

## Feeding Urea

Most supplements designed for feeding on dry pastures are methods of delivering urea to the rumen to increase the rate of digestion of dry feed. This in turn increases the amount of feed that a beast can consume and therefore the amount of energy and other nutrients the beast receives. Urea can be converted to protein by the rumen microbes. Excess urea can be recycled from the blood back into the saliva and back into the rumen. This does come at a cost of energy to the beast. Feeding urea in excess of 40-60 grams per head per day on dry pasture is wasteful as the beast cannot utilise any more than this.

The response to supplementing urea will vary with the energy and protein content of the pasture being fed. Results of up to half a kilogram per head per day improvement in weight gain have been recorded (change from weight loss to weight gain). NIRS testing can help determine when supplementation is beneficial. NIRS testing has now been commercialised and tests can be organised by contacting us or through Symbio laboratories.

There has been some talk of feeding urea having a detrimental affect on fertility. This occurs in dairy cattle being fed very high protein diets (17-20% protein in the total diet). The excess protein causes elevated urea levels in the blood which in turn causes an acidic environment in the uterus which reduces oocyte survival, implantation and embryo development. The levels of urea in the blood are above 20mg/dL. In typical beef cattle on dry grass supplemented with urea the blood levels only reach the range of 4-10mg/dL in adapted animals. Once the embryo is fully established urea can be fed up into the toxic range without causing abortion. Research under Queensland conditions has shown much improved fertility levels from feeding urea as the cow is on a higher plane of nutrition and in better body condition due to the positive affects of urea on feed intake.

Slow release or bonded urea is a component of many available feeds. While this inclusion has a great benefit in preventing toxicity from excess urea there have not been any production benefits shown from using it over conventional urea. Several trials with bonded urea, coated urea and by constantly infusing urea into the rumen have shown no increase in weight gain or milk production over feeding conventional urea. All of these trials have shown a lower peak of ammonia and higher levels of ammonia over an extended time but there has been no production benefit shown.

When feeding urea, consistency of intake is very important. As urea alters the population of microbes in the rumen and these microbes only live for 24 hours on average, a daily intake of urea is the best way of keeping the rumen population in the desired state. If stock run out of supplement it should not be for more than 48 hours at a time. Consistency of intake is one of the key advantages of a liquid supplement.

Urea toxicity can be a problem particularly with licks that have inconsistent intakes. The other major area of concern is rain on licks that are not weatherproof. By providing a weatherproof liquid supplement many of these problems can be avoided. Adaptation to urea feeding only takes a matter of days and is necessary before feeding a 5% urea Quicklick. Once adapted, cattle can handle a larger amount of urea. If cattle show sign of toxicity drench them with vinegar and cold water.

Rob Sands (Nutritionist)

**Protein Meals** With the continued dry weather there is very high demand for protein meals. Prices are fluctuating and so our retail prices will vary from time to time. We have also secured supplies of **Cottonseed Meal (43% Protein)**. Cottonseed meal is a good option for mixing into rations, molasses, dry licks or silage. Prices for cottonseed meal are bulk \$335.50/T including GST landed Roma, Tonne bags \$390/T including and 30kg bags \$430/T including GST all ex our Roma depot.

**Pallets** If you need to pick up bagged protein meal off transport arrangements need to be made re Chep pallets. Qlink is clamping down and not allowing pallets to leave without an exchange pallet.

**Environmental pollution** from spills of Quicklick or other dunder or molasses based products can be a serious problem. Tanks for storing Quicklick should be sited away from waterways and bunded so that spills cannot enter creeks or streams. Every effort should be made to prevent spills and any spills should be cleaned up as soon as possible.

Until Next Time,

From Warren, Annette and the Staff at Cattle King.

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