Mastitis and Parasites in sheep in Sweden

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Antibiotic treatments

Sv Veterinärmedicinska sällskap

Policy concerning:

- Mastitis……..
- Metritis……
- Sepsis (and Watery Mouth)
- Enteritis……..
- Arthritis……
- Klövsjukdomar…….
- Pneumonia……
- Listeriosis……..
- Eye infection……..

Use of Ab:

1. Mastitis
2. Pneumonia
3. Metritis

Culling cause #1: Mastitis

Mastitis, the most common use of Ab

Staphylococcus aureus (74% Sweden 2008)

Pc is ”drug of choice”

New survey this year, also including Ab resistance

Bensylpenicillinprocain 20 mg/kg daily for 5 d

If *S aureus* or chronic inf the ewe should be culled after weaning

Bacteria causing mastitis (72 ewes 2008)

Staphylococcus aureus	73%
Escherichia (E.) coli	9 %
Mannhemia hemolytica	7 %
koagulasnegativa stafylokocker	5 %

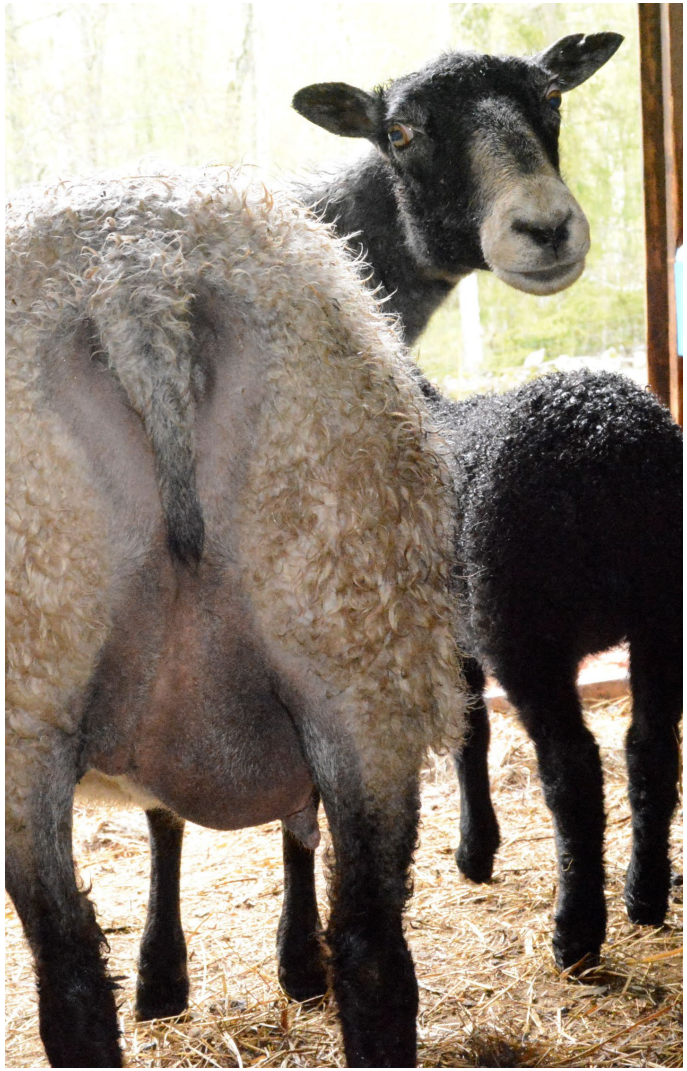
Mastitis, risk periods

- 0-2 days post lambing
- 2-3 weeks post lambing
- Weaning

Symtoms

Acute mastitis:

Swollen udder
Milk changes
Lameness
Fever
Inappetence
Hungry lambs



CMT
Test for white blood cells

Score 2 or higher
Difference between left an right

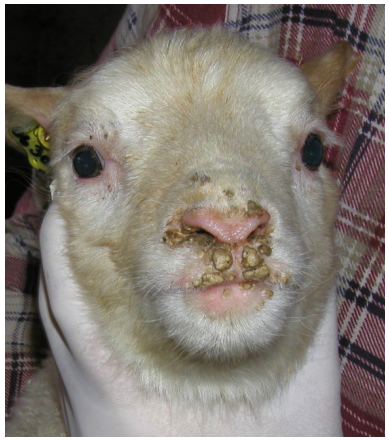
Sample for
bacteriology

Mastitis – risk factors

- Three or more lambs
- Older ewes
- Poor hygiene
- High stock density
- Wounds
- Orf

