

## **Improving estimates of fiber digestibility and rate of NDF digestion for alfalfa and grasses**

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Dairy feeding trials have shown that total tract NDF digestibility of alfalfa is higher than for corn silage (47.3 % of NDF versus 40.2% of NDF (summary of 20 trials for alfalfa and 25 trials for corn silage). These studies also suggest a significant range in NDF digestibility of each forage type. For laboratory analysis to estimate this *in vivo* data, it should be in similar ranges. An accurate estimate of the rate of fiber digestion is critical for predicting *in vivo* fiber digestion. Rate of NDF digestion has been calculated assuming a certain lag time for digestion to begin and using a fixed *in vitro* digestion time point. But this approach has not been validated against *in vivo* measurements. It is possible to estimate *in vitro* digestibility at 24, 30 and 48 hours and calculate rate of digestion from the natural log of digestible fiber remaining at three time points. This process eliminates some of the errors of previous procedures. More importantly, this procedure indicated a range in rate of digestion of 1.33 to 15.62 %/hr for alfalfa and 0.33 to 10.26%/hr for grasses, indicating a large environmental and (potentially) genetic range.