



# Evaluation of udder morphology and milk production in prolific and meat ewes

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U R U G U A Y

**70th Annual Meeting of the European Federation of Animal Science**  
**City of Ghent - Belgium**  
26 - 30 Aug 2019



▪ **Economy relies on agriculture (70% of all exports)**

▪ **Area: 17.000.000 ha**

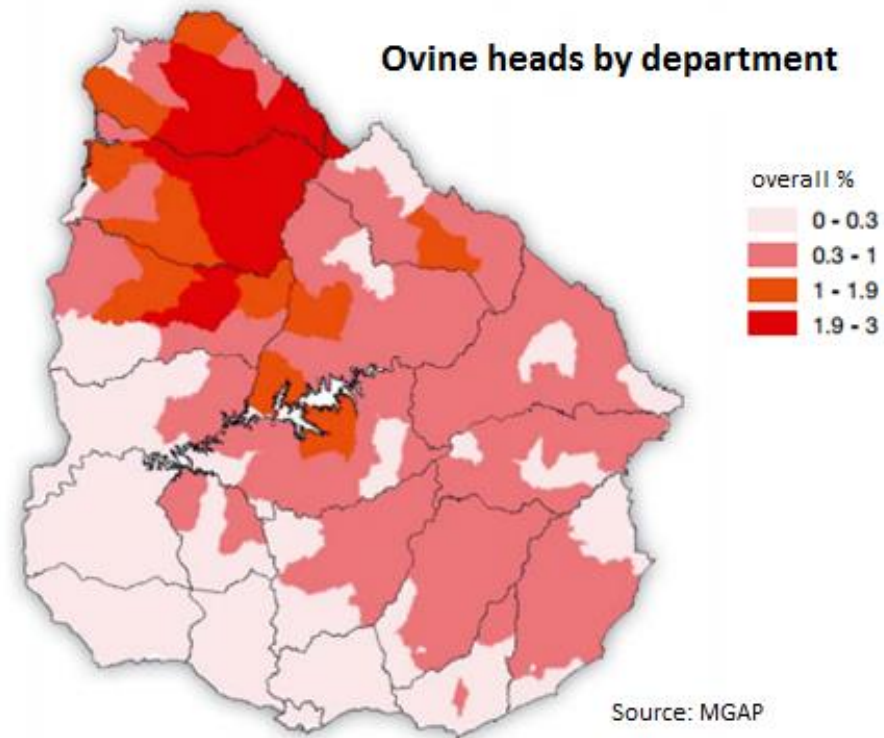
- 13.4 ha livestock production
- 10.5 ha natural grasslands
- **12 millions beef cattle**
- **6.5 million sheep**

