

**Thesis title**

# **ANALYSIS OF THE DYNAMICS OF SHEEP FARMS IN ARAGON AND THEIR ECONOMIC VIABILITY**

Phd program: Agricultural sciences and natural environment  
University of Zaragoza



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# INTRODUCTION

Aragón is one of the important ovine regions in Spain which counts about 10,3 % of the national ovine flock (MAPA, 2019). Sheep activity in this region is mainly oriented toward meat production. Researchers and professionals always seek how to improve the efficiency of this activity, mainly by the analysis of the different factors or components of the system ( structural, technical, economic environmental and socio-psychological ) and the Common Agricultural Policy (CAP) measures. These factors would influence directly or indirectly the farms' economic results , thus on their viability in an uncertain general context for this activity.





## General objective

- In the present study the main objective is the characterisation and typification of sheep meat farms in Aragon. Furthermore, studying farms' trajectories and the changes occurred on the different indicators (Structural, technical and economic). This analysis would give a holistic view for the sheep sector in Spain.



# Specific objectives



- General description of the ovine systems in Aragón regarding to structural, technical, and economic indicators through a sample analysis.
- Characterise and typify the farms in homogeneous groups basing on different criterion.
- Analysis of the dynamics of sheep meat farms in Aragón during the last two decades by the identification of the different trajectories of evolution. Likewise, figure out the main drivers of change affected these trajectories.
- Evaluation of the dependency and the adaptability of sheep systems to the CAP reforms.
- Establishment of models with predictive equations basing on the results from the previous analysis. Furthermore, simulate the adaptability of the farms' management policies to different situations and scenarios.
- Propose future action plans for the different stakeholders implicated in the ovine activity: farmers, cooperatives and public administration which would help them to take the right decisions in the best moment.



# MATERIEL AND METHODS



**Sample**  
128 meat sheep farms in  
Aragon.



## **Data collection**

- 1- Data provided by the Technical Economic Management Programme 1 (GTE1) headed and developed by the Cooperative 'Oviaragon grupo pastores', and the Superior Polytechnic School of Huesca, University of Zaragoza
- 2- The 128 farms have been participated in the « GTE1 » 5 years or more, varying from 5 to 24.
- 3- The trajectories will be studied for 23 farms which participated in the program for 18 years and more.

# MATERIEL AND METHODS



Data processing



Description of the sheep systems: Descriptive analyses of the sample



Farms' typology: Factor and cluster analyses  
Multiple linear regression



Analysis of the trajectories and the drivers of change  
(The trajectories are currently studying on 23 farms' which participated in the program for 18 years or more )



Predictive models : Multiple regression analysis





# PROGRESS OF THE THESIS



- 1- The antecedents and literature parts are finished
- 2- The 128 sheep farms has been selected from a bigger sample with 233 farms. As a first step.
- 3- All financial data were converted from current euros for each year to constant euros 2016 from 1993 until 2016.
- 4- It was done a structural characterisation of the sample. It has been performed a factor and a cluster analysis followed by a multiple linear regression to figure out the main structural indicators' influencing the gross margin per man al labour unit.
- 5- At the same time it was done the T student for the 23 farms to identify the main structural technical and economic changes recorded between 1993 and 2016.
- 6-The T student is followed by starting studying the trajectories for these 23 farms by different statistical methodologies to see which one gives better results



# COMMUNICATIONS AND CONGRESSES

- Attended Phd conference belonging to the G9 group universities, hosted by Palma de Mallorca university on February 8-10-2017, with a poster presentation about the thesis.
- A short communication presented and published in AIDA journal entitled « **Factors which influence the profitability of meat sheep farms in Aragon** » in 2017.
- A short communication presented and published in SEOC 2018 entitled “**Structural typification and its influence on the economic results for sheep meat farms in Aragon**”
- A short communication published in AIDA journal in 2019 entitled: “**RELATIONSHIP BETWEEN STRUCTURAL INDICATORS AND ECONOMIC RESULTS OF SHEEP MEAT FARMS IN ARAGON**”
- An article entitled “**Sheep meat farms’ structural tipfication and profitability**” is submitted to “INEA” for publication .





# PHD ACTIVITIES

- I have done a course on Academic English. Speaking and writing sessions were studied ( 20 hours)
- I participated in an « authors workshop » organised by the University of Zaragoza on 02/06/2016. ( 2 hours)



# CONCLUSIONS

- Continue with developing the literature part
- Carry on the statistical analysis.



Thank You!

