

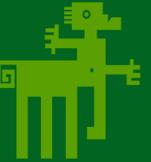
# STUDY OF THE BODY CONDITION OF L'OLIVERA'S SHEEP AND ITS RELATIONSHIP WITH REPRODUCTION

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FINAL DEGREE PROJECT  
JUNE 2025



## L'OLIVERA

L'Olivera is a cooperative located in Can Calopa de Dalt (Collserola Natural Park, Barcelona), that promotes **social inclusion, agroecological production and sustainability**. It cultivates vineyards and olive trees to produce organic wines and oils, integrating people at risk of social exclusion. The cooperative also manages a small flock of sheep donated by the City Council serving both educational purposes and environmental management through natural vegetation control.

However, the cooperative lacked data regarding the flock's **nutritional status** or how to **optimize its reproductive management**. Their main concern was to ensure proper nutrition and well-being for their flock of sheep. Therefore, they were **seeking support to guide them** along this path.



Figure 1. Rural state in Can Calopa de Dalt. Source: Own.

## OBJECTIVES

- Monitor the **body condition (BCS)** of the flock and its changes over time.
- Estimate the **real energy contribution** of the pasture available in Can Calopa.
- Determine the **optimal time for reproduction** based on the flock's energy status.
- Provide sustainable **management recommendations** tailored to L'Olivera's context.

SOCIAL NEED

## MATERIAL AND METHODS

- **Animals:** 13 sheep (12 Ripolleses and 1 Xisqueta) managed in a semi-extensive system with 5 days/week of grazing and 2 days/week of supplementation.
- **Location:** estate in Can Calopa de Dalt (Collserola) including 2.5 Ha of vineyards and olive trees and 1,218 ha of surrounding woodland.
- **Methodology:** monthly assessment of BCS (scale 1-5) by lumbar palpation, from October 2024 to May 2025.
- **Estimation** of energy requirements according to the **INRA system**.

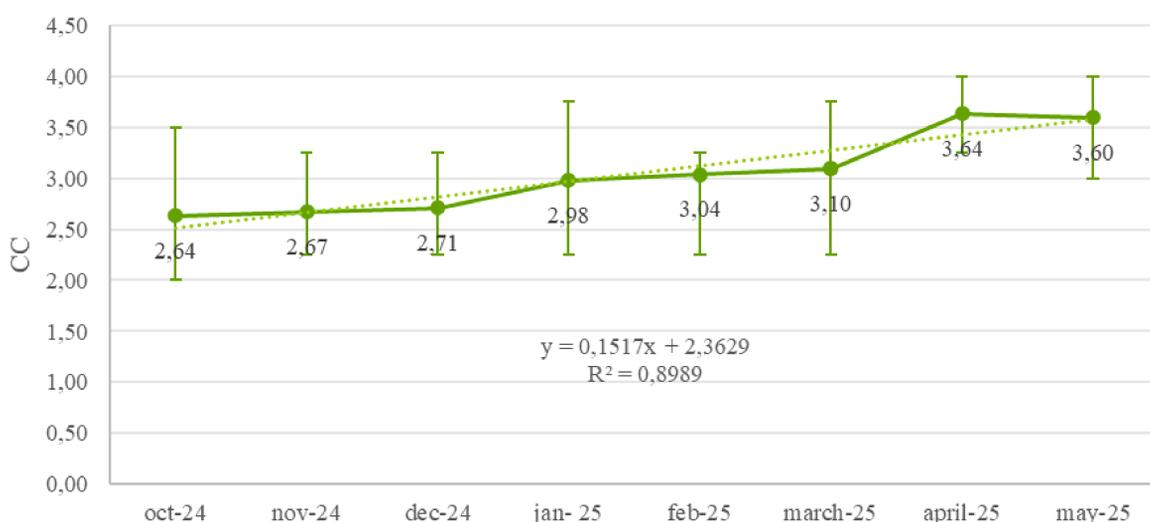
UFC maintenance = **3759,5 UFC/year/flock**

Total annual energy availability = **993,345 UFC/year/flock** (based on Caballero García de Arévalo (1985))

- Outer grazing
- Inner grazing
- Supplementation

## RESULTS

BCS EVOLUTION (FLOCK MEAN)



Graphic 1. Evolution of BCS (October 2024 - May 2025). Source: Own.

## Factors involved:

- Use of outdated sources and lack of recent studies may have led to an underestimation of available plant biomass.
- Rainy winter climate: more vegetation, increase in BCS during winter months.
- Irregular supplementation practices:
  - Deviations from the established guidelines: omission, defect and/or excess
- Absence of lactation and gestation → lower energy needs → increased metabolic efficiency.

Figure 2. L'Olivera's sheep flock. Source: Own

## CONCLUSIONS

- **Mean BCS** increased from **2.64 to 3.60**, indicating a sustained **positive energy balance**, with an unexpected rise of BCS during winter months (December to February).
- **L'Olivera**, despite its lack of previous experience, has adequately managed the feeding and welfare of the flock.
- It is recommended to **maintain winter supplementation** and **increase the grazing area** (25 m).
- Considering the BCS evolution, **three reproductive management strategies** are viable according to the objectives of the cooperative:
  - Good fertility would be expected if mating was performed in spring, but if they wanted to increase prolificacy, it would require the use of hormonal treatments such as progesterone itself or combined with eCG.
  - If mating was performed in autumn with this BCS, optimal and good numerical productivity would be expected.
  - Grazing alone would be enough for flock management if a non productive flock is to be maintained with the aim of reducing supplementation and feeding costs.

REFERENCES