▪ **Sheep Breeds**

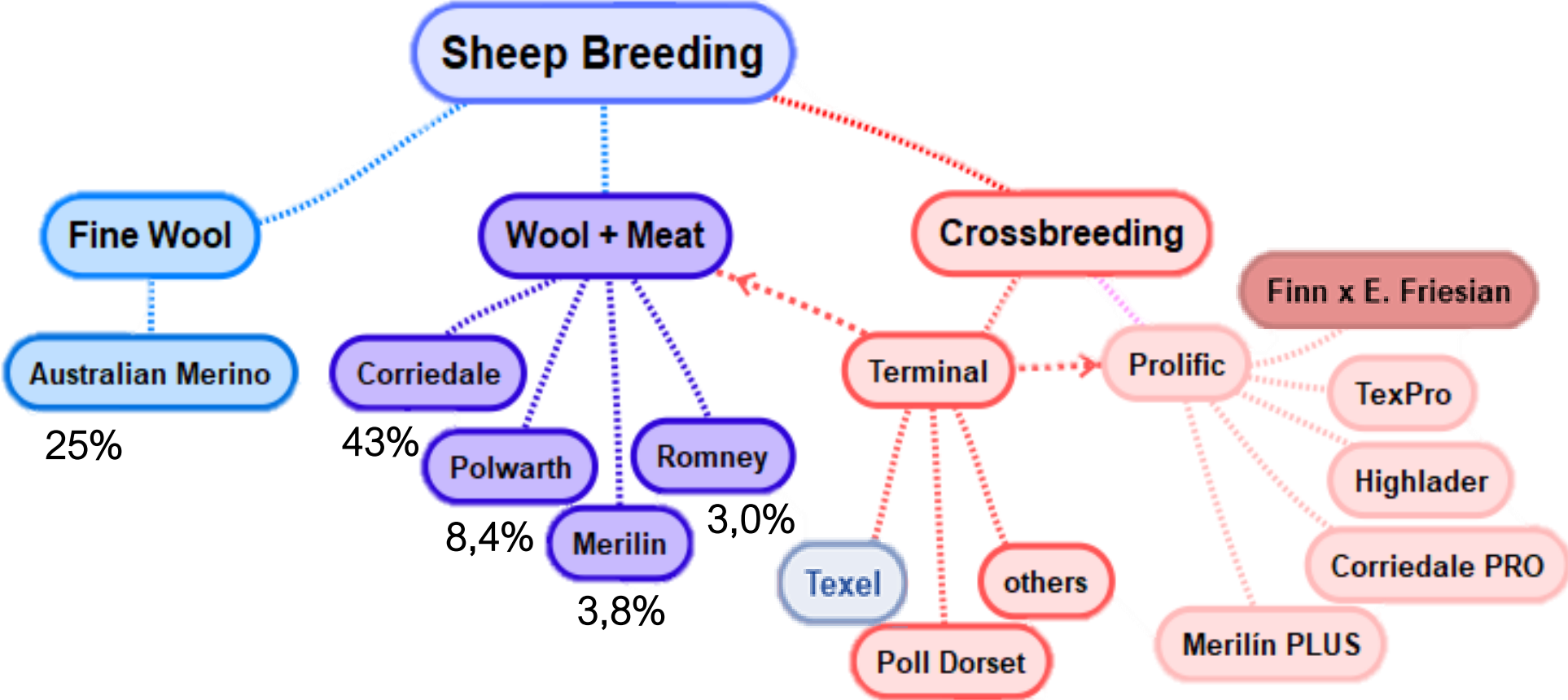
- 43 % Corriedale
- 25 % Australian Merino
- 8.4 % Polwarth
- 3.8 % Texel
- 3.8 % Merilin
- 3.0 % Romney
- 2.5 % Dohne Merino

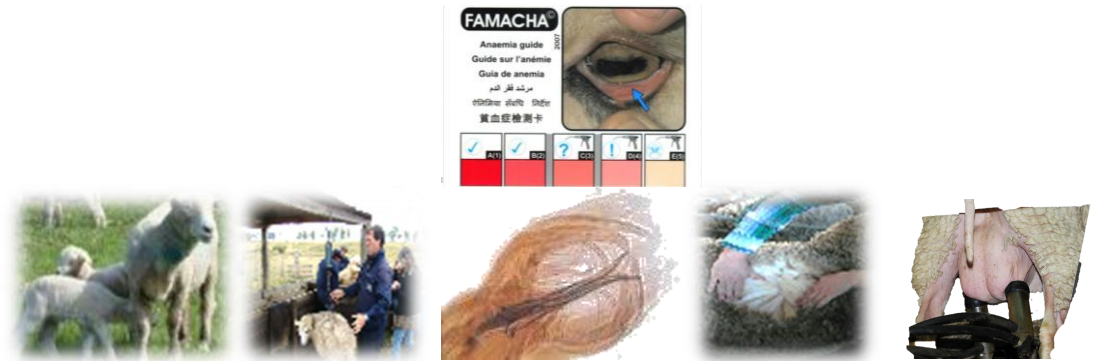
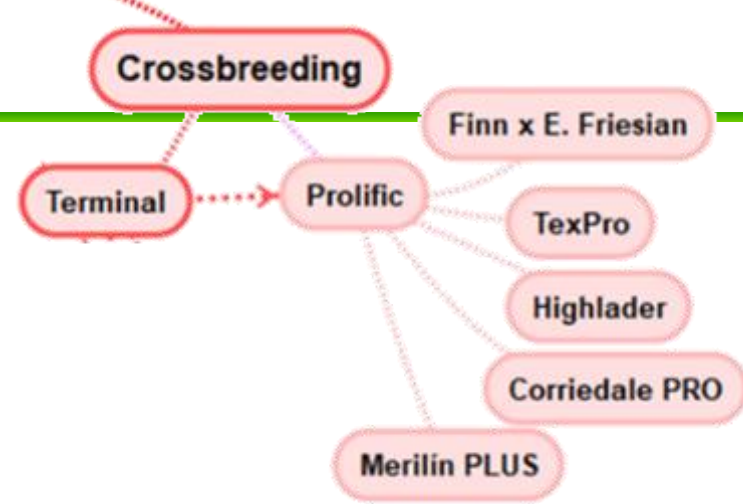
▪ **Social importance:** 41.600 farms





