

# MaizeKing

## Trial Sheet

### Feed more cows with MaizeKing-treated Silage



**Trials of BioStart MaizeKing reveals how it improves both the preservation and quality of maize silage.**

#### How it Works

**MaizeKing** has two modes of action. Firstly, **MaizeKing** activates the beneficial lactic acid and acetic bacteria, that occur naturally on the forage prior to chopping and baling. These bacteria produce the lactic acid and acetic acid that are responsible for the ensiling process. Secondly, **MaizeKing** inhibits the growth of the naturally occurring spoilage microbes that are present on forage in the paddock. Independent laboratory studies show that **MaizeKing** inhibits the growth of both yeasts and spoilage fungi typically found in silage. It is these yeasts that are responsible for heating silage pit faces and certain fungi produce mycotoxins that impair animal weight gain and fertility.

#### MaizeKing Trials

In a Northland trial with a standard maize crop, **MaizeKing** was applied at 115 mL/T to maize silage that was then ensiled in small bags, with untreated maize being used as a control. A sample of the maize at harvest was collected and sent for nutritional analysis to establish a base line nutritive value. After 30 days samples of the **MaizeKing**-treated and untreated maize silage were sent for nutritional analysis.

#### MaizeKing Improves Forage Quality

Through activating the ensiling bacteria and reducing the activity of spoilage microbes which use up the sugars, **MaizeKing** ensures that these sugars are now retained in the silage and are instead available to the animal. By reducing the amount of sugars used up **MaizeKing** improves the metabolizable energy (ME) and dry matter retained in the maize silage (Table 1). Additionally, the digestibility of the **MaizeKing**-treated silage was higher meaning more nutrients were made available to the animal (Table 1).

#### MaizeKing Improves Nutritional Value

Nutritional analysis of the maize silage showed that **MaizeKing** treatment increased the ME per wet tonne of silage by 7.8 % over the non-treated silage (3,488 versus 3,763 MJ ME/T DM; Table 1). This meant it fed 4.7 more cows per wet tonne.

#### Conclusion

These results show that silage treated with **MaizeKing** reduces losses in metabolic energy and maintains digestibility allowing farmers to feed more cows per tonne of maize silage.

**Table 1. Comparison of Nutritive Value of Fresh Maize, Untreated and MaizeKing-treated Maize**

Measurement	Fresh Cut Maize	Untreated	MaizeKing
Dry Matter (%)	34.4	32.3	33.6
MJ ME/kg DM	11.1	10.8	11.2
OM Digestibility in vivo (% DM)	72.4	70.1	72.3
MJ ME/wet tonne		3,488	3,763
No. of cows fed/d/wet tonne		59.1	63.8

MaizeKing is Available in 20, 200 and 1,000 L containers. For more information contact Nick Smyth, 0408 122 980 or [n.smyth@biostart.com.au](mailto:n.smyth@biostart.com.au)  
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