Cross Comparison of Lamb Mortality in two Different Mediterranean Countries

Aims

• Compare in two mediterranean countries:
  • Mortality rate
  • Distribution of lamb mortality by age
  • Mortality causes
  • Risk factors

• Determine if there are common issues?
Method

• The data were collected separately from two different countries
  • 2012-2014 in France (54 farms)
  • 2013-2014 in Turkey (49 farms)
• The purpose of data collection was not for this study
• An opportunity!
Data Collection Area: Turkey

The data is collected in the mountainous part of the Mediterranean Region of Turkey and the Main temp in summer and winter is 35.5 and 6°C, respectively.

49 suckler ewe breeders:
- 2 breeds (6 000 ewes – 8 000 lambs)
- 2 rearing systems:
  - Extensive
  - Semi-intensive
Data Collection Area: France

54 suckler ewe breeders:

- 2 years
- Massif Central area (50,000 ewes; 70,000 lambs)
- 3 rearing systems:
  - two lambing periods (spring, autumn)
  - system type 3 lambing in two years
  - pastoral system (February-April)
The 2 Mediterranean Countries

France
Turkey

Average annual temperature

Accumulated rainfall

Source: worldclim.org
Mortality rate (median)

**Turkey**
- semi-intensive: 12%
- extensive system: 9%

**France**
- system type 3 lambing in two years: 17,2%
- pastoral system: 14,2%
- two lambing periods: 12,4%

Wide variability between farm within each rearing system
Age of death in different production systems

### Semi –Intensive/3 lambing in 2 years

- **0-2 day**: 43.48%
- **3-6 day**: 13.04%
- **7-10 day**: 8.7%
- **>11 day**: 6.52%
- **Stillborn/Abortion**: 28.26%

### Extensive

- **0-2 day**: 32.33%
- **3-6 day**: 7.46%
- **7-10 day**: 10.83%
- **>11 day**: 4.44%
- **Stillborn/Abortion**: 44.94%

### Pastoral system

- **0-2 day**: 29.12%
- **3-6 day**: 17.10%
- **7-10 day**: 18.51%
- **>11 day**: 35.27%

### France

- **Aborted/stillborn**: 36.24%
- **0 - 2 days**: 13.19%
- **3 - 10 days**: 15.87%
- **11 - 60 days**: 44.94%
Main mortality causes

**TURKEY**
- Enterotoxaemia
- B. melitensis
- Diarrhea
- Predator
- Respiratory inf.
- Suckling/insufficient milk
- Small born/weeak

**FRANCE**
- Too small
- Suckling problem
- Crushed/accident
- Diarrhea
- Enterotoxaemia
- Respiratory inf.
- Ewe without milk

% of mortality

- **Lamb**
- **Ewe**
- **Infectious**
- **Other**
Risk Factors

**LAMB**
- Colostrum intake
- Too small
- Predators

**ENVIRONMENT**
- Hygiene indoors
- Environmental temperature
- Contamination in pasture

**EWE**
- Lambing monitoring
- BCS
- Culling strategy
- Maternal care/mis-mothering

**LAMB**
- Colostrum intake
- Too small

**ENVIRONMENT**
- Hygiene indoors
- Environmental temperature
- Difference of age

**TURKEY**

**FRANCE**
Conclusion

- The production system had an effect on lamb mortality in 2 countries
- Mortality rate: lower in Turkey
- Similar age of death (< 10 days) – except Extensive system in Turkey
- Different between causes of death
- Similar risk factors... and some differences

A better understanding of resilience of lambs: questions regarding lamb robustness
Thank you!

Teşekkür ederim!  Merci!
Intensive vs. Extensive Farming