- **6 million** ovine heads (20 million average in 1970-2000)
- 3% exports wool and textile products (mostly China)
- Sheep exports: **80% wool** (sp China) – **20% meat** (sp Brazil)
- **20.000 farms** have sheep (44% of farmers)





**Main Traits:** reproduction, growth, FEC, wool, milk production

**Tools:** prolific crossbreeding, EPD, terminal crossbreeding



**Intensive systems**



## Evaluation of production and udder morphology

- 57 ewes

- Three flocks
- Some management

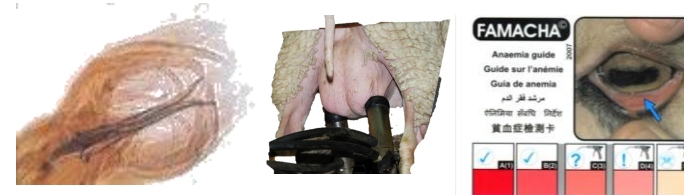
- 8 Finnsheep
- 24 East Friesian
- 25 Texel

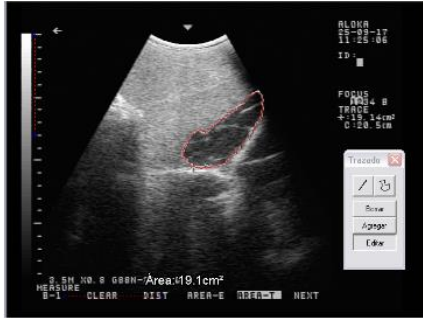
## Test Day Records

- 161 records

- DIM controls
- 21, 40 and 60 days

- 24 Finnsheep
- 68 East Friesian
- 69 Texel





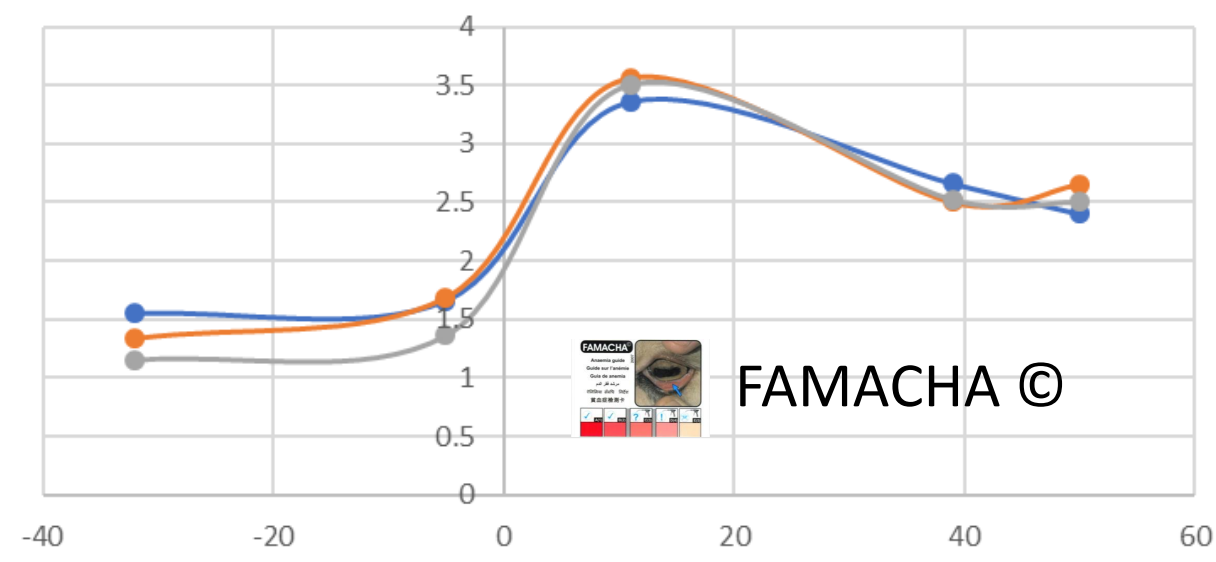
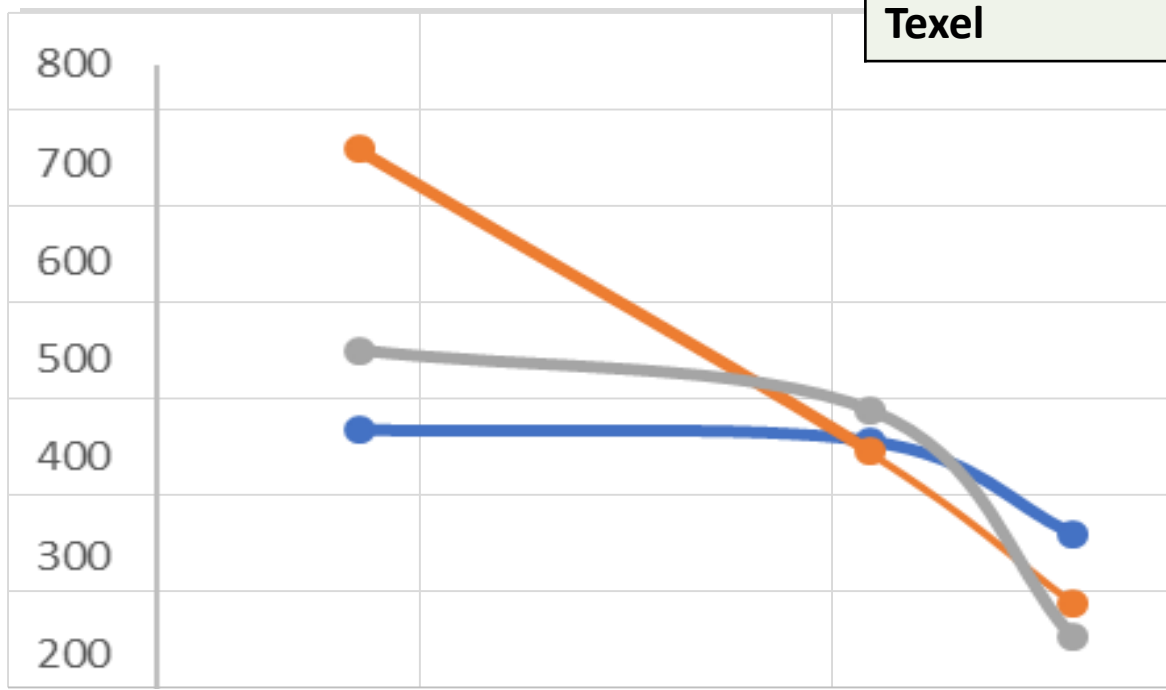
Side area of the udder

