



Effects of supplementing humates on ruminal parameters of Nelore steers

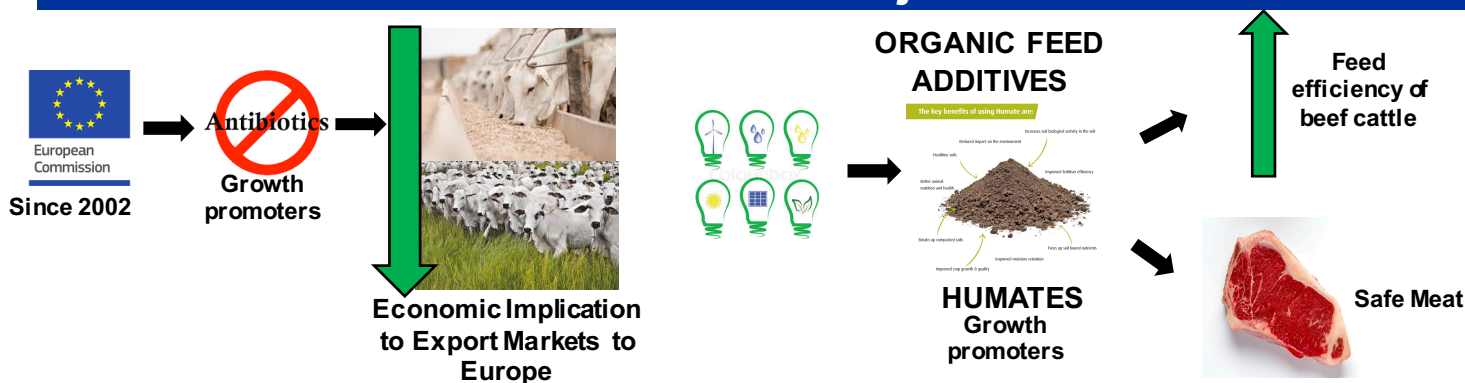


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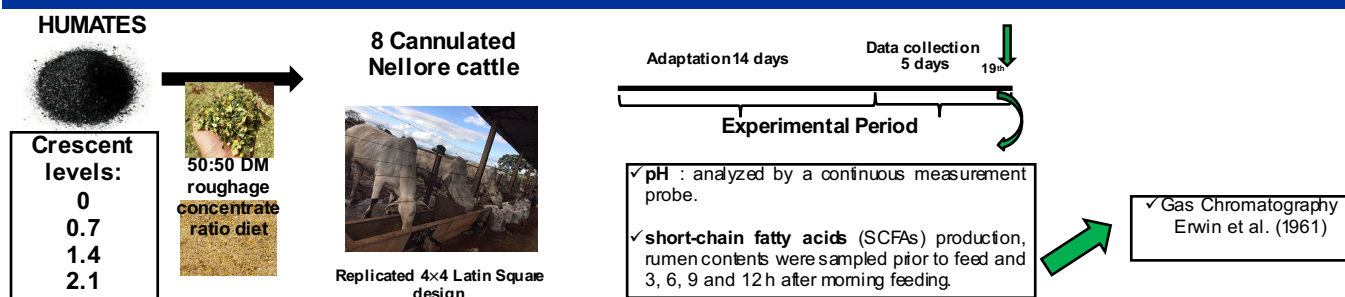
² Omnia Fertilizers

Introduction and Objective



✓ **OBJECTIVE:** crescent levels of humates (0, 0.7, 1.4 and 2.1) as feed additive on ruminal fermentation of Nelore cattle.

Materials and Methods



Results

Table 1. Effect of humates levels on ruminal pH and fermentation end products (SCFAs) (least square means ± standard error of the mean)

Item	Humates Levels				SEM	P
	0	0.7	1.4	2.1		
pH	6.4	6.3	6.4	6.2	0.13	0.299
Acetic (mM)	78.8	75.3	80.7	77.2	1.94	0.626
Propionic (mM)	23.2	21.7	21.7	21.2	0.54	0.427
Butiric (mM)	14.6	14.0	14.6	14.0	0.32	0.779
Isobutiric (mM)	1.5 a	1.4 a	1.3 b	1.2 b	0.03	<0.0001
Valeric (mM)	1.6 a	1.4 b	1.4 b	1.3 b	0.04	0.001
Isovaleric (mM)	2.6 a	2.2 b	2.4 b	2.2 b	0.05	0.04
Acetate:Propionate	3.4 b	3.5 a	3.7 a	3.6 a	0.04	0.0015

^{ab} Means within a row with unlike letters differ at $P \leq 0.05$; SEM: standard error of the mean.

- ✓ No interaction for HUMATE LEVELS and HOUR.
- ✓ **SCFAs : LINEAR DECREASE** as level of humate increased;
- ✓ **Acetate: Propionate relation : LINEAR INCREASED** as humate level increased;

✓ The humates use as NATURAL or ORGANIC additive for beef altered SCFAs molar concentration, providing adequate condition for rumen as conventional additives: antibiotics.

Bibliography

ERWIN, E.S.; MARCO, G.J.; EMERY, E.M. Volatile fatty acid analyses of blood and rumen fluid by gas chromatography. *Journal of Dairy Science*, v44, n.9, p.1768-1771, 1961.

Acknowledgements

