Estimating Dry Matter Losses in Rain-Damaged Orchardgrass and Bermudagrass Hays Using Simulated Rainfall and Internal Markers. (C06-coblentz105050-Poster)

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Abstract:

The objective of this study was to evaluate concentrations of fiber components (NDF, ADF, cellulose, hemicellulose, and lignin) and acid-detergent insoluble ash (ADIA) for their effectiveness as internal markers to accurately predict losses of DM in bermudagrass and orchardgrass hays that were damaged by simulated rainfall. Actual losses of DM determined using gravimetrical techniques increased for both forages in response to simulated rainfall ($P < 0.023$). For both forages, concentrations of NDF, ADF, cellulose, hemicellulose, and ADIA increased in primarily linear ($P < 0.030$) patterns with simulated rainfall. Recoveries of fiber components were high (> 982 g/kg), and did not change in response to artificial rainfall for orchardgrass ($P > 0.115$) or bermudagrass ($P > 0.063$) forages. Linear regressions of predicted losses of DM on actual losses were good (r-squared > 0.727; $P < 0.031$) when any fiber constituent or ADIA was used as an internal marker, but NDF was especially effective ($Y = 1.12X - 5.1$; r-squared = 0.971; $P < 0.0001$). These data indicate that DM loss can be predicted accurately when fiber constituents are used as internal markers.

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