**Effect of *Cistus ladanifer* L. tannins on digestion, ruminal fermentation and microbial protein synthesis in sheep.**

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**OBJECTIVES**

Measure the effect of a purified extract of tannins of *Cistus ladanifer* L. on:
- ruminal degradability,
- Fermentative parameters
- Intestinal and apparent digestibility
- Rumen microbial protein synthesis in sheep.

**RESULTS**

The addition of tannins:
- Induced a decrease in the soluble-nitrogen of the soybean meal
- Induced a decrease in the rapidly degradable fraction “a” of crude protein and an increase in the slowly degradable fraction “b”
- Did not change the effective degradability and rumen undegradable protein
- Induced a decrease in the microbial nitrogen yield
- Did not affect the intestinal digestibility
- Did not affect the apparent digestibility of DM, OM, NDF, ADF and CP
- Did not affect the rumen pH, NH3-N, and volatile fatty acid production.

**CONCLUSIONS**

In this study the level of tannins included did not cause the desirable rumen effects:
- the flux of feed protein into the post-ruminal compartments did not increase and
- the microbial protein yield decreased.

**MATERIAL AND METHODS**

Addition of tannin extract to the soybean meal supplement – samples of soybean meal (6 kg) were sprayed with mixtures (1:9 w/v) of tannin extract diluted in acetone/water solution (70:30 v/v) in order to obtain soybean meal with 0% (S0), 1.5% (S1.5) and 3% (S3) of tannins.

Metabolic trial

Animals - three rumen cannulated Merino rams
Experimental design - 3 x 3 Latin square design
Feedstuffs – Basal diet - oat straw (600g) + manioc (300g) and Soybean meal (100 g) with tannin extracts (0, 1.5 or 3%).

Nutritive parameters

Apparent digestibility
Nitrogen balance
Intestinal digestibility of protein (Calsamiglia and Stern, 1995)
Ruminal microbial protein synthesis (Chen and Gomes, 1992)
Ruminal pH and volatile fatty acids (Jouany, 1981)

**REFERENCES**


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