



FORAGE LAB AUSTRALIA

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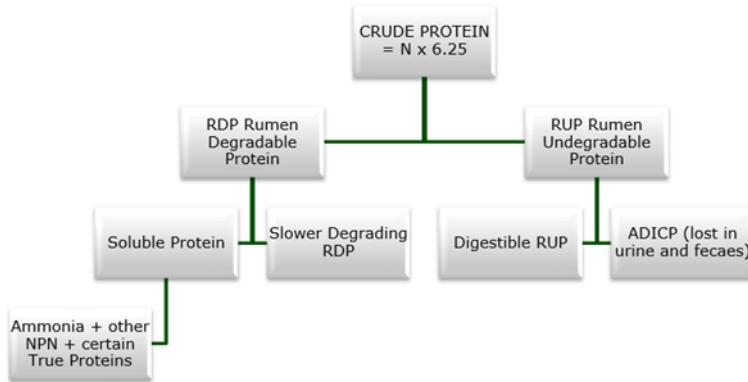
REPORT REFERENCE GUIDE

PROTEIN

CP % Crude Protein (CP) is simple a measure of Nitrogen content (%) x 6.25 = Crude Protein % of Dry Matter. While a useful number, it does not give us ideas on the nature of the protein.

SOLUBLE PROTEIN within the RDP fraction, soluble protein releases fast. Made up of Non-Protein Nitrogen and also True Protein sources. The release rate is the key aspect of soluble protein.

ADICP Acid Detergent Insoluble Crude Protein, shows how much protein is bound to lignin and unavailable to the animal. Often occurring when hay or silages heat up.



FIBRE

aNDF Neutral Detergent Fibre: a portion of total fibre. Consists of both digestible and indigestible fractions such as lignin, cellulose, hemicellulose and some pectins. NDF is the key “fill factor” in feeding ruminants. In general, lower the NDF, the more Kg's of dry matter they can consume.

Lignin completely indigestible fraction of NDF and ADF. Often binds other nutrients such as protein (ADICP).

METABOLISABLE ENERGY (ME)

Energy is a number that is calculated or derived from measurements of other nutritional parameters and we then use those numbers to predict an energy value. There are numerous methods of predicting an energy level, with various equations available. ME indicates the energy the animal could capture from the feed, generally the higher the better.

SILAGE ACIDS

Total VFA Is the measure of all volatile fatty acids (VFA) present in silage from fermentation. We like to see above 5% VFA in silages to indicate good fermentation for preservation.

Lactic Acid Is generally the preferred silage acid, however 100% lactic acid shows incomplete fermentation (e.g tested too early). Lactic acid produces a sweet tangy aroma and indicates low spoilage organisms and sound anaerobic fermentation (no oxygen) which is ideal for good silage outcomes.

Acetic Acid In small amounts is good, 1-2% is OK but more is not ideal. Acetic acid produces a vinegar aroma and can have palatability issues when dominating the silage acids.

Butyric Acid is the chief VFA produced by spoilage organisms that proliferate when air is not excluded during ensiling. Butyric acid grows detrimental microbes that convert nutrients to spoilage compounds. Butyric acid smells like vomit/spew. It is unpalatable and can indicate further toxin issues. No Butyrate is best, but no more than 0.2% DM is wanted.

ASH

is generated by burning the sample to remove organic matter. The remaining is inorganic, often high in samples contaminated by soil. High readings >20% will not test well and will require a verification at an additional cost.

SUGARS

ESC Ethanol soluble Carbohydrates is a measure of simple sugars capturing monosaccharides, disaccharides, oligosaccharides and some fructans.

WSC Water Soluble Carbohydrates as per ESC, is the measure of sugars, but captures more fructans, therefore often slightly higher.