Orf and Mastitis

- Lambs may transfer virus to udder



Treatment of mastitis

- Isolate ewe with lambs
- Antibiotics (Penicillin)
- NSAID
- Milking if possible (oxytocin?)
- Extra food for lambs!
- Cull the ewe after weaning

Early treatment important for improving prognosis

Prophylaxis

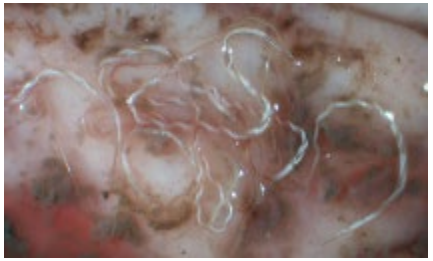
- Condition score – ewe (3)
- Few lambs (no flushing, adoption..)
- Hygien
- Lamb creep feeding
- Check the ewe
  - after weaning
  - before tupping

What is a parasite?

– An organism feeding on another organsim and causing damage

Helminths:

1. Nematodes – Harmonchus contortus, Trichostrongylus axei, Nematodirus battus



2. Cestodes – Moniezia
3. Trematodes – Fasciola hepatica, Dicrocoelium dendriticum

Protozoa – Coccidia, Toxoplasma

Insects – Lice

Arachnids – Ticks, Chorioptes

Can’t see them, but they are there!

In most cases parasites ”only” cause lower production

- *Lower lamb growth*
- *Lower milk production*

In heavy burdons there are clinical symtoms

- *Diarrhea*
- *Anemia*

23 700 epg!

Which farms will be affected?

– All!

Protect the young lambs

Lambs on pasture means higher risk of higher parasite levels

Less parasites on pasture

1. Faecal sampling

- **Ewes in april**
- **Lambs during grazing season**

…followed by strategic deworming

2. Grazing after harvest of hay/silage

3. Alternately grazing with ie cows/horses

4. Indoor period

Avoid anthelmintic resistance!

Most common / important nematode parasites in sheep om pasture in Sweden

Haemonchus contortus

Nematodirus battus

Trichostrongylus axei

Parasite strategies

1. Clean first pasture for lambs

2. ”Regrowth” after hay/silage

3. Use of cows/horses etc (not goats/llamas)

4. Strategic faecal samplings

Deworming if needed

Clean first pasture

No sheep last season!

(or during the winters)

”New” pastures?
Cows/horses last season?
Hay/silage last season?

Faecal samplings (autopsy)

G&D offers 60 % discount of 60 samples per year (will be analysed in triplets)

Sample size: 10% of the animals but never less than 6 samples

Two OBS!

1:

Animals have parasites also when samples show 0 epg

0 epg ≠ 0 parasites

2:

Animals may have diarrhea without high parasite burdens

and

Animals may have high parasit burdens without diarrhea

Being indoors may be beneficial

Long winters / stable periods lower the amount of parasites

Anthelmintic resistance

Genetic resistance among worms to anthelmintics – egg output after deworming

Major problem throughout the world

Some farms also in Sweden

Swedish situation

- In 2007: 2 out of 45 farms with BZ resistance (Valbazen, Axilur)
- ML (Ivermectin) resistance shown 2015 (Ivomec, Noromectin)
- 2016-2018: 2-10 farms per year

  Ongoing study 2022!

Control after treatment on the farm

Important if high epg:s and Haemonchus
Another sample 7-14 days post treatment

Deworming and analyses in quarantine

First day: Faecal sample and deworming

7-14 days later: another faecal sample

Exampel of three rams in quarantine:

After treatment w Noromectin	After *two* treatments w Noromectin
2 500	1 700
2 550	3 700
1 000	450

We can not check for resistance in single animals

- **FECRT** **F**eacal **E**gg **C**ount **R**eduction**T**est
  10 individal samples before and after deworming
  > 200 epg, > 95 % reduction

Resistance analysis (Noromectin)

Tacka	Epg
1	17 100
2	4 500
3	1 000
4	6 250
5	550
6	350
7	2 400
8	3 200
9	1 700
10	950

One week

Tacka	Epg
1	1 550
2	850
3	50
4	0
5	100
6	0
7	100
8	150
9	700
10	150

Resistence analysis levamisole (Chanaverm)

