Foetal losses in early to mid-pregnancy in Icelandic ewe lambs

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Background

- Ewe lambs are generally mated at 7 months after shearing at 6 months
  - Lower reproductive performance than in ewes but variable (Dýrmundsson, 1987; New Techniques in Sheep Production)

Ewe lamb (5 months) in October

Ewe lambs (11 months) in April

Background

- Fertilized ova from ewe lambs have been shown to have lower survival rates than from adult ewes (Quirke, Adams & Hanrahan,1983; Sheep Production).
- Pregnancy diagnosis by ultrasound at day 70-90 has shown relatively high frequency of dead or dying foetuses in ewe lambs
  - Irregular frequency between farms and years
  - Not observed in other breeds overseas

Data from production records

- A period of 14 years 1995-2008
- 793 farms had experienced lambing rate of ewe lambs under 75% at least in one year.
- Great variation over time and between years
  - Some flocks had repeated problems, others only single occurence

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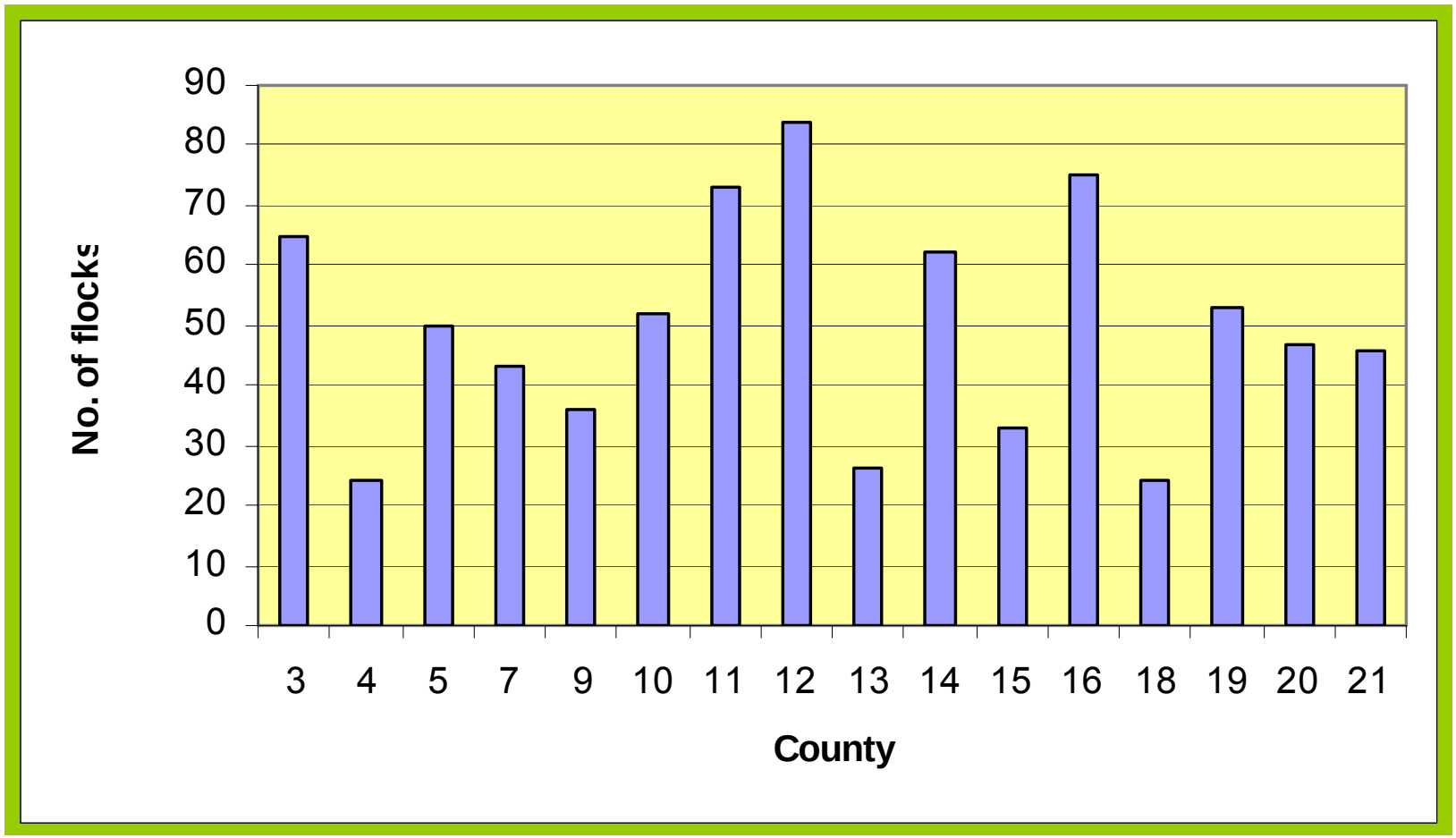
Flocks with ≥ 25% 1yr old ewes not lambing in ≥ 1 year 1995-2008 by county



Survey and sampling 2008

- 20 flocks with high incidence of dead foetuses in ewe lambs, diagnosed by ultrasound.
  - Farm interviews to define management in each flock
- 178 blood samples collected for measurement of GPX activity (indirect Se status)
  - Ewe lambs with dead foetuses
  - Ewes and ewe lambs with normal foetuses

Management information 2008

- Nothing common to the 20 farms
  - Feeding systems and concentrate feeding varied
  - Mineral supplements in all flocks
  - Several supplied **Se** injections as **Se** deficiency was a known problem
  - Cats present on 10 farms – possible carriers of Toxoplasma

Blood sample analysis - GPX

- GPX activity (n=178)
  - All samples were above critical values for **Se** deficiency
  - No difference between ewe lambs with dead or normal foetuses
- **Se** deficiency outruled as a main reason
  - May still play a role in flocks with low Se in the winterfeed and no Se supplementation
  - Problems do still occur in flocks with proper supplementation

Test for antibodies

- Samples from ewe lambs (n=40) with dead foetuses tested for antibodies against known abortion agents

  Brucella ovis, *Coxiella burnetti,*
  Chlamydophila abortus, BDV virus,
  Toxoplasma gondii
  All tests were negative

- Repeated tests in 2009 (n=30) for antibodies against *Toxoplasma gondii* 10 months later, to test for delayed antibody developement, returned negative results

Conclusions

- Foetal losses in ewe lambs seem to have occured irregularly for a long time
- No explanations found so far
- Suggestions:
  - some unknown pathogenic agent that causes abortion at a critical stage of pregnancy? The same animals do not abort the following year.
  - Intensive management with high growth rate conflicting with pregnancy maintainance in ewe lambs??

THANK YOU!

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Photographs: Björg María Þórsdóttir, Áskell Þórisson, Emma Eyþórsdóttir

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