4 , 5.0 ± 1.6 , 5.6 ± 2.5 , respectively for Po, Th and He). Regarding the fiber, all cakes, but Po, showed relatively limited contents of NDF %DM (71.9 ± 0.7 , 46.4 ± 2.9 , 48.8 ± 2.6 , 51.1 ± 2.6 , respectively for Po, Th, To and HeC), and ADF %DM (50.8 ± 0.6 , 32.8 ± 2.1 , 32.9 ± 1.8 , 32.3 ± 1.5). High ADL (%DM) level were found for Po and To (11.1 ± 0.1 and 11.4 ± 0.4), whereas for the other cakes the values were 5.2 ± 2.0 (Th) and 6.3 ± 0.8 (He). Overall, Th, To, and He cakes showed interesting nutritional features in terms of protein and fiber content suggesting their potential utilization supplement for ruminants, whereas the use of Po may be not recommended as a feedstuff.

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Use of camelina seed (*Camelina sativa*) by-products in diets for feedlot lambs: effects on productive results

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The by-products of camelina seed (*Camelina sativa*) oil extraction are husks and meal, both rich in neutral detergent fibre (52-60% and 32-35%, respectively). Camelina meal is also rich in crude protein (34-37%). In the present work, the effect of the inclusion of camelina by-products in the concentrate feed of feedlot lambs was studied. A total of 105 male lambs of the Manchego breed (35 ± 7 d of age and 13.9 ± 1.7 kg of initial body weight), kept in a commercial farm, were used. The lambs were randomly assigned to one of three treatments (5 replicates of 7 animals per treatment): Control (CON, concentrate based on cereals and soybean meal, and similar to commercial concentrates), Camelina (CAM, where camelina meal replaced 50% of the crude protein from the soybean meal in the control feed), and Fibrous (FIB, concentrate without cereals nor soybean meal, with camelina meal and husks, and 20% less energy). Body weight and feed intake were recorded on a weekly basis for 42 d. On day 42, two lambs from each replicate having the body weight closest to the average of the replicate were tagged to track