

In Vitro Methods for Measuring the Dry Matter Digestibility of Ruminant Feedstuffs: Comparison of Methods and Inoculum Source

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We conducted this study to evaluate the new in vitro system, DAISY^{II}, to determine dry matter (DM) digestibility in ruminant feedstuffs. Results from the DAISY^{II} were compared to those obtained by the traditional Tilly and Terry method. The traditional method buffer was used for both methods. We also compared two sources of rumen inoculum from sheep and dairy cows. Seventeen different feeds were tested, grouped into roughage, concentrate, and CP supplements. The experiment was replicated on two different occasions for all feeds and the two sources of inoculum. The source of inoculum and the time at which it was collected had no effect on the in vitro DM digestibility of the feedstuffs in either of the methods. The DAISY^{II} DM digestibility value compared well with the traditional method values for the roughage group; however, for some feedstuffs in the concentrate and CP supplement groups, the DAISY^{II} values were significantly higher than the traditional method values. Regression analysis of the feeds that resulted in similar values with the two methods revealed that the DAISY^{II} method can be used to predict in vitro digestibility with relatively small variation.

Key Words: in vitro • dry matter digestibility • inoculum • rumen

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