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**Meeting nutritional needs to ensure dairy donkeys' welfare***F. Raspa<sup>1</sup>, D. Vergnano<sup>1</sup>, L. Cavallarin<sup>2</sup>, A. McLean<sup>3</sup>, M. Tarantola<sup>1</sup> and E. Valle<sup>1</sup>**<sup>1</sup>University of Torino, Veterinary Sciences, L. Braccini 2, 10095 Grugliasco, Italy, <sup>2</sup>ISPA-CNR, L. Braccini 2, 10095 Grugliasco, Italy, <sup>3</sup>UC Davis, One Shields Av., Davis, CA 95616, USA; dianavergnano@libero.it*

The increasing scientific interest on donkey milk in paediatric nutrition has led to an enhanced number of dairy donkey farms in Europe. Amongst other aspects, there is the need of a better comprehension of dairy donkeys' nutritional welfare with the aim to satisfy their nutritional needs. Few attempts have established the nutritional needs of donkeys during lactation. In order to provide an overall nutritional assessment, management-based indicators should be evaluated as hazards that may affect dairy donkeys' nutritional welfare, since they are essential to correctly manage dairy animals. Moreover, animal-based indicators should be assessed to explore conditions that may influence feed intake, feeding behaviour and nutritional requirements. Currently, just BCS and skin tent test are proposed to evaluate the 'Good Feeding' Principle. However, BCS is not a measurement of past nutrition and doesn't evaluate current nutritional status or needs. Therefore, more studies are necessary to comprehend the nutritional requirements of the jenny. Some information can be extrapolated from the available literature about the average daily milk yield produced and the foal's daily weight gain in the first six months of life. Based on this information it is possible to perform some proposals and calculate the energy requirements (ER) for milk production adding it to the maintenance ER. For example, the ER for 5 litres of milk produced by a jenny of 300 kg BW could be 3.04 Mcal NE. No data are available for dairy donkeys' protein requirements; but some indications can be found from the 2015 INRA system, estimating the protein requirement 33 g MADC/kg milk produced, in addition to the maintenance requirement. Vitamins and mineral requirements for lactating donkeys are unknown, but it seems that feeding management influences the fat-soluble vitamin concentration of milk. Understanding nutritional requirements of dairy donkeys is necessary to meet their welfare. The suggestion to evaluate BCS is not sufficient and nutritional requirements should be taken into account.