

Feeding behaviour, intake, apparent digestibility and plasma metabolites of Latxa dairy ewes as affected by cold-pressed oilseed cakes and sainfoin

A. Garcia-Rodriguez, I. Goiri, C. Pineda-Quiroga, A. Pascual, R. Atxaerandio, R. Ruiz

Introduction



oilseeds



Coproduct: cake



Animal feedstuff

Full replacement of soybean meal

The effect of fat depends on the forage used

Objectives

To assess the combined effect of cold-pressed oilseed cakes and sainfoin on ingestive behaviour, apparent digestibility and plasma metabolites

Material and methods

➤ Animals and experimental diets



➤ 72 Latxa dairy ewes

- Multiparous
- Mean daily milk production: 2094 ± 520 g
- Days in milk: 15 ± 8 d

➤ 2x3 factorial arrangement

- 2 forages
 - Sainfoin (SAIN)
 - Tall fescue (FES)
- 3 concentrates
 - Sunflower cake (SUN)
 - Rapeseed cake (RPS)
 - Soybean meal (CTR)

Material and methods

➤ Animals and experimental diets

<i>Concentrates</i>	SUN	RPS	CTR
Organic matter (%)	90	90	90
Crude Protein (%)	18.0	18.0	18.5
NDF (%)	28.6	19.6	20.1
ADF (%)	20.0	12.3	11
Fat (%)	10.8	10.9	10.7
Energy (UFL)	1.1	1.1	1.1

✓ **Supplements designed to be provide equal amounts of CP, fat and UFL**

Material and methods

➤ Experimental design

• Adaptation

• Sampling



• DMI + OMD

• Animal behaviour

• Blood sampling

Material and methods

➤ Statistics

- $Y_{ijk} = \mu + C_i + F_j + C_i F_j + \varepsilon_{ij}$

- GLM:

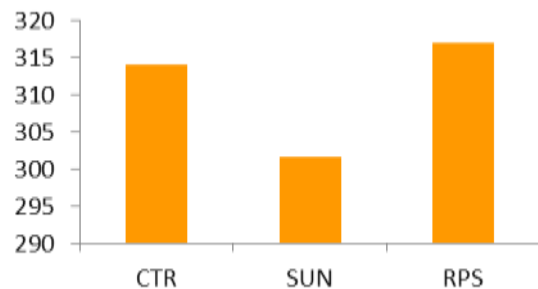
- Intake
- OMD
- Animal behaviour
- Plasma metabolites

Results

➤ Effect of concentrate

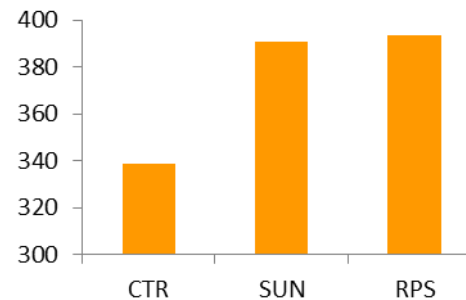
Eating time (min/d)

P=0.072



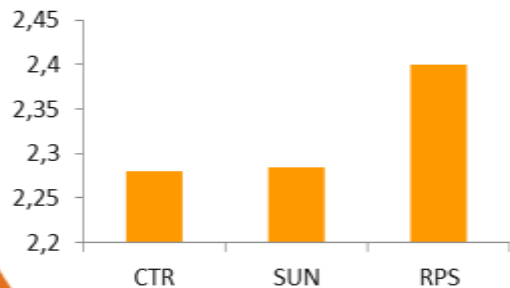
Rumination time (min/d)

P=0.167



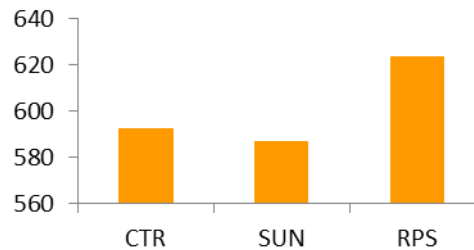
Total DMI (kg/d)

P=0.386



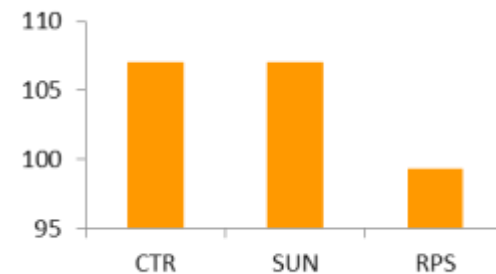
OMD(g/kg)

P=0.347



IGF-1 (ng/kg)

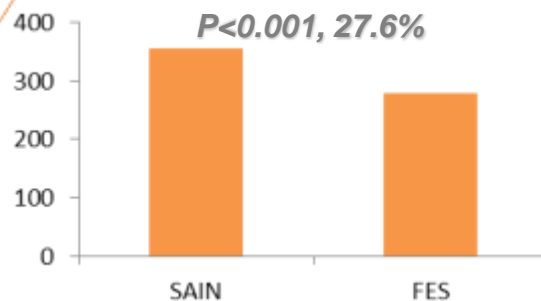
P=0.304



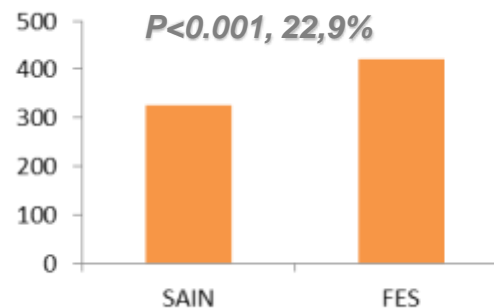
Results

➤ Effect of forage

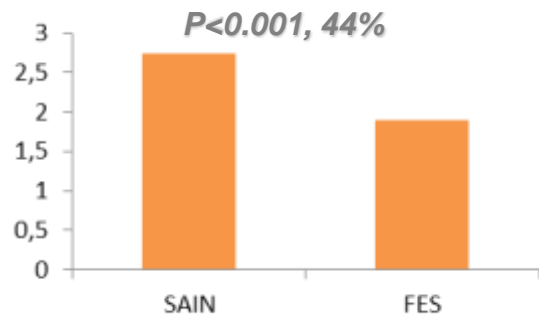
Eating time (min/d)



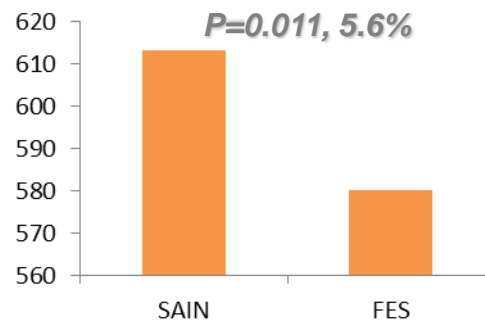
Rumination time (min/d)



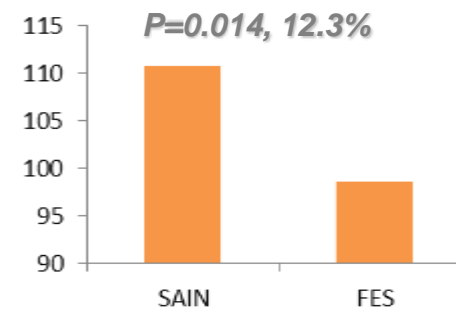
Total DMI (kg/d)



OMD(g/kg)



IGF-1 (ng/kg)



Conclusion

- **Oilseed cakes obtained on-farm can fully replace soybean meal in diet formulation regardless of the forage used**

Thanks for your attention

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