- **Glandular cistern area (CA)** were recorded by ultrasonography after intramuscular injection of synthetic oxytocin

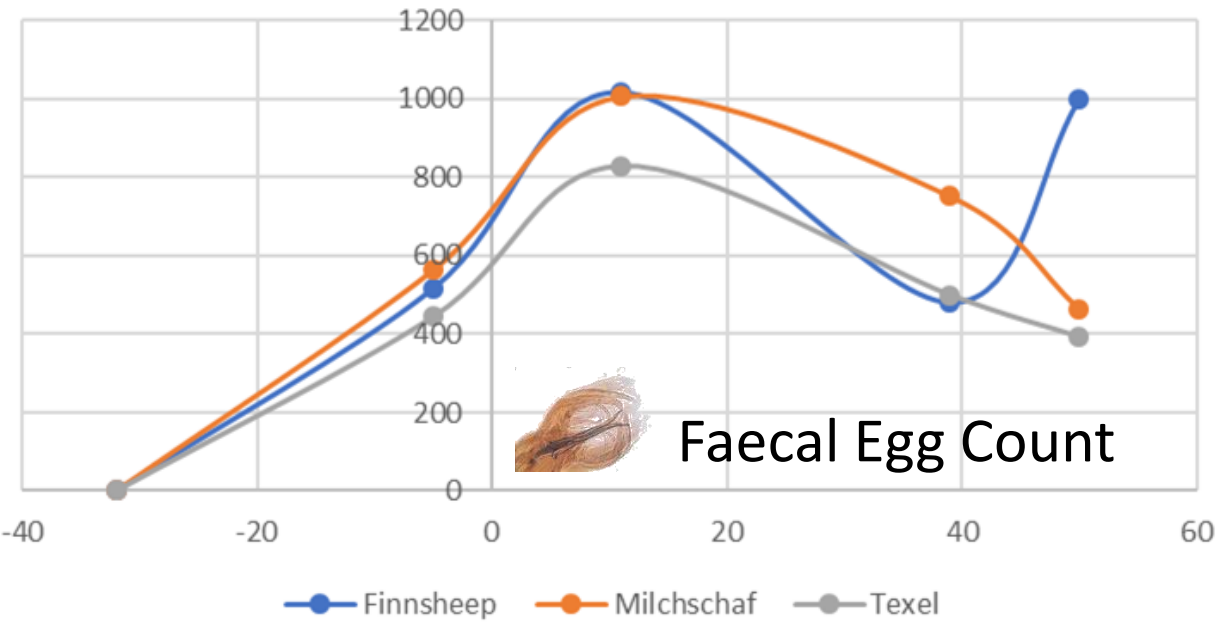
- Mechanic milking to record the milk weight (**MW**) and quality (**protein-Prot%** and **Fat%** percentages)
- All the traits were adjusted by the effect of **age of ewe (1-3)**, **type of lambing (1-2)**, **breed (F, EF, T)** and DIM and the square of DIM (both as covariables)
- **Correlation** between the residuals of CA and MW from these models were computed.

