

## Estimating Digestibility in Eastern Gamagrass

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Many livestock producers use estimated digestibility to assess forage quality. Current digestibility equations do not adequately estimate the forage digestibility of eastern gamagrass [*Tripsacum dactyloides* (L.) L.]. Objective of this study was to determine if forage quality estimates for acid detergent fiber (ADF), neutral detergent fiber (NDF), crude protein (CP) and lignin (L) of eastern gamagrass could be regressed on in vitro dry matter digestibility (IVDMD) to estimate the digestibility of the grass. Samples used in the study were collected from an eastern gamagrass accession (9062680) harvested on 30 and 45 day intervals in 1996-1998. Average IVDMD for 30 and 45 day intervals was 78 and 76%, respectively. Average CP, ADF and NDF for the 30 day interval was 11%, 37% and 71%, respectively. Average CP, ADF and NDF for the 45 day interval was 9%, 39% and 70%, respectively. Average L for 30 and 45 day intervals was 7 and 9%, respectively. Stepwise regression for general linear models was used to analyze data by year and over years. Regression analysis gave different equations each year. In 1996 the equation was  $IVDMD = 85.6 - 0.33 * NDF + 1.6 * CP + 0.24 * L$  ( $R^2 = 0.65$ ,  $P = 0.0001$ ). In 1997 the equation was  $IVDMD = 67.7 - 0.27 * ADF + 0.22 * NDF$  ( $R^2 = 0.16$ ,  $P = 0.0242$ ). In 1998 the equation was  $IVDMD = 77.3 - 0.43 * L$  ( $R^2 = 0.19$ ,  $P = 0.0112$ ). When combined over years, no combination of factors produced a consistent equation. However, ADF and CP were found to be a weak primary influence. The overall equation produced by ADF and CP was  $IVDMD = 77.9 - 0.21 * ADF + 0.56 * CP$  ( $R^2 = 0.13$ ,  $P = 0.0004$ ). Additional verification will be required before a common equation to estimate the digestibility of eastern gamagrass can be derived.