Explanation of Silage Terms

Dry Matter	the non-water part of the sample. Shows a very wide range depending on wilting period and the weather. Target for clamps is about 260 and 350 for big bales provided wilting can be achieved quickly.
Metabolisable Energy	measures the useful energy in the silage allowing for losses in faeces, urine and methane. Calculated from the D value using standard UK equations. Range is 8.0-12.5. Depends mostly on crop maturity at cutting.
SIP	shows the intake potential of the silage as a sole feed. Depends on DM content, D value and fermentation characteristics. Range 60-120. Average silage has a SIP of approx.
Protein	calculated from total nitrogen, includes non-protein as well as true protein. Values vary between 100 - 200. Depends on type of crop, maturity, fertiliser, weather.
NDF	neutral detergent fibre - the amount of fibre (cell walls) in the silage. Used in ration calculations to help avoid digestive upsets (due to low rumen pH) by getting the right balance between quickly and slowly digested feeds. Range 300 - 700.
D Value	the digestibility of the silage (as the % digestible organic matter in the dry matter). Depends mostly on crop maturity but reduced by high ash content. Range 45 - 78.
sDm, aDM, bDM, cDM	used to describe the rate and extent of DM degradation in the rumen. High D value silages have greater b and c terms. Used in FeedByte to calculate how much energy the rumen bacteria can get from the silage. The greater the energy supply the greater the need for degradable protein and the greater the potential supply of micobial protein
sN, aN, bN, cN	used to describe the rate and extent of nitrogen degradation in the rumen. Used in FeedByte to calculate how much protein breaks down in the rumen and is potentially available to the rumen bacteria and how much by-passes the rumen for digestion in the intestines.
pH	a measure of acid balance and a good indicator of whether a stable preservation has been achieved. The pH histogram allows for the need for lower pH values for wetter silages. Range 3.4 - 7.0.
VFA	measures the concentration of undesirable volatile fatty acids. The lower the value the more efficient the fermentation has been. High values (>40) are usually associated with high nutrient losses, protein breakdown and poor intakes. Range 0-100. Good silage <20.
PAL	the potential acid load of the silage. Range 600 -1200. This depends on the acidity of the silage and the amount of acid produced in the rumen. Acidic, high D silages have high values. **(Values over 900 could increase the risk of digestive upsets - seek nutritional advice)**
Lactic	the acid which is normally responsible for preservation. Badly fermented silages often have low levels but this depends on dry matter content and additive use. Very high levels (>120) found in over-fermented acid silages and can reduce intake. Range 0-180.
Sugar	the sugar remaining after fermentation. High levels (>100) are generally desirable resulting from a restricted fermentation (caused by wilting or use of some additives) of a high-sugar crop. Low levels may indicate an extensive fermentation and should not be considered bad unless associated with poor ratings for pH, NH3, and VFA. Range 0-250.
Ash	the mineral content of the silage - high levels (>80) indicate soil contamination which increases the risk of a bad fermentation. High ash levels lower the ME and D values.Range 40-200.