

**Issue 3 Monday 8th December 2003**

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**Why do we add phosphorous to Quicklick?**

Phosphorous is one of the most important minerals for cattle as it is required for growth, reproduction and lactation. Most of the phosphorous in the body, around 80% is found in the bone, mostly in the form of calcium phosphates. Because of this large amounts of phosphorous are required in young growing animals to build bone. During high growth periods when feed is abundant more phosphorous is required, which is why feeding phosphorous is more effective in summer. Phosphorous deficiency is associated with weak bones, decreased growth rate, impaired reproductive performance and depraved appetite. Cattle in deficient country can often be seen chewing on bones, sticks or dirt. For this reason phosphorous deficiency is often related to the spread of botulism as bone chewing helps spread this disease. Cows with phosphorous deficiency cycle irregularly or do not cycle at all for short periods.

Phosphorous is closely associated with calcium in the body and the ratio of calcium to phosphorous in the diet is important. Vitamin D plays a critical role in phosphorous absorption and a deficiency of vitamin D can induce a phosphorous deficiency even when there is adequate phosphorous in the diet. Excess iron, aluminium, manganese, potassium, magnesium and fats can interfere with phosphorous absorption.

While all Quicklick contains phosphorous, wet season Quicklick mixes contains extra Cattlephos as a source of phosphorous. The phosphorous in Cattlephos is chelated and therefore highly absorbed by the beast with up to 95% of the phosphorous in Cattlephos being absorbed. In most dry licks and blocks the phosphorous source is a mineral source that is not as highly absorbed. Phosphorous from sources such as phosphoric acid and MAP can be precipitated out of solution from excess magnesium, iron and aluminium. Cattlephos is also suitable to add to molasses or to dose cattle through the water. The CKAS water nutrient mix also contains 40g of phosphorous per litre and is designed to be fed through the water. There is also vitamin D in quicklick to ensure phosphorous absorption.

**How can I tell if I have a Phosphorous problem?**

Mature and dry forages generally contain low levels of phosphorous. Many soils are low in phosphorous and so deficiency in cattle are quite common, particularly on lighter soils. However some heavier soils that are quite fertile are also low in phosphorous.

Faecal samples can be tested at CSIRO Davies laboratory in Townsville. The test carried out is an NIRS test which gives an indication of protein, energy and phosphorous in the diet as well as the digestibility of the diet. This test can indicate if the level of phosphorous in the diet is limiting production based on the ratio of nitrogen to phosphorous. Tests cost \$27.50 per sample. If you would like to have a test done please give me a call.

If there is any aspect of nutrition that you would like covered in future issues of the newsletter please give me a call and I will try to address them.

Rob Sands (Nutritionist)