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**Comparison of acetyl bromide lignin with acid detergent lignin and Klason lignin  
and correlation with *in vitro* forage degradability**

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Highlights

We compared three methods for quantifying lignin concentration in grass and legume.

Acetyl bromide lignin method yielded the highest correlations with degradability.

Acid detergent lignin and Klason lignin showed low correlations with degradability.

Degradability curve of grasses was steeper than legumes with acid detergent lignin.

Degradability curves of grasses and legumes were parallel with acetyl bromide lignin.

Abstract

The spectroscopic acetyl bromide lignin (ABL) and two versions of the gravimetric sulfuric acid lignin method [Lignin (sa)] were compared for their correlations with *in vitro* forage dry matter (IVDMD) and neutral detergent fiber degradability (IVNDFD) assays of 73 grass and legume samples. The two versions of Lignin (sa) were the acid detergent lignin (ADL) and Klason lignin (KL) methods. ABL and KL methods employ crude cell wall as the fibrous preparation while ADL uses acid detergent fiber. *In vitro* forage measures of degradability were negatively correlated with almost all lignin values, but the ABL method had the highest

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