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The value of cow signs in assessment of the quality of nutrition on dairy farms

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The quality and quantity of the nutrition of dairy cattle affects their productivity, health and reproduction. As a consequence it is an important profit driver. Hence, the assessment of the quality of nutrition is a very important task for anyone dealing with dairy cattle. The most commonly used method of assessment of the adequacy of nutrition is by taking representative samples and carrying out a nutritional (feed) analysis. From the variety of approaches to assessment 'cow signs' which are behavioral, physiological and management parameters that can be observed and measured without instrumentation and laboratory analyses will be discussed. The important cow signs related to nutrition include signs related to the general condition of cattle (e.g., mentation and hair coat, body condition score), behavioral signs related to feeding (e.g., appetite, thirst, prehension and rumination) and physiological parameters related to feeding (rumen fill, fecal score and fecal digestibility scoring). The interpretation should be based on the current best evidence-based information. Diagnosis of a problem is therefore based on establishing a farm profile of cow signs. Routinely collected herd data, such as milk production and composition, nutritional analysis, fertility indexes and body condition scoring records will be discussed. Their potential value in estimating nutrition is recognized and but they are already elaborated elsewhere. The intention of this workshop is to provide practitioners, nutritional consultants and scientists and/or clients with an additional toolbox that can be used in assessment of the nutrition of dairy cattle.

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Protective effects of rutin on acute lung injury induced by oleic acid in rats

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The purpose of this study is to explore the protective effects of different doses of rutin with the antioxidant and anti-inflammatory properties on acute lung injury (ALI) induced by oleic acid (OA) in rats. 35 Sprague-Dawley male rats were randomly separated into five groups: comprising: Control, rutin 150 mg, OA, rutin 75 mg+OA and rutin 150 mg+OA. In the rutin 75 mg+OA group, the malondialdehyde level (MDA) was significantly lower than that of the OA group. In the rutin 75 mg+OA group, the GPx, GSH, CAT and SOD levels were significantly higher than those of the OA group and significantly lower than those of the control group. In the rutin 150 mg+OA group, the MDA level was significantly lower than that of the OA group. In the rutin 150 mg+OA group, the GPx, GSH, CAT and SOD levels were significantly higher than those of the OA group and when compared to the control group the GPx, CAT and SOD levels did not have any difference but the GSH levels were significantly lower. In the rutin 75 mg+OA and rutin 150 mg+OA groups, iNOS expressions in the interstitial parts of the lungs were significantly lower than those of the OA group. The iNOS expression was lower in the 150 mg+OA group compared to the rutin 75 mg+OA group. It was concluded that on the ALI induced by OA, rutin had protective effects through the antioxidant and anti-inflammatory properties and that this protective effect of rutin was higher in the 150 mg/kg dose compared to the 75 mg/kg dose and that the application of rutin as a supportive treatment in ALI would be beneficial.

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