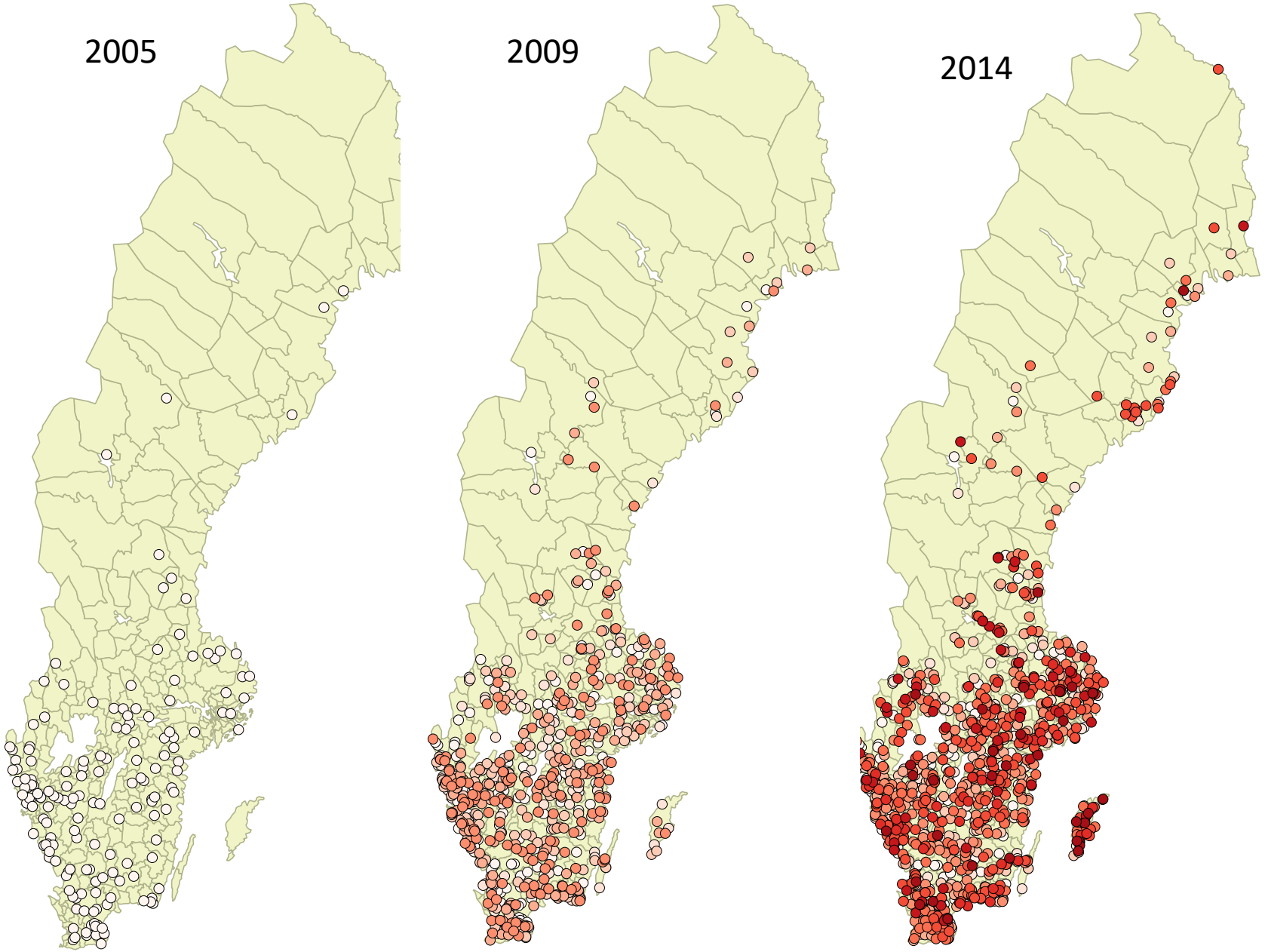
Tacka	Epg
11	3 100
12	1 200
13	5 100
14	2 350
15	3 200
16	5 600
17	2 800
18	3 200
19	4 300
20	2 050

One week

Tacka	Epg
11	0
12	0
13	0
14	0
15	0
16	0
17	0
18	0
19	0
20	0

Haemonchus contortus

- Abomasal blood sucker, will cause anemia
- May cause ”sudden deaths” of lambs but also adult sheep (pregnant ewe)
- Thin animals
- Pale mucous membranes
- Oedema (Bottle Jaw)
- Common throughout Sweden (25-30 % of samples in Vidilab)
- Often seen after treatment if resistance


2005
2009
2014

The chicken or the egg?

- Deworming can never compensate for lack of pasture / silage….