

Scientific validation



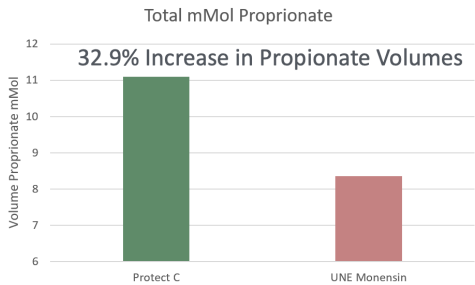
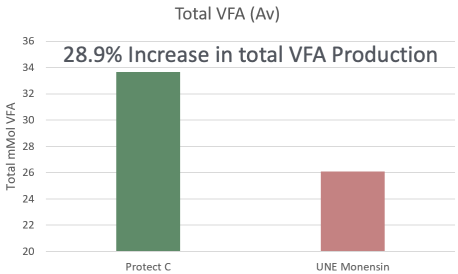
Extract from Study Findings Report

The use of rumen modifying antibiotics in the feedlot industry, is increasingly being targeted in a global focus to reduce antibiotic use in agriculture and reduce risks to human health.

A scientific study performed by UNE, utilising ProAgni’s ProTect C, was tested for its ability to reduce the incidence of lactic acidosis in feedlot cattle, optimise feed efficiency and enhance performance, compared to a industry feedlot diet.

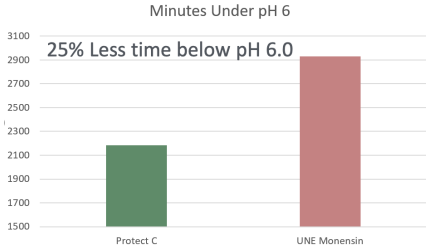
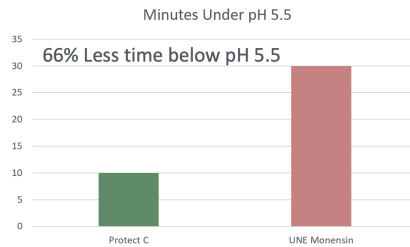
The study served to identify possible advantages of ProTect in allowing safe adaptation (free of ruminal acidosis) to high grain diets without inclusion of in-feed antibiotics. The study concluded, that ProTect is as effective as in feed antibiotics in maintaining a safe intraruminal pH during adaptation and finishing of feedlot cattle and enabled efficient digestibility of DM and starch through the feeding period.

Prepared by
Roger Hegarty, Momen Bhuiyan and Graeme Bremner



- Total VFA’s (dietary energy) is 29% greater in Protect C, and the volume of propionate 33% higher

	TOTAL VFA (mM)		Propionate mol %	
	Day 26	Day 36	Day 26	Day 36
UNE Monensin	30.2	22.0	29.4	35.2
Protect C	36.7	30.6	37.7	29.8



	Time under 5.5 pH	Time under 6 pH	Min pH Reached (av)
UNE Monensin	30 minutes	48hr:50min	5.59
Protect C	10 minutes	36hr:22min	5.8

The key results presented confirm that

(1) ProTect is **as effective** as Monensin in **maintaining a safe intraruminal pH during adaptation and finishing of feedlot cattle**. By restricted feeding cattle (in difference to ad-libitum feeding), this trial created an artificially high risk of acidosis as restricted feeding encourages more severe and irregular feeding bouts so more dramatic pH fluctuations. The fact that the time spent at low pH was no worse in ProTect relative to Monensin identifies **ProTect is a valid alternative to Monensin as a tool to manage ruminal acidosis**.

(2) **ProTect enabled the whole-tract digestibility of diet DM to be sustained**. This is consistent with a **stable rumen ecosystem and freedom from foregut or hindgut acidosis**. This was also reflected in the consistently high starch digestibility of Protect C versus UNE-Monensin cattle and the lack of difference in faecal starch output between groups. Together this digestibility data indicate the **ProTect cattle were as effective as Monensin cattle in digesting starch and, in combination with pH data, can be seen to do this with equally low risk of lactic acidosis**.

- The pH log scale actual means that the animals fed the UNE Monensin mix had over two times the acid concentration
- Clinical ruminal acidosis is defined as a rumen pH below 5.5pH