Udder Health in Norwegian dairy goat herds

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and
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Norwegian Goat Population

68000 goats

430 dairy goat herds - 38000 animals
average herd size 88 goats

770 small herds with non-milking goats
Goat Bulk Milk Somatic Cell Count 1991-2012

Milk is premium paid at BMSCC below 1500000
Reported to the Goat Health Recording System

- Mastittbehandling pr årsgeit
- Alvorlig mastitt
- Subklinisk mastitt
- Mild mastitt
- Sinbehandling geit
Caprine Arthritis Encephalitis

• Reduced milk yield and increased SCC

• A prevalence study showed that 88 % of the dairy goat herds was CAEV infected in 2004.

• The Norwegian Goat Health Services will in 2014 finish a sanitation programme for CAE, CLA and Paratuberculosis in all dairy goat herds.
S. aureus is the dominating pathogen isolated from clinical mastitis. CNS dominates in subclinical samples.

1710 quarter milk samples analysed in 2012:
25 % CNS (40% penicillin resistant)  
10 % S. aureus (0.5 % penicillin resistant)
8 herds from Telemark 2009-2011

- 8 sanitized flocks wanted to lower their BMSCC
- 700 goats
- Herd size 47 – 105 goats
8 herds from Telemark 2009-2011

- Quarter milk samples collected
  before drying off 2009
  after kidding 2010
  before drying off 2010
  after kidding 2011 (only treated goats collected)

- At least 5 DHI samples during lactation from all milking goats

- All milking equipment controlled and fixed up

- Goats infected with *S. aureus* treated with Siccalactin at drying off
8 herds from Telemark 2009-2011

Prevalence of goats with *S.aureus* isolated at drying off and after kidding

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Herd 2</th>
<th>Herd 1</th>
<th>Herd 3</th>
<th>Herd 4</th>
<th>Herd 5</th>
<th>Herd 7</th>
<th>Herd 8</th>
<th>Herd 9</th>
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<tbody>
<tr>
<td>Autumn 2009</td>
<td>7,9</td>
<td>2,1</td>
<td>5,2</td>
<td>8,8</td>
<td>2,9</td>
<td>19,2</td>
<td>14,9</td>
<td>2,5</td>
<td>8,3</td>
</tr>
<tr>
<td>After kidding 2010</td>
<td>5,9</td>
<td>0</td>
<td>9,5</td>
<td>9,7</td>
<td>2,2</td>
<td>9,3</td>
<td>7,3</td>
<td>3,8</td>
<td>5,9</td>
</tr>
<tr>
<td>Autumn 2010</td>
<td>5,2</td>
<td>1,9</td>
<td>4,8</td>
<td>9,4</td>
<td>3,8</td>
<td>7,7</td>
<td>11</td>
<td>0</td>
<td>3,2</td>
</tr>
</tbody>
</table>
8 herds from Telemark 2009-2011

1585 quarter milk samples bacteriological analysed
SCC in DHI samples collected from the Recording System
Median of the SCC values plotted.
8 herds from Telemark 2009-2011

41 out of 48 infected goats (85%) treated at drying off had *S.aureus* negative quarter milk samples after kidding.

80% of the goats which were free of infection at drying off (n=374) were still free of infection after kidding. 10% of showed CNS infection and 7% showed *S.aureus* infection after kidding.
8 herds from Telemark 2009-2011

SCC of goats treated and not treated* at drying off

- S.aureus n=23
- CNS* n=120
- No inf* n=467
8 herds from Telemark 2009-2011
BMSCC
Day to day variation SCC - no infected quarters
Day to day SCC in four goats during the pasture period 2012 (June – September) (x 1000 pr ml)

Quarter milk samples

- 8032 CNS, one quarter infected in spring, two infected in autumn
- 8015 S.aur one quarter
- 8104 No infection
- 9037 CNS, one quarter
Preanalytical variation – sampling procedures
http://medlem.tine.no
Improving udder health and milk quality

- Decrease BMSCC!
- CAE is under control
- Reduce prevalence of *S. aureus* by dry goat treatment
- Proper maintenance of all milking equipment
- Deal with high SCC goats during lactation
- How to deal with the CNS infections causing elevated SCC?
- BMSCC should be below 500 000