



# FORAGE LAB AUSTRALIA

Powered by Cumberland Valley Analytical Services USA

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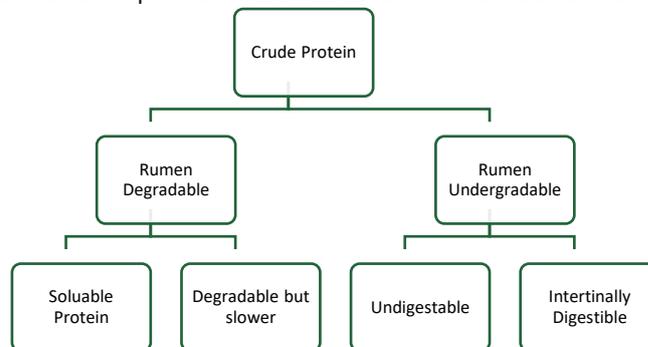
## MULTI-STEP PROTEIN EVALUATION (MSPE)

Multi-Step Protein Evaluation test (MSPE) is a multistage wet chemistry assay performed at the FLA parent lab, Cumberland Valley Analytical Services in the United States, based on work by Dr. Debbie Ross and Dr. Mike Van Amburgh.

The assay provides steps that model the ruminal In Vitro evaluation of feed material using rumen fluid, followed by treatment sequentially with acid and enzymes to model post ruminal digestibility. MSPE provides ruminant availability and intestinal digestibility values that relate to real world digestion.

This characterisation of the protein fractions is a more valuable tool than just simple crude protein ( $N \times 6.25$ ), and further its superior to a simple RDP/UDP position.

MSPE provides a report that identifies the protein fractions of a feed that include the following:



Plus, total tract Digestibility estimates that capture the total of ruminal and intestinal outcomes!

## APPLICATION

MSPE is recommended and used widely by leading USA nutritionists to help evaluate protein sources and co-products used in rations. This is particularly important in times where feed costs rise, or commonly used feeds become unavailable. Changes in market availability requires the need to look at alternative sources to maintain high production dairy and meat production animals, as well as finding cost effective feed sources for drought feeding.

Protein is often the first parameter looked at on feed assays. Protein varies significantly between feeds and within the same varieties depending on plant maturity, harvesting, storage or the many by-product variables. As we know, not all protein is created equal and the variation in protein fractions indicates how much of the protein is likely to break down in what manner. This can significantly impact a decision on how it can be incorporated into a ration for best marginal response.

Understanding the make-up provides information to maximise efficiency of feeding for dairy cows, as well as sheep and beef rations for confinement or supplementary feeding to allow the ability to match up protein degradation and balance with other feeds, and to increase cost effectiveness of purchased feeds.

## SAMPLING PROCEDURE

Getting the sampling process correct is key to getting quality information back. The samples should be representative of the entire material sampled such leaf, stem and weeds present in forages.

1. Collect approx. 5 samples (grain, forage, by-product) in a clean bucket, representative of the total feed
2. Mix samples thoroughly
3. Remove a 250 - 500 g sample from the bucket and place in a medium Ziploc bag (for wet products, double bag and don't fill to capacity).
4. Post samples with submission form via express post on a Monday or Tuesday to ensure it arrives within the week.