

The following terms may help you to understand the analysis of hay structure and nutrition. You may have heard these terms before, now you can understand what these terms mean:

Crude Protein (CP) – The total quantity of true protein and nonprotein nitrogen present in plant tissue. This can be calculated by multiplying the nitrogen fraction by 6.25.

Dry Matter (DM) – The percentage of a plant sample which remains after all water has been removed.

Neutral Detergent Fiber (NDF) – The percentage of cell walls or other plant structural material present. This constituent is only partially digestible by animals. Lower NDF levels are generally associated with higher animal intake.

Acid Detergent Fiber (ADF) – The percentage of highly indigestible plant(hay) material. Higher ADF levels are generally associated with lower digestibility.

Digestible Dry Matter (DDM) – The percentage of a hay sample which is digestible. DDM is a calculated estimate based on feeding trials and from the measured ADF concentration.

In Vitro Digestible Dry Matter (IVDDM) – Is a similar term which indicates that the digestibility level of hay was determined via a laboratory test, as opposed to one which utilized live animals fitted with a port open to the rumen which allows digestion of small hay samples inside the animal.

Dry Matter Intake (DMI) – This is the amount of forage an animal will eat in a given period of

time. Estimates of DMI are based on results from animal feed trials and the measured NDF concentration of a forage or feed.

Digestible Dry Matter Intake (DDMI) – An estimate of how much DDM an animal will consume in a given period of time. It is calculated as follows: $\text{DDM} \times \text{DMI}/100$.

Relative Feed Value (RFV) – A measure of a forage's intake and energy value, in this case hay. It compares one forage to another according to the relationship $\text{DDM} \times \text{DMI}/100$ divided by a constant. RFV is expressed as percent compared to full bloom alfalfa, which has an RFV of 100. In most cases, as RFV increases, forage quality also increases.

References

Minimizing Losses in Hay Storage and Feeding, National Forage Information Circular 98-1