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Investigation of handling, storage quality and traceability of dairy cattle concentrates used in Central Province, Sri Lanka

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This study was conducted to investigate traceability and the moisture levels with respect to the storage conditions of different dairy cattle concentrates used in selected dairy farms in Central Province, Sri Lanka. AOAC official method 934.01 was used to analyse the moisture content. ANOVA (MINITAB 17) was used to conduct the statistical analysis with 95% significance level. Sixty four dairy farms were selected for the study. Twenty four of the selected farms were using coconut oilcake. Oilcake were purchased from six shops. 83.33% of the shops did not have information about the source of the products. None of the products contained traceability and nutritional composition details. Six farms were storing their products on the floor without a sealing well which elicited mean percentage moisture value of $6.42 \pm 0.01\%$. Fourteen farms were storing their product on pallets without a sealing well and showed mean moisture value of $8.15 \pm 0.02\%$. Only four farms were storing coconut oilcake cattle concentrate on pallets with a sealing well; elicited mean moisture value $4.51 \pm 0.01\%$. There was a significant difference ($p < 0.05$) of moisture content between products stored on pallets without a sealing well and products stored on pallets with a sealing well. Forty of the other farms were using formulated cattle feed as their dairy cattle concentrate. They were purchased through authorized agents. Source of all the products are known and 75% of the products consist traceability and nutritional composition details. Sixteen farms were storing the product on the floor without a sealing well; elicited mean moisture value $9.67 \pm 0.01\%$. One farm storing their product on the floor with a sealing well showed moisture level of 10.98%. Six farms storing them on the pallets without a sealing well showed a mean moisture value of $9.43 \pm 0.01\%$. Seventeen farms were storing their product on the pallets, well-sealed; elicited mean moisture value of $10.54 \pm 0.01\%$. There was no significant difference ($p > 0.05$) between the moisture content with respect to the three storing methods used to store formulated dairy cattle concentrate. Hence, this provides an indication that coconut oilcake require careful sealing and storing since it has a greater tendency to absorb atmospheric moisture rapidly. Overall moisture absorption levels of formulated dairy cattle concentrates are not dependable on sealing and storage methods. It is also recommended to provide product information for coconut oilcake.

Keywords: Cattle concentrate, moisture, storage quality, traceability