How to improve animal welfare and health by using relevant data.
- examples from practical usage

Webinar
Frameworks for animal welfare assessment

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PPM Cattle:

Business responsible for:

- Management system for
  - 2700 dairy farmers
  - 200 advisors
  - 200 veterinarians
- Central cattle database including the mandatory movement data to ministry
- Exchange of cattle related data with stakeholders across the dairy business
What do we do at SEGES

Digital
Future farming
Environment and nature
Animal housing
Cattle
Pigs
Climate
Field
Organic production
Management
Farmer
### DMS (DAIRY MANAGEMENT SYSTEM)

**Users**
- Farmer
- Employee
- Veterinarian
- Adviser
- Dairies

**Data Sources:**
- Dairies
- Slaugtherhouses
- Eurofins | Steins
- Veterinarians
- Eartag companies
- Milking equipment
- Destruction
- …

**Registration**
- Daily management
- KPI’s and Benchmark
- Production analysis
- Feeding management
- Financial reporting
- Budgeting

**External databases**

**National Database (mandatory)**

**Accessible to all Danish Dairy farmers**

**Cattle database**
E.g.
- Viking
- RYK
- Dairies
- Slaughterhouses
- Eurofins | Steins
- Veterinary practitioners
- Ear tag manufacturers
- Processing equipment - milk, feed, activity,
Data to improve animal welfare and health – DMS

- Health registration
  - Nutritional
  - Food and leg
  - Udder
  - Respiratory
- Mortality
  - Different age group
  - Lactation cycle
- Milk production – Dairy and Milk recording
- Yield
  - Fat / Protein
  - Somatic cell count
  - Registration of lesions at the Slaughterhouse
- Welfare registrations
  - Body Condition Score
  - Hair and skin
  - Lameness
  - Damages
Data flow, health related

- Veterinarian prepare for herd visit
- Visit the herd
- Data are processed in DMS
- Follow up and benchmarking

- Reports from DMS
- Select areas for improvement.
- Registrations of clinical observations and treatments
- Vet. describes relevant herd diagnosis
- Farmer treat animal
- Treated diseases and amount of medicine are recorded in DMS
- DMS calculate usage and current stock.
- Farmer and Vet. Follow diseases in DMS
- Benchmarking
- Reports

Data are used for:
- Farmer
- Veterinarian
- Advisor
- Documentation for authorities

Several statistic on:
- Usage of medicine
- Health on herd level and on nation level
## The daily Dashboard

### Key Performance Indicators

<table>
<thead>
<tr>
<th>Topic</th>
<th>Status</th>
<th>Key figure (unit)</th>
<th>Achieved</th>
<th>Alarm limit</th>
<th>Reporting period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk</td>
<td>🟢</td>
<td>ECM delivered (kg/day)</td>
<td>5.901</td>
<td>Min 5.850</td>
<td>Latest measurement</td>
</tr>
<tr>
<td></td>
<td>🟢</td>
<td>Milk yield per lactating cows (kg ECM/day)</td>
<td>37.1</td>
<td>Min 35.1</td>
<td>Latest measurement</td>
</tr>
<tr>
<td></td>
<td>🟥</td>
<td>Milk quality (numbers of deductions)</td>
<td>1</td>
<td></td>
<td>Last 7 days</td>
</tr>
<tr>
<td>Reproduction</td>
<td>🟢</td>
<td>Inseminations of cows (numbers)</td>
<td>14</td>
<td>Min 4</td>
<td>Last 7 days</td>
</tr>
<tr>
<td></td>
<td>🟢</td>
<td>Not pregnancy examined cows (numbers)</td>
<td>0</td>
<td>Max 0</td>
<td>Last day</td>
</tr>
<tr>
<td>Health</td>
<td>🟢</td>
<td>Disease treatment, cows (numbers)</td>
<td>5</td>
<td>Max 5</td>
<td>Last 7 days</td>
</tr>
<tr>
<td></td>
<td>🟥</td>
<td>Dead animals (numbers)</td>
<td>1</td>
<td>Max 0</td>
<td>Last 7 days</td>
</tr>
<tr>
<td>Feeding</td>
<td>🟢</td>
<td>Energy efficiency (%)</td>
<td>103</td>
<td>Min 93</td>
<td>Last feed control</td>
</tr>
<tr>
<td></td>
<td>🟥</td>
<td>Milk minus feed cost (kr/kg ECM)</td>
<td>1.15</td>
<td>Min 1.20</td>
<td>Last feed control</td>
</tr>
</tbody>
</table>
Benchmarking – more than 130 key figures

<table>
<thead>
<tr>
<th>Status</th>
<th>Key figure</th>
<th>Achieved</th>
<th>Reference</th>
<th>Nedre ALARM</th>
<th>Øvre ALARM</th>
<th>Benchmarking group</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic information</td>
<td>Number of cows, avg 12 m</td>
<td>230,5</td>
<td>199,5</td>
<td>200,0</td>
<td>230,5</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Milk recording</strong></td>
<td>Yield, ECM per Cow/year</td>
<td>11.135</td>
<td>11.093</td>
<td>11.600</td>
<td></td>
<td>0.122</td>
<td>0.14</td>
</tr>
<tr>
<td></td>
<td>Somatic Cell Count (1000)</td>
<td>145</td>
<td>157</td>
<td>145</td>
<td></td>
<td>181</td>
<td>187</td>
</tr>
<tr>
<td><strong>Health – disease incidents</strong></td>
<td>Nutritional diseases</td>
<td>0,19</td>
<td>0,43</td>
<td></td>
<td></td>
<td>0,36</td>
<td>0,12</td>
</tr>
<tr>
<td></td>
<td>Feed and leg diseases</td>
<td>0,39</td>
<td>0,66</td>
<td></td>
<td></td>
<td>0,21</td>
<td>0,14</td>
</tr>
<tr>
<td></td>
<td>Reproduction diseases</td>
<td>0,19</td>
<td>0,41</td>
<td></td>
<td></td>
<td>0,36</td>
<td>0,14</td>
</tr>
<tr>
<td></td>
<td>Udder diseases</td>
<td>0,34</td>
<td>0,49</td>
<td></td>
<td></td>
<td>0,34</td>
<td>0,32</td>
</tr>
<tr>
<td></td>
<td>Other diseases</td>
<td>0,62</td>
<td>0,12</td>
<td></td>
<td></td>
<td>0,62</td>
<td>0,34</td>
</tr>
<tr>
<td><strong>Mortality</strong></td>
<td>Dead cows %</td>
<td>6,1</td>
<td>4,5</td>
<td>3,0</td>
<td></td>
<td>6,1</td>
<td>7,0</td>
</tr>
</tbody>
</table>

Note: The numbers in parentheses indicate the percentage deviation from the benchmarking group.
More insights

• Development in claw and leg diseases

• Under the key figure the user – farmer/vet/advisor – can follow the development
  • Last 12 month
  • 12 month before
  • Divided over lactations
  • Evaluate and fine reasons and improvements

SEGES
Performance incentive on heifers

Holdbarhedsprofil kvier
Sandsynlighed for overlevelse fra første levedag til kælvning

Forv. gns. alder døde og slagtede = 12,3 mdr.

Forventede værdier:
Overlevelse Ved første kælvning: 84,5%
Gennemsnitlig kælvingsalder = 25,2 mdr.
Antal foderdage pr. kælvkve = 27,4 mdr.
Longevity – when do the cow leave the herd
Longevity – when do the cow leave the herd

Conventional / **ecologