Introducing *Lupinus* spp. seeds in *Churra Da Terra Quente* lambs and its effect on growth

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Introduction

Legumes of the genus *Lupinus* spp.

Well-adapted to soil and climatic conditions of the Mediterranean region.

Good sources of protein (~ 20% - 45%) and energy.

Alternatives to imported protein sources for animal feed (soybean meal)?

Objective

Study the replacement of soybean meal by *Lupinus albus* grain or *Lupinus luteus* grains on *Churra da Terra Quente* lambs feeding and its effect on growth.

Material and Methods

Analysis to determine chemical composition of each diet component.

Diets were formulated according to AFRC (1993) recommendations.

AFRC (1993) Energy and Protein Requirement of Ruminants: An Advisory Manual Prepared by the AFRC Technical Committee on Responses to Nutrients. CAB International, Walling-ford.

Material and Methods

Twelve male lambs

- Ages between 92 and 110 days
- Initial mean live weight of 18 ± 2.8 kg

3 groups of 4 animals

Control diet (CTR): meadow hay, wheat grain and soybean meal

L. albus replacing soybean meal (26%, LA)

L. luteus replacing soybean meal (33%, LL)

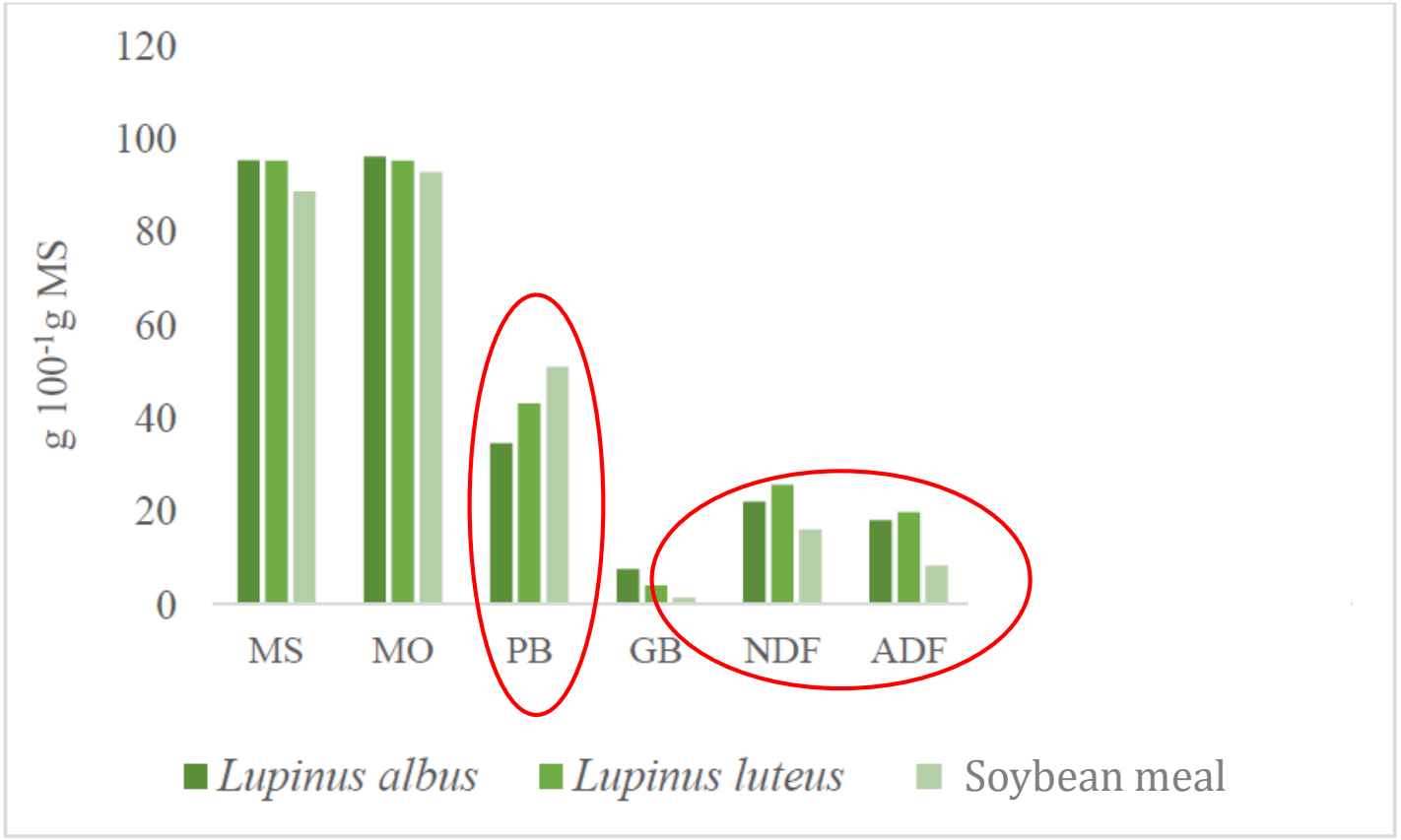
Material and Methods

Weekly weighing and recording of the amount of feed supplied and ingested (~3 months)

- Dry matter intake (DMI)
- Organic matter intake (OIM)
- Average daily gain (ADG)
- Feed conversion rate (FCR).

Digestibility in metabolic cages.

Results


120
100
80
60
40
20
0
g 100-1g MS
MS
MO
PB
GB
NDF
ADF
Lupinus albus
Lupinus luteus
Soybean meal

Results

	Group			SME	P
	CTR	TC	TR		
n	4	4	4		
DMI (g day-1)	**688,7^{b}**	**731,4^{a}**	**725,1^{a}**	10,56	**0,032**
DOMI (g dig. OM day-1)	547,7	538,0	543,6	12,04	0,638
ADG (g day-1)	126,2	129,8	126,8	6,76	0,920
FCR	5,55	5,67	5,78	0,254	0,796

Results

	Group			SME	P
	CTR	TC	TR		
n	3	3	3		
ADC					
DM	656.5	608.3	618.7	0.831	0.475
OM	670.2	625.1	637.8	0.857	0.465
NDF	629.8	559.9	567.2	4.218	0.063

Particle size?

Digestibility

Conclusions

- No effect on performance of ~30% substitution of soybean meal
- *Lupinus* spp may be a substitute for some producers → Production size, land availability,…

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Any questions?

Thank you for your attention.

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