Effect of soybean meal treated with Cistus ladanifer condensed tannins on growth, carcase and meat quality of lambs

T. Dentinho¹, K. Paulos², A. Francisco³, E. Jerónimo³, J. Almeida¹; A.T.Belo¹, R.J.B. Bessa², J. Santos-Silva¹

¹Unidade Estratégica de Investigação e Serviços em Produção e Saúde Animal, INIAV, Fónte Boa, 2055-048 Vale de Santarém, Portugal
²CISA, Centro de Investigação Interdisciplinar em Saúde Animal, Faculdade de Medicina Veterinária, Pólo Universitário do Alto de Ajuda, 1300-477 Lisboa, Portugal
³Centro de Biotecnologia Agrícola e Agro-Alimentar do Alentejo (CEBAL) / Instituto Politécnico de Beja (IPBeja), 7801-908 Beja, Portugal
E-mail: teresa.dentinho@inia.pt

Table 1. Nutrient intake and growth performance of lambs fed with the experimental diets

Table 2. Carcass traits and meat quality of lambs fed with the experimental diets.

Preparation of tannic extract

• C. ladanifer - leaves and soft stems milled (1 mm)
• Acetone: water (70:30) in the proportion of 1:10
• Acetone evaporation
• Aqueous extract washed with petroleum ether
• Freeze-dried

RESULTS

- Table 1 - With CT inclusion a positive response on growth and on feed conversion ratio was obtained.
- Table 2 - Only differences are observed in high priced cuts being lower with RPCT diet.

CONCLUSIONS

C. ladanifer CT can be used as feed additive to improve feed protein utilization and hence to reduce the feed costs, without compromising lamb performance.

Physical, chemical and sensory characteristics of lamb’s meat

- Colour parameters (L*, a*, b*);
- Colour stability;
- Crude protein;
- pH;
- Cooking losses;
- Shear force;
- Sensory panel

Characteristics not affected by treatments

METHODOLOGY

Animal trial

24 lambs individually housed
• Live weight - 21.1 ± 1.6 kg
• 6 lambs/diet
• Diets – hay and concentrate (15:85)
• Concentrate: Control (16% CP) ; RP (12% CP) ; RPCT (12% CP treated with C.ladanifer CT)
• Feed offered daily- an equivalent quantity to 4% of the each animal weight.
• Adaptation period – 7 days; Experimental period - 5 weeks

Evaluation of the effects on animal performance, carcases, meat quality