

Acknowledgements and funding

This research has been financed by a collaboration agreement between the Agricultural Technological Institute of Castilla and León (ITA-CYL), the University of Valladolid (UVa) and the Scientific Park Foundation of the UVa and the project AGL2016-75159-C2-1-R funded by the Spanish State Research Agency (AEI) and the European Regional Development Fund.

doi: [10.1016/j.anscip.2023.01.270](https://doi.org/10.1016/j.anscip.2023.01.270)

O-195**Strategic analysis of the dairy sheep production systems in Brazil – An approach by SWOT methodology**

A.E. Bianchi, C. Reichen, L.I. Borges, J.G.R. Dos Santos, A.L.G. Monteiro

Federal University of Paraná, Curitiba, Brazil

Corresponding author: Caroline Reichen.

E-mail: caroline.reichen@ufpr.br

Keywords: Inputs; Organization; Production; Processing

Introduction

Dairy sheep are concentrated around the Mediterranean and Black Sea regions worldwide, where their dairy products are typical ingredients of the human diet. The Brazilian dairy sheep production systems and industry are still very small and present great variation regarding the structure of the farms, animal productivity, costs, processing, and destination of product. The main product of the business is cheese and other derivatives. The objective of this work was to describe the components of the sheep milk production systems in Brazil, identifying weaknesses and strengths, opportunities, and threats, using the SWOT methodology.

Material and methods

The present study was developed through face-to-face interviews with agents linked to the fifteen sheep milk farming systems in Brazil, in the year 2017. The agents pointed out and described the strengths, weaknesses, opportunities, and threats of each of the four segments of the sheep milk production chain (inputs, production, processing, and marketing) which were organized in a SWOT matrix.

Results and discussion

In general, the lack of adoption of adequate technology and the lack of data and costs control on the farms are considered weaknesses in sheep milk production systems. Regarding to processing industry, the low volume of milk production due to the small size and the low efficiency of Brazilian dairy herds, and the difficulties related to legislation were pointed as the main weaknesses. The lack of consumer culture and knowledge of products derived from sheep's milk are important critical points that reflect on the sector. On the other hand, the physicochemical, nutritional, and antiallergenic properties, as a beneficial alternative milk product, and the possibility of marketing of artisanal products are considered strengths. Other opportunities are the possibility of production in smaller farming, added value of sheep milk products, and growing consumption of sheep food products. Linked to these aspects, the development of sheep's milk production and artisanal cheese processing, together with the tourism sector in several Brazilian states, has been another value-adding aspect. Farther, the production of lambs for meat in the same sheep milk farming systems, as an important revenue-generating product, was mentioned as strength in Brazilian sheep business model.

Conclusion and implications

Milk sheep production and processing techniques should be implemented as well as data and cost control. The intensive production with added value and the growing consumer market favors the growth of the sector, and campaigns to promote milk sheep and its derivatives must be carried out. The production of sheep's milk in Brazil is a small production chain that is still being organized; although the productive components of the systems are heterogeneous, they present positive economic indicators, showing that it is a potential agricultural activity.

Acknowledgements and funding

Brazilian Association of Dairy Sheep Breeders (ABCOL).

doi: [10.1016/j.anscip.2023.01.271](https://doi.org/10.1016/j.anscip.2023.01.271)

O-196**Animal growth, tissular composition, and carcass conformation of light Merino lambs**

M.J. Alcalde^a, B. Panea^b, G. Ripoll^b, E. Bartolome^a, A. Granero^c

^aUniversidad de Sevilla, Sevilla, Spain

^bCentro de Investigación y Tecnología Agroalimentaria de Aragón, Zaragoza, Spain

^cAsociación Nacional de Criadores de Ganado Merino, Madrid, Spain

Corresponding author: Maria J. Alcalde.
E-mail: aldea@us.es

Keywords: Light lamb; Carcass; Growth; Merino breed

Introduction

In Spain, light lamb is the most consumed sheep commercial type. These animals are around 3 months old and have between 18 and 24 kg of live weight. Merino breed has the largest census in Spain. Originally, wool was the main production of this sheep breed. However, when synthetic fabrics downplayed its importance, the breed was subjected to genetic selection improving its meat characteristics. It is important to check if there has been an evolution regarding the meat characteristics over time. Therefore, the objective of this study was to evaluate lamb (males and females) growth during the fattening process, conformation measurements and tissue composition on their carcasses.

