

NUTRI-BUFF270

Nutri Buff-270 is a product formulated to have two roles:

- (a) Buffering the rumen
- (b) Optimizing the DCAD of the total diet.

Product functions and benefits:

Buffering the rumen

Leading to increased feed intakes = increased productivity and feed efficiency.

Longer lasting buffering effect

The slow release Ph balancing effect of Nutri-Buff 270 is longer lasting compared to Sodium Bicarbonate (4 hrs).

Lower feeding rate

30% less than Sodium Bicarbonate.

Helps achieve optimum DCAD levels

Studies show that adjusting the DCAD from 190 to 270 in the first 200 days of lactation will lead to a 13% increase in dry matter intakes = increased productivity and feed efficiency.

Aids in the prevention of SARA (Sub Acute Ruminal Acidosis)

Which can lead to:

- 1) Reduced dry matter intakes
- 2) A weakening of the immune system
- 3) Laminitis
- 4) Potential drop in milk of up to 2.3ltrs and 0.15% in butterfat

UCD (O' Grady '06) grazing trials have show that 50% of cows were prone to clinical and sub clinical SARA.

Helps improve pelleting of compound feed

NUTRI-BUFF270

Cost Benefit: 10:1 return on investment.

Increased milk yield by 2.3 litres per day.

Increased buffer fat by 0.15kg.

(Apper-Bossard *et al* 2006).

Benefit (€0.45 to €0.90) – Cost (€0.045 to €0.09).

Composition: Nutri-Buff 270 contains a scientifically formulated and **balanced** blend of sodium bicarbonate, acid buff, magnesium oxide, sodium chloride and calcium carbonate.

Feeding Method:

Suitable for inclusion as part of a TMR diet or sprinkled on the daily ration.

Feeding Rates:

Diet	Feeding Rate	Milk Yield
- Grass Silage:	0 - 65g p/h/day	27-37ltrs
- Grass/Maize: (ratio 50:50)	55 -85g p/h/day	27-37ltrs
- Grass/Maize: (ratio 40:60)	75 - 100g p/h/day	27-37ltrs
- Grass/Maize: (ratio 30:70)	90 - 120g p/h/day	27-37ltrs

For further details please contact your local Nutribio Representative:

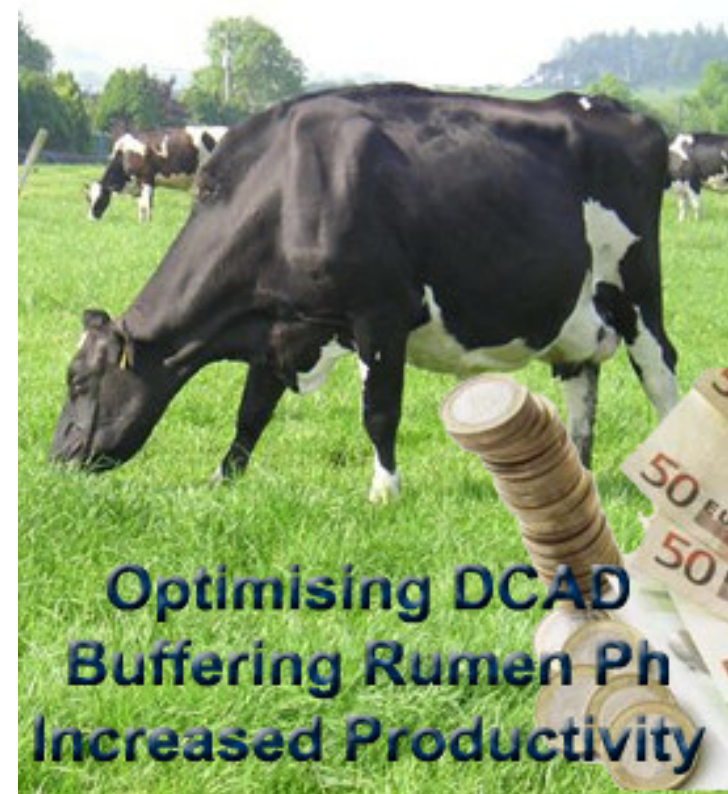
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Nutribio
Precision Nutrition

Nutri-Buff270



Optimising DCAD
Buffering Rumen Ph
Increased Productivity

S.A.R.A.

Sub-acute ruminal acidosis (SARA) is a well-recognized digestive disorder that is an increasing health problem in most dairy herds. Dairy herds experiencing SARA results in **alteration in the rumen microorganisms, decreased rumen pH and rumenitis** which results in:

- **Depressed feed intake**
- **Laminitis**
- **Low milk fat**
- **Abomasal and Caecal Displacement**
- **Reduced Reproductive Performance**
- **Ketosis**
- **Mastitis**
- **Endometritis**
- **Pneumonia**

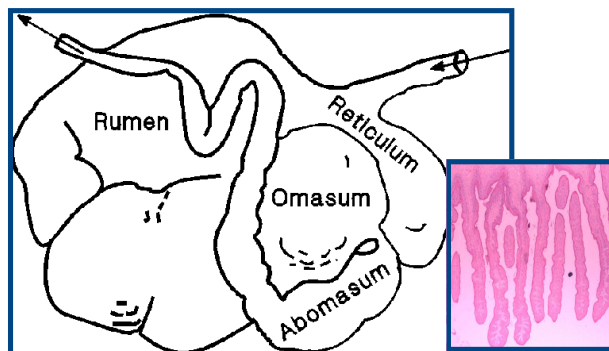
Dairy cows experiencing SARA often do not exhibit overt clinical symptoms. Often, the most common clinical sign associated with SARA is reduced or erratic feed intake.

Dairy cows experiencing an episode of SARA will reduce their feed intake in order to reduce the acid load in their rumen. Cows will start eating again when ruminal pH is above 5.6 Other clinical signs often observed during SARA may include:

- Reduced rumination (cud-chewing)
- Mild diarrhoea
- Foamy faeces containing gas bubbles
- Undigested grain in faeces

Rumen pH

- The feed taken in by the cow is broken down by the action of a large population of microorganisms that reside in the rumen.
- Some of the microorganisms are fibre digesters and some are starch digesters.
- The microorganisms break down the feed into volatile fatty acids (VFA's).
- The VFA's (acetic, propionic & butyric acids) are absorbed into the bloodstream through ruminal papillae and are the main source of energy for the cow.



- VFA = milk yield, milk lactose and milk fat.
- Keeping the pH of the rumen in the range of 6.5 to 7.0 (buffering) is critical for rumen micro organisms to function efficiently.
- When the rumen microorganisms are functioning efficiently animal can maximize feed intake.

DCAD

- The cow in early lactation is like a high performance athlete, partitioning energy into performance rather than rebuilding her body reserves.
- This leads to a build up of acids in the blood which like lactic acid with the athlete can reduce performance.
- Balancing the DCAD (dietary cation anion difference) which with the early lactation cow is ensuring adequate potassium and sodium in the total diet, buffers the blood to maximise performance.
- There are different DCAD optimum figures of the diet required for different quadrants of the animals life cycle. The optimum DCAD will enable the animal maximise intake of feed.

Maximising Intake
= Maximising Productivity
= Maximising Profit



- The DCAD of the diet for the cow pre-calving should be in the range of 0 to 120 meq/kg DM.
- The DCAD of the diet for the cow in early lactation should be in the range of 270 – 400
- Balanced DCAD has the potential to reduce blood urea levels through increased nitrogen (protein) utilisation.