

## NutriOpt Grass Watch Guide 2017

Nutrient Analysis	Average	Range
<b>Dry Matter (%)</b> Dry Matter is the amount of grass remaining after the water has been removed.	18%	10-25%
<b>Est ME (MJ/kg DM)</b> The energy value of silage is expressed as the amount of energy contained in every kg of grass dry matter.	12MJ	11-12.8MJ
<b>Sugars (%)</b> The levels of sugar in the grass. Important in terms of ensilability, energy, stage of growth, and weather.	9%	5-15%
<b>Crude Protein (%)</b> CP is a measure of nitrogen (N) x 6.25.	23%	15-28%
<b>NDF: Neutral Detergent Fibre (%)</b> NDF is a measure of the total fibre. It is comprised of cellulose, hemicellulose and lignin. Lower NDF is associated with young leafy high energy grass. High NDF levels are associated with mature/steamier grass. Higher levels of NDF benefit butterfat	40%	35-55%
<b>ADF: Acid Detergent Fibre (%)</b> ADF is a measure of the cellulose and lignin. ADF levels indicate advancing maturity. ADF levels play a large role in determining the energy levels of forages.	20%	16-22%
<b>Oil A (%)</b> Level of oil in grass.	5%	4.2-5.5%
<b>Free Nitrates (mg/kg):</b> This is used to determine suitability of cutting		<100: ok to cut <= 250: moderate/caution >250: delay cut

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Butterfat Indicators	Total Diet Guidelines	Grass	Concentrate
<b>RFC: Rumen Fermentable Carbohydrates (g/kg)</b> RFC measures the carbohydrates that are fermented in the rumen in less than two hours after feeding. Desirable to boost production, excessive levels can lead rumen acidosis.	170 - 210	Av:180  R: 120-250	Av: 250  R: 63-440 <i>(soya Hulls and wheat)</i>
<b>Acid Load</b> Fermentation of proteins and carbohydrates are used to calculate the acid load in the rumen and potential acidosis risk	40-50  >50:undesirable	Av: 39  R: 32-46	Av: 55 R: 16-89 <i>(soya Hulls and wheat)</i>
<b>Fibre Index</b> Fermentable carbohydrates, NDF and physically effective NDF, contribute to the fibre index. Low levels may require structural fibre to balance; high levels may result in slow rumen function.	100-140  <100 (undesirable)	Av: 176  R:151-204	Av: 55 R: 16-89 <i>(soya Hulls and wheat)</i>
<b>RUFAL:Rumen Unsaturated Fatty Acids (g/kg DM)</b> RUFAL: is the sum of the three primary unsaturated fatty acids in a cows diet: oleic acid (C18:1), linoleic acid (C18:2) and linolenic acid (C18:3). High levels of unsaturated oils can cause milk fat depression.	<25g/kg DM  >25 g/kg DM risk of butterfat drop	Av:15  Low = 5 Medium = 15 High = 25	A: 15  R: 2 to 70 <i>(beet pulp and distillers)</i>
Rumen Protein Energy Balance	Total Diet Guidelines	Grass	Concentrate
<b>NFEPB: NutriOpt Fermentable Energy Protein Balance</b> Is the balance of carbohydrates and proteins, providing rumen microbes with a constant supply of energy and protein. High (>200g/d): too much protein, too little carbohydrates. Low (<0g/d): too much carbohydrate, too little fermentable protein	0-200g /day	Av: 60g/kg DM 15kg DMI = 900g/d  R: 5-100	14% protein: -10 18% protein: 17  R: -50 to 240 <i>(soya Hulls and wheat)</i>
<b>Excess N</b> This is linked to the CP and NFEPB. When rumen N is in excess, ammonia is absorbed from the rumen into the blood and must be deaminated for excretion. Deamination uses energy, which could otherwise be used for milk production. This is the milk loss value.		Av: 80  R:7 - 170	