

Variance and covariance components were estimated using a model implemented in a Bayesian framework using the software GIBBS3F90; 500,000 iterations were run discarding the first 200,000 samples as burn-in and storing samples every 100 iterations (i.e. 3000 chains were available for marginal posterior density analysis). RFI resulted 0.002 ± 0.759 kg/d on average (min. -2.443 kg/d, max 1.985 kg/d), with significant differences between breeds: i.e. 0.091 ± 0.768 for PRI, -0.334 ± 0.648 for RE, and -0.278 ± 0.641 for AG. Genetic variance of RFI resulted 0.1017 ± 0.3189 kg²/d², while heritability was 0.263 ± 0.176 . From these preliminary results, it seems that RE and GA resulted more efficient than PRI, but a larger dataset is needed for more definitive conclusions. Despite the large marginal posterior standard deviation of heritability, this preliminary analysis confirmed the presence of a genetic component for RFI.

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Residual biomass from the oil sector as animal feed: preliminary data on chemical and microbiological contamination

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In recent years, the design of 'zero waste' supply chains has taken on incredible importance. In the past, residual biomass has been treated as a waste product. However, the perspective has changed: residual biomass is now considered a useful service for the ecosystem. The olive oil supply chain is certainly one of the most promising supply chains. In addition to oil for human consumption, there are numerous by-products, usually real waste, whose disposal is very expensive. Hence, it is necessary to identify a possible reuse of these by-products. Among these, the olive pomace, rich in antioxidant substances such as carotenes, anthocyanins, tocopherols and polyphenols, can be used in various contexts, including the food industry and the zootechnical sector. A significant aspect in this context is related to the safety of by-products. This study aims at evaluating residues of chemical and biological contaminants in samples of the totally pitted dried olive cake characterized by 16% (dry matter 93.85%) of olive oil content, for animal feed use. The samples were collected from 3

big bags containing 1500 kg of olive cake each. The content of 28 mineral elements, including the potentially toxic ones, was assessed via ICP-MS. The concentration of 142 organic contaminants (PCBs, IPA, pesticides) was assessed via GC-MS. In addition, hygiene indicators were determined. The concentrations of Pb, Hg and As (0.01 mg/kg for each element) in the olive cake samples were lower than the maximum levels set by the UE 2015/186 Regulation. Among the organic contaminants, residues of very few contaminants were found, some of which not even mentioned in the current regulations. From the preliminary microbiological data, no value index of a possible contamination of this matrix emerged. To conclude, given the reassuring results obtained from the preliminary analysis and the almost total absence of chemical and microbiological contaminants, optimal use of dried olive cake as animal feed would be desirable. However, in the future, we will try to deepen, improve and optimize the quality of this matrix for the intended purpose.

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Introduction of innovative strategies in dairy sheep feeding on milk production and climate change

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The objective of the present study was to assess the effect of the introduction of innovative strategies in dairy sheep feeding on milk yield and quality and on the environmental impact. Three traditional dairy sheep farms (TF) were compared with three innovative dairy sheep farms (IF) in terms of milk yield and quality and environmental impact. TF dairy farms adopted a semi-intensive system based on annual crop forages mainly composed of oat and clover, integrated with commercial concentrate feed composed by mix of cereals, and soybean meal and agri-industry by-products. IF dairy farms adopted a semi-intensive system based on the introduction of perennial forage crops (mainly legumes) and extruded linseed and soybean oil as ingredients of concentrate feed. Moreover, in the IF dairy farms, a precision feeding approach based on the Cornell Net Protein and Carbohydrates System was adopted, for the optimization of the