

## THE RUMEN BUG FOR CATTLE GRAZING LEUCAENA

### **INTRODUCTION:**

Leucaena contains an amino acid called mimosine which is broken down by rumen bacteria to a toxic compound, DHP. The concentration of mimosine is highest in fresh new leucaena growth. An early sign of mimosine toxicity is hair loss (primarily from the brush of the tail and the poll of the head) DHP can also reduce growth rates and in severe cases, produce goitre, abortion and ulcers.

### **TREATING THE PROBLEM:**

Bacteria, taken from the stomachs of cattle, sheep and goats from tropical countries where animals have grazed leucaena for centuries, can break down DHP to a non toxic compound.

This rumen bacteria was imported into Australia by CSIRO and has been made and supplied by Queensland Primary Industries and Fisheries to cattle producers, for the past 14 years.

### **Supply of Bacteria:**

The bacteria are given to new animals by drenching them with an inoculum originating from rumen fluid of animals that already have the bacteria. Rumen fluid, a drench gun and nose pliers are available from Brian Pastures Research Station, Gayndah. The person to contact is Jo Campbell on (07) 4161 3715 or (07) 4161 3700. Supply can also be arranged by contacting your local Beef Extension Officer.

*DO NOT store the rumen bacteria in a Frost Free Freezer*

### **Administering Rumen Fluid:**

It is only necessary to drench 10% of a mob with rumen fluid. Each animal needs 100ml of fluid. The bacteria are readily transferred between animals grazing together. It is thought that this transfer between animals occurs when animals cough or lick the coats of other animals.

The bacteria are anaerobic (rapidly killed by the presence of oxygen, that is, air). For this reason, dosing a water trough with bacteria or transferring dung is unsuccessful. Trough water has a high dissolved oxygen content.

### **Animals To Be Drenched:**

Animals to be drenched with rumen fluid should have had access to leucaena for about 5 to 10 days. This is so that there is some leucaena present in the gut of the animal for the rumen bacteria to live on. This speeds up the multiplication of the bacteria so that the spread from animal to animal is quicker.

It takes between 5 days and a couple of weeks from drenching for the bacteria to establish in high numbers in the treated animals and when drenching 10% of the mob it can take 5 to 6 weeks before all of the mob are covered.

### **Keeping The Bacteria Active On My Property:**

To prevent the need for drenching new animals when they go onto leucaena, it is advisable to manage the herd so that there are always cattle present that have had contact with others that you know have the bacteria. These may be perhaps a couple of next years animals run with the current mob, but make sure they are not the anti-social animals that do not mix. If you are in an area where a number of producers are using leucaena, it may be possible to borrow some animals.

### **MAKING THE BEST USE OF LEUCAENA:**

To achieve maximum benefit from leucaena it should be spelled for a period, preferably over summer or have paddocks grazed in rotation. Continuous grazing without some spelling in summer can reduce productivity. After spelling, cattle can take advantage of summer growth, providing high quality grazing at a time when other pastures are often deteriorating.

On Brian Pastures, weight gains from Autumn grazing (100 to 120 days) range from 0.8 to 1.5 kg/h/d at stocking rates of 1-3 steers per ha. In areas stocked throughout the year at 2ha/steer, annual weight gains of up to 270kg/head have been measured.