FOR ANIMAL USE ONLY

Use of LactiproNXT in Cull Cows

Lactipro help with the digestive challenge of transitioning cows onto a high-concentrate diet, in order to achieve yellow to white fat conversion in the shortest time possible.

Application:
40ml per cow
at transition to a high grain diet.

5 x Cows per 200ml pack
25 x Cows per 1l pack
Keep refrigerated.
Shelf life: 18 Months.

V32583 (Act 36 of 1947)

RESEARCH DEMONSTRATED:

01 **AVERAGE DAILY GAIN 9.7% BETTER**

02 **FEED EFFICIENCY 6.2% BETTER**

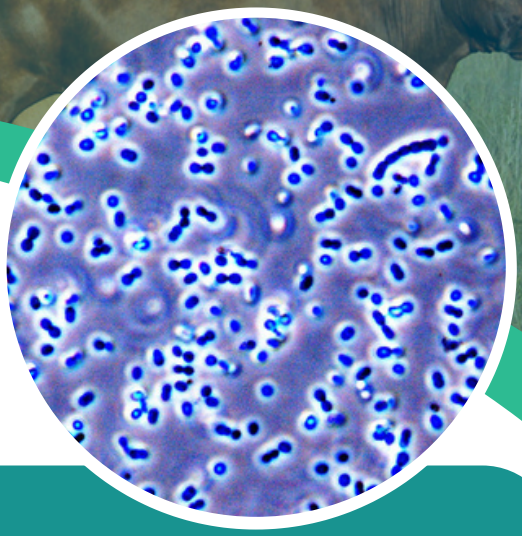
03 **HOT CARCASS up to 8.6 kg HEAVIER**

04 **FEED PERIOD 35 days**

Four Lakes

DATA ON FILE
LACTIPRONXT REG. NO. V32583 (ACT 36 OF 1947)
CONTAINS: MEGASPHAERA ELSDENII, MIN. 5.0 x 10 8 CFU/ML

Axiōta Animal Health

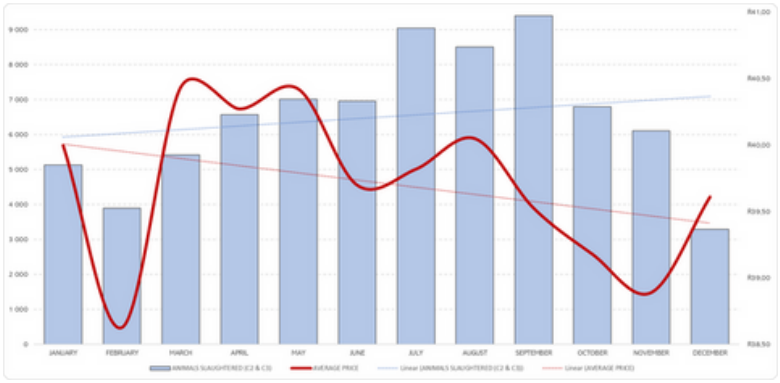


OVERVIEW

Cows are culled for a variety of reasons. The benefits of culling cows from a beef or dairy herd include higher calf crop percentages and lower health related problems.

More cows may be culled during drought or when feed resources are limited. Many are culled in the autumn/winter, and market prices for cull cows decrease due to increased supply - Refer graph below.

Price and Supply of Cull Cows in South Africa



It is be beneficial to get these animals on feed faster and fed for a shorter time to potentially target earlier markets. Feeding fewer days also optimizes efficiency.

Lactipro help with the digestive challenge of transitioning cows onto a high-concentrate diet, in order to achieve yellow to white fat conversion in the shortest time possible.

Two trials were performed to evaluate rumen health, and performance of cull cows given Lactipro when placed immediately on a finishing diet.

Compared to control, those given Lactipro had:

- Improved rumen health, as indicated by greater papillae area, absorptive surface area, and reduced rumenitis.
- Improved live weight gain (9.7%), feed intake (3.6%), and efficiency (6.2%).
- 8.6kg greater hot carcass weight.

TOP 5 FACTORS THAT DETERMINES PROFITABILITY WHEN FEEDING CULL COWS

- Feed the highest energy ration possible.
- Feed bunk management. Average Daily Gain (ADG).
- Feed Efficiency.
- Feed long enough to convert yellow fat into white fat.

PROBLEM WITH HIGH ENERGY CONCENTRATE DIETS

- During the transition from dry diets to high energy diets, the micro-organisms in the rumen must change from fiber digestion to predominantly starch-digesting microorganisms.
- This sudden increase in the supply of starch in the rumen exceeds the capacity of “friendly” rumen micro-organisms to digest starch and “unfriendly” micro-organisms such as *Streptococcus bovis* convert the starch into unwanted lactic acid. Lactic acid is a ten-fold stronger acid than the desired volatile fatty acids (VFAs).
- The lactic acid will cause rumen damage.

