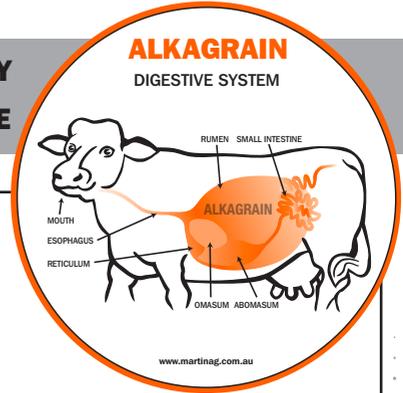


ALKAGRAIN

PERFORMANCE THROUGH HEALTH

**ANY CEREAL GRAIN mixed with HOME N DRY
CEREAL GRAIN - SOYA MEAL - AMMONIUM BICARBONATE**



What is ALKAGRAIN ?

ALKAGRAIN is a High Ph high starch feed, made purely from feed Ingredients optimising stomach capacity, allowing high starch diets without the detrimental effects of acidosis

Why use ALKAGRAIN?

Maximise rumen microorganism reproduction, for optimal production and profits.

Alkagrain is sterile and seeds are denatured allowing transportation across borders without restrictions, making international grain now available.

The importance of rumen ph and rumen buffering.

Efficient Rumen Function = Healthy Animal = High Feed Efficiency = High yields = Profitability.

If acidosis occurs in one cow, it usually indicates that many other cows in the herd are suffering from Sub Clinical Acidosis, (SARA).

Solutions have to be for the whole herd not the individual animal, as this is easier to manage and cost effective.



= healthy Liver



= not so healthy Liver

Your local Alkagrain supplier

The importance of Rumen pH and Rumen Buffering

Many of the health problems with modern dairy cows are primarily triggered by, associated with or are directly caused by acidosis. Acidosis can also be a common cause of reduced milk yields and low butterfat %.

Acute cow health issues include lameness, mastitis, high somatic cell counts (SCC), left side displaced abomasum (LDA), impaired liver function, loss of body condition, negative energy balance, infertility, milk yield below potential and high culling rates.

Acidosis is caused by cows eating high levels of concentrates, starch and highly digestible forages. As rumen pH falls, *Streptococcus bovis* increases causing the pH to fall further. At low pH levels *Lactobacillus* produce high levels of lactic acid producing a highly acidic environment. Often extremely high levels of *E. coli* are also present along with scours. Liver abscesses may also result.

Acidosis has consequences for performance, health, fertility and feed efficiency so it is essential to protect the rumen. Ideally the rumen should be kept within the range of 6.4 - 7.0 pH, which is optimum for rumen microorganisms to thrive.

Stable rumen pH & efficient rumen function can be controlled with well designed diets. For efficient farms, good quality, highly digestible feed is essential, Alkagrain helps by providing a safe source of starch in these diets.

In a healthy rumen, Microbes will double up every 20 minutes, If rumen pH falls from 6.4 pH to 5.6 pH the microbial action slows down to 30 minutes to double up, That's a 50% reduction in rumen activity & lost production.

There are limitations with roughages also, wet acid grass silages, high starch maize silage, and high quality grazed grass. Yes, cows do suffer from acidosis on grass. Rumen pH on grazed grass can be as low as 5.4 pH.

The rumen microbes ferment starches and sugars to form organic acids, propionate and other volatile fatty acids (VFA). This is not a problem if the rumen is kept above 6.0 pH. If on the other hand these acids build up in the rumen then the pH of the rumen drops.

The fall in pH has two effects. Firstly, the rumen stops moving, becoming atonic. This depresses appetite and production. Secondly, the change in acidity changes the rumen flora, with lactic acid-producing bacteria taking over. They produce more acid, making the acidosis worse. The increased acid is then absorbed through the rumen wall, causing metabolic acidosis.

When acidosis occurs the rumen microbes use additional energy to get rid of excess hydrogen ions. This in turn results in fewer less active microbes being available to ferment the cows diet.

Sub Acute Rumen Acidosis (SARA) - is a very common and much under rated metabolic disorder, which has a significant effect on milk production and herd health. SARA occurs when the pH of the cow's rumen drops below 5.8. The cow's dry matter intake declines, fibre digestibility and rumen microbial protein production is reduced, butterfat % declines, and milk production suffers.

Sub acute rumen acidosis or SARA reduces dry matter intakes, fibre digestion, milk yields and butterfat production. Dairy herds experiencing SARA will have a decreased efficiency of milk production, impaired cow health and high rates of involuntary culling.

If acidosis occurs in one cow, it usually indicates that many other cows in the herd are suffering from sub-clinical acidosis. Solutions have to be for the whole herd not the individual animal. Many diseases have been linked to acidosis. For some, such as liver abscesses, the evidence is very strong.

All too often farmers and nutritionists assume that there is no acidosis problem unless intakes severely decline, butterfat (%) declines, and laminitis is apparent, this is not always the case.

Why Use Alkagrain?

If acidosis occurs in one cow, it usually indicates that many other cows in the herd are suffering from sub-clinical acidosis (SARA).

Any of the following conditions can indicate SARA

- Dung appears loose, foamy and bubbly and inconsistent across the herd
- Individual cows off feed for no apparent reason
- Negative energy balance, excessive weight loss and loss of body condition score
- Dull, rough, stary damp coats
- Tail swishing and dirty backs
- Low levels of scratchy structural forage fibre greater than 1" long in the diet
- Less than half of the cows chewing their cuds
- Individual cows with low butterfat % and high milk protein %
- Excessive intakes of free access salt or minerals or cows lick urine or soil
- Left side displaced abomasums, ketosis, sick cows, general ill health
- High cell counts, mastitis, reduced immune response, poor fertility
- Lameness and laminitis - haemorrhages or red discolouration in the hoof
- Hoof surfaces have horizontal ridges or lines
- Moving dry cows to a high concentrate ration after calving without a transition diet
- Increasing concentrate intake after calving faster than 0.75kg per day

Good diet formulation for the animals entire life is essential - Feeding for Rumen Efficiency

More than anything else, the performance of dairy cows depends on the rumen functioning efficiently. Feeding systems that maximise microbial growth and production will maintain high milk yields, safeguard herd health and maximise profitability.

For the rumen to work efficiently and effectively the rumen microbes need a steady supply of fermentable energy and degradable protein and most importantly they need a stable rumen pH between 6.0 and 7.0 pH. Within this pH range the rumen is at its most efficient. Alkagrain is a tool to use as part of the diet providing safe fermentable energy, degradable protein and helping maintain rumen pH.