# Lactation Curve

Breed
East Friesian
Finnsheep
Texel



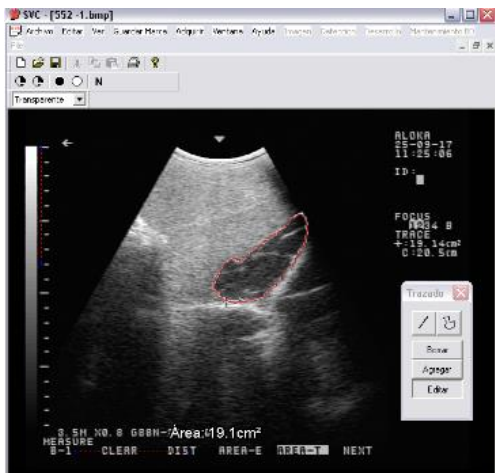
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Faecal Egg Count



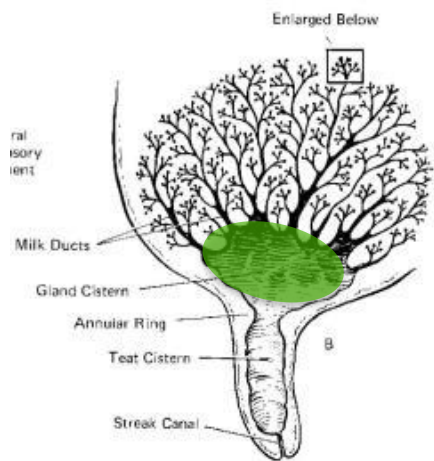




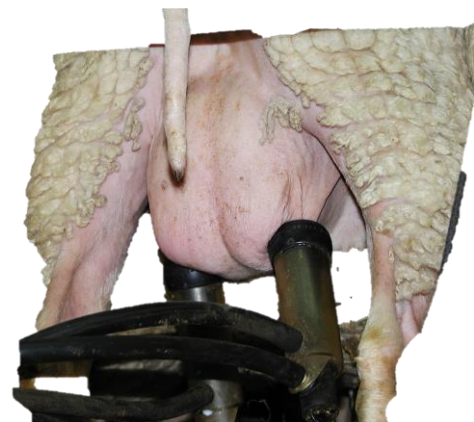
Breed	Cisternal Area cm <sup>2</sup>
East Friesian	35.7±2.0
Finnsheep	25.0±3.4
Texel	28.4±2.6

East Friesian is a dairy breed selected to be tolerant to long milking intervals

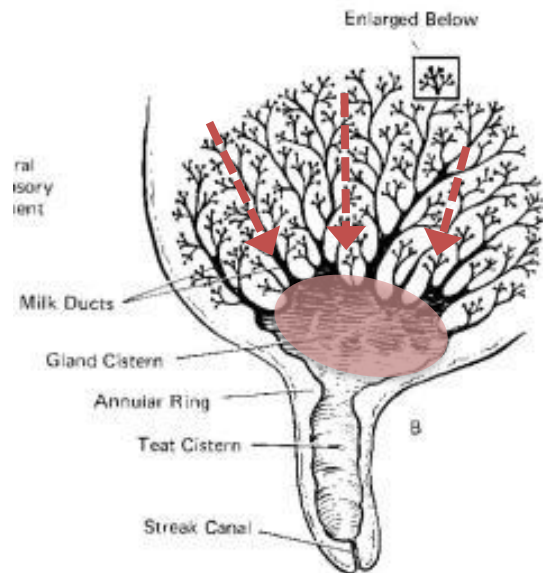
## Correlation between CA and MW residuals



East Friesian	0.00
Finnsheep	0.48
Texel	0.42



- The findings would indicate a **greater** proportion of alveolar production in the **East Friesian** breed and/or a better response to the release of milk by the oxytocin injection than non-dairy breeds



- Further research would help to determine the breed's differences **between milk production and quality**, as their **conversion into kilograms of lambs weaned**.

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*Thank you for your attention*

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