Mega e®

OBJECTIVE

To evaluate rumen health and animal performance effects of Lactipro given to thin cull cows aggressively transitioned to finishing diets.

MATERIALS & METHODS

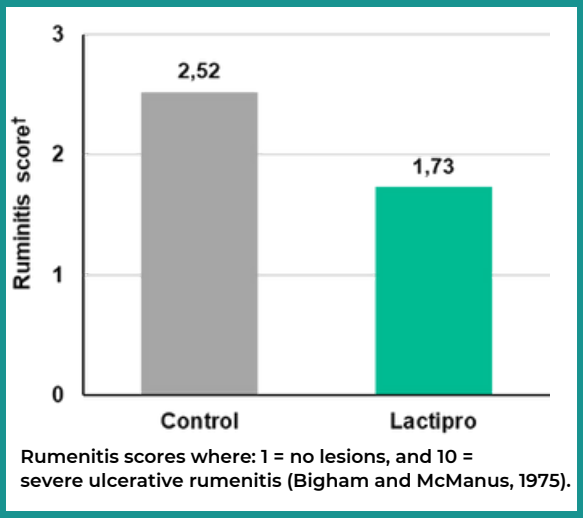
- Two experiments were performed to evaluate the objective.
- 1 trial evaluated rumen health,
- and the other evaluated performance.
  Treatments:
  - Control – no product administration.
  - Lactipro – Oral application of Lactipro.

- Trail 1# - Evaluation of rumen morphometrics.
  - 45 cull cows (503 ± 58 kg body weight).
  - Cows were fed a 90% concentrate diet on day 1 of the trial, and fed 35 days until slaughter.

- Trail 2# - Animal Performance:
  - 144 beef cull cows (455.8 ± 47kg body weight)
  - 48 pens with 3 cows per pen.
  - Cows were transitioned to a 25% or 10% concentrate finishing diet over 9 days, and fed the finishing diet for the remainder of the period.
  - Percent concentrate was additional trial factor, but had no interactive effects with Lactipro, so only main effects of Lactipro are discussed.
  - Total feeding period to slaughter was 42 days.

(Counotte et al., 1981)

Reduced Damage to Rumen Wall



Rumenitis scores where: 1 = no lesions, and 10 = severe ulcerative rumenitis (Bigham and McManus, 1975).

The *Megasphaera elsdenii* in Lactipro is a ruminal bacterium which metabolizes most of the lactic acid produced in the rumen of cattle fed high-grain diets , thus helping to minimize changes in ruminal pH. Lactipro contains a live culture of the patented *M. elsdenii* NCIMB 41125.

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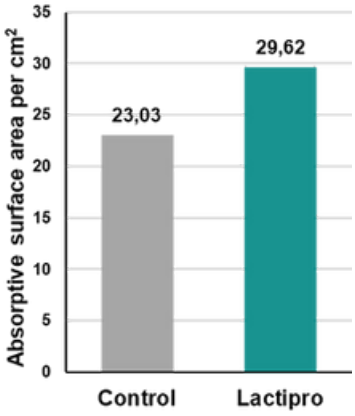
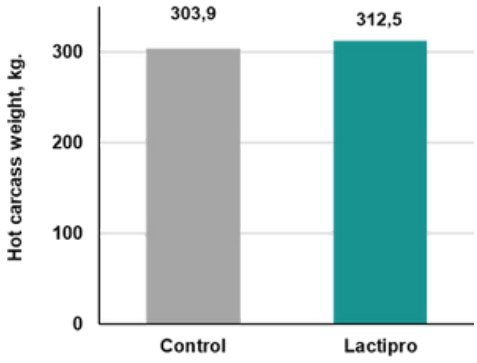
Impact of Lactipro on Rumen Characteristics and Performance

Absorptive Surface



Hot Carcass Weight



- Means between treatments differ P = 0.01
- Calculated as: 1 cm2 + (number of papillae × mean papillae area) – (number of papillae × 0.002).

Item	Control	Lactipro	Diff
Initial weight (kg)	456.3	456.3	0%
Final weight (kg)	567.9	579.7	11.8 kg
Average Daily Gain (kg)	2.67	2.93	9.7%
Dry Matter Intake (kg/day)	13.9	14.4	3.4%
Feed:Gain	5.13	4.81	6.2%

DATA ON FILE
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Rumen tissue sample from control cow showing lack of rumen papillae development. Cow lost 81.6 kg and displayed signs of acidosis during the trial.

Rumen tissue sample from Lactipro cow showing rumen papillae development. Cow gained 88.5 kg and showed no sign of digestive upset throughout the trial.

Axiōta® Animal Health
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