Supplementing pHix-Up® to feedlot cattle consuming a corn-based finishing diet

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INTRODUCTION

Feedlot operations has a preference for high concentrate diets (USDA, 2011) for finishing cattle, where corn, has been reported as the primary grain source. (Samuelson et al, 2016; Vasconcelos and Gaylean, 2007). This diet profile can eventually limit buffer capacity, which can leads to acidosis (Nagaraja, 2007). Nutritional strategies, such as, supplementation with magnesium based product did prevent pH drop in dairy cattle (Bach et al., 2017).

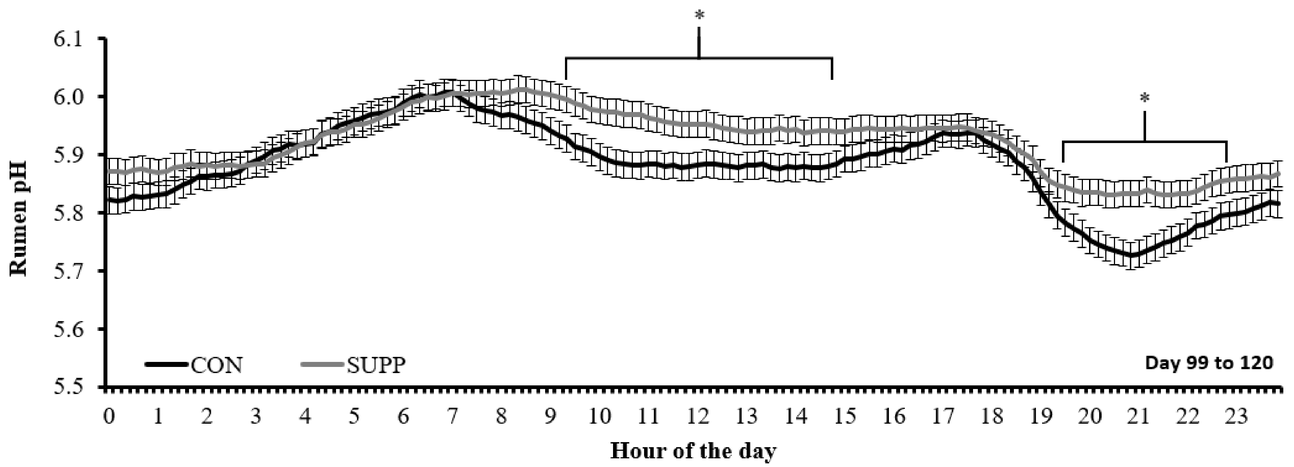
METHODS

- 128 angus influenced.
- Heifers and steers ranked by Body Weight (BW) on d0.
- Allocated to 1 of 16 drylot pens (8 animals/pen).
- Pens were randomly assigned to receive pHix-Up (magnesium-based product; Timab, Dinard, France) (SUPP) or not (CON).
- 3 animals were randomly assigned to be equipped with intraruminal bolus.
- BW was recorded on day 0, 28, 56, 84 and 128.
- Dry matter intake was calculated bi-weekly by pen.

RESULTS

Item	CON	SUPP	SEM	*P*-value
Body weight parameters[2]				
Initial (d 0), kg	430	429	5	0.89
Final (d 128), kg	556	547	5	0.17
Average daily gain, kg	0.977	0.928	0.028	0.22
Feed intake (dry matter),[3] kg/d	7.78	7.51	0.19	0.37
Feed efficiency,[4] g/kg	125	121	4	0.42

Item	CON	SUPP	SEM	*P*-value
Hot carcass weight, kg	351	344	5	0.36
Backfat,[2] cm	1.73	1.50	0.10	0.19
Longissimus muscle area, cm[2]	81.2	78.8	1.05	0.11
Marbling	499	463	18	0.19
Yield grade	3.61	3.43	0.11	0.32
Carcasses graded Choice, %	87.1	77.4	6.0	0.27
Animals with liver abscess,[3] %	16.4	4.7	3.8	0.05
Severe liver abscess (A+), %	8.16	0.00	2.45	0.02



Hypothesis

Supplementation with pHix-Up can possibly improve performance of finishing cattle due to better ruminal environment.

DISCUSSION

- No differences between SUPP and CON cattle were noted for BW gain , feed intake, or feed efficiency.
- No treatments difference were noted for carcass merit.
- Incidence of cattle with liver abscess upon slaughter was greater in CON vs. SUPP, including incidence of severe liver abscess.
- Rumen pH was greater in SUPP vs. CON cattle during 33% of the time.