

Effect of Tannin and Soybean Oil Supplementation on Gas Production, Degradability, and Ruminal Fermentation

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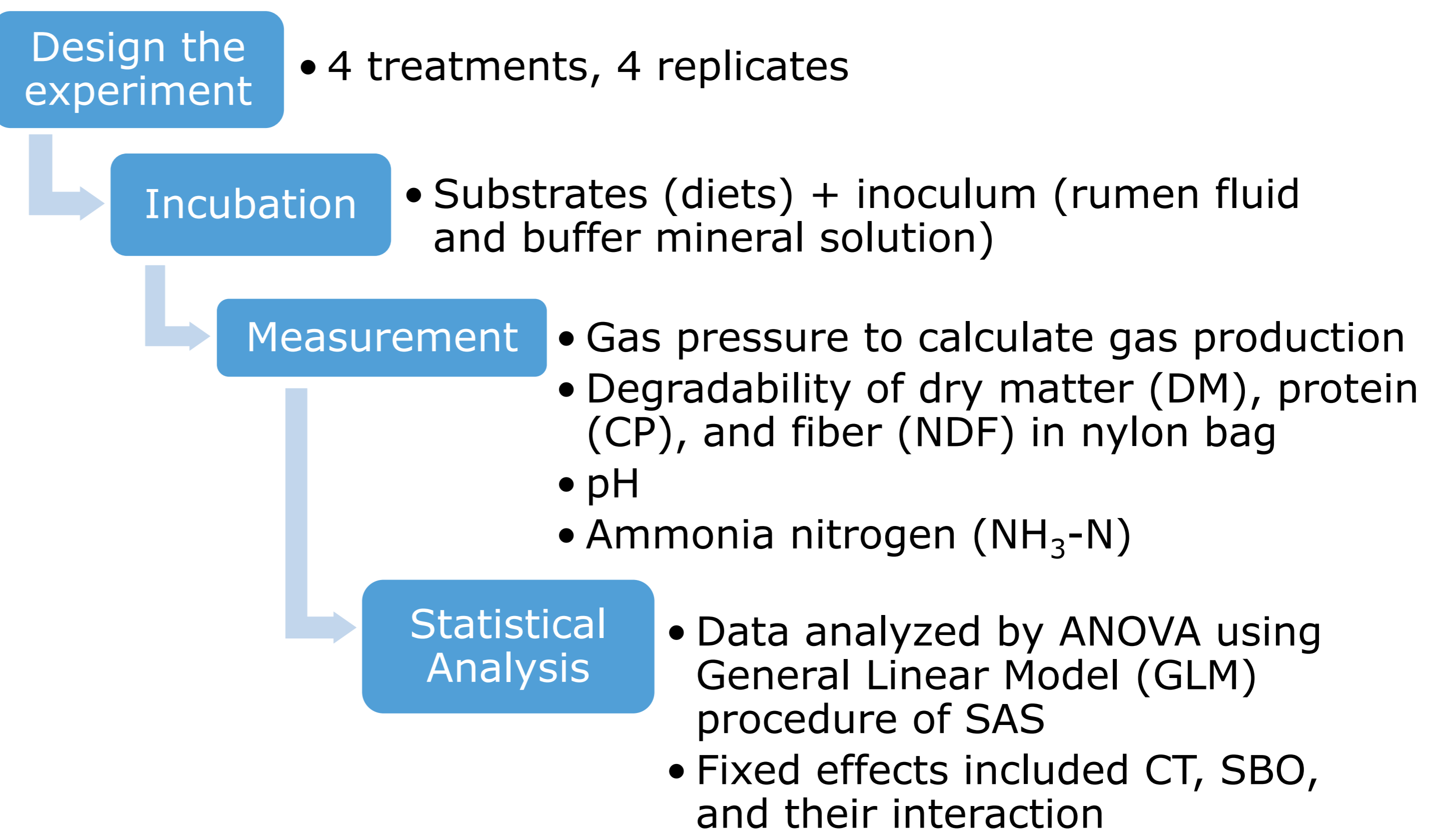
Background

Tannins and soybean oil are available as feed supplement to ruminants in the semi-arid region of Brazil and potentially change the degradability of nutrients and gas production. However, the effect of combination of both supplements in animal diets is still lacking.

Objective

To evaluate the influence of diets with condensed tannin (CT) and soybean oil (SBO) supplementation on *in vitro* gas production, degradability and ruminal fermentation characteristics.

Methodology



Results

Table 1. *In vitro* gas production, potential degradability of DM, CP, and NDF, pH, and NH₃-N concentration upon supplementation of CT and SBO

Parameters	Treatments ¹⁾					P-value		
	T1	T2	T3	T4	SEM	CT	SBO	CT-SBO
Gas production (ml g ⁻¹ of DM)	128	104	111	99	2.3	<0.001	<0.001	<0.001
DM potential degradability (%) ²⁾	78.5	86.4	77.7	80.5	0.93	0.006	0.067	0.140
CP potential degradability (%)	84.9	78.0	73.5	80.3	0.83	0.961	0.009	<0.001
NDF potential degradability (%)	63.8	57.3	56.3	71.4	1.93	0.330	0.425	0.025
pH	6.5	6.6	6.6	6.7	0.02	<0.001	0.014	0.574
NH ₃ -N (mg l ⁻¹ of rumen liquid)	13.9	16.9	19.5	19.1	0.08	0.302	0.007	0.177

¹⁾T1 = 60% elephant grass + 40% concentrate (control); T2 = 60% elephant grass + 37% concentrate + 3% CT (Weibull®); T3 = 60% elephant grass + 35% concentrate + 5% SBO; T4 = 60% elephant grass + 32% concentrate + 3% CT (Weibull®) + 5% SBO

²⁾The parameters of potential degradability were estimated by model of Ørskov and McDonald (1979), using non-linear regression procedures (NLIN).

Conclusions

- CT and SBO decreased gas production and potential degradability of CP and NDF, but a significant interaction between CT and SBO occurred.
- Both CT and SBO increased the pH of rumen liquid.
- Only SBO increased NH₃-N content.
- Both CT and SBO are effective to control nutrient degradability.

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