Material and methods

A total of 73 lambs were controlled (37 males and 36 females) from 13 different farms. Growing rate data from 75 to 115 days old were taken at Feedlot. After carcasses cooling (24 h/4 °C), carcass performance (EUROP Classification (15 levels) assessed by a technical expert) and carcass measurements (carcass length (K), rump width (G), thorax depth (Th) and leg length (F)) were evaluated. After cutting the carcass of the animal, the shoulders were dissected and the tissue composition (muscle, fat, bone and others) was obtained. An ANOVA with the sex of the animal (male and female) as a fixed effect was performed.

Results and discussion

Neither the age (average 74.3 ± 2.9 days) nor the arrival weight of males and females (average 15.38 ± 0.25 kg) at the fattening farm, after the lactation period, were statistically significant. At the end of the fattening period, statistically significant differences were found for the weights and growth of the two sexes (25.91 ± 0.59 kg vs. 22.52 ± 0.52 kg (p -value: 0.000), and 242.15 ± 10.15 g/day vs. 178.51 ± 9.86 g/day (p -value: 0.006) in males and females respectively). Regarding carcass conformation measurements, the differences between sexes were statistically significant for: K, G and Th, but not F. In the carcass performance, there were significant differences between males (7.5 ± 0.3) vs. females (6.7 ± 0.2) (p -value: 0.023), which means that the males had a rating of R- and the females O+. Regarding tissue composition, only the percentage of muscle was significantly higher in males (58.50 ± 0.88) than in females (52.94 ± 0.76), (p -value: 0.011). After the logical differences between males and females, the study showed that both sexes had a higher growth potential than the final weights at which the study was carried out, since they did not show a high fattening (22.76 ± 0.86 percentage). Our results were in accordance with other authors.

Conclusion and implications

The genetic selection that has been carried out on this breed showed good growth parameters and quality of the carcass that are maintained over time.

Acknowledgements and funding

Asociación de Criadores de Ganado Merino and Matadero frigorífico Agudo.

doi: [10.1016/j.anscip.2023.01.272](https://doi.org/10.1016/j.anscip.2023.01.272)

O-197

Effect of Castellana lambs rearing system on meat texture, colour and oxidative stability

R. Bodas^a, C. Vieira^b, E. Domínguez^b, J.J. García-García^b, A. Benito^b, B. Martínez^b, C.I. Sánchez^b, S. Olmedo^a

^a ITACyL, Valladolid, Spain

^b ITACyL, Guijuelo, Spain

Corresponding author: Raúl Bodas.

E-mail: bodrodra@itacyl.es

Keywords: Lamb; Organic; Pasture; Indoors

Introduction

The objective of this study was to assess the effect of rearing system on meat quality (texture, colour and oxidative stability) of Castellana breed lambs reared under different management systems.

Material and methods

Twenty-eight lambs from the same farm and lambing season were reared with their dams until they were 6 weeks old, when they were weaned. After weaning, lambs were assigned to two different rearing systems. Thus, 14 lambs were reared indoors with free access to commercial concentrate and barley straw (group indoor) whereas another 14 lambs were reared outdoors on spring rye and barley grass with no concentrate supplementation (group outdoor). Outdoor lambs were managed under a system qualified as "organic". Slaughtering took place when animals reached 4.5 months old on four different days, between 3 and 4 months from each group being slaughtered on each day. Carcasses were chilled at 4 °C for 24 h and afterwards transported to the ITACyL facilities in an isolated van. The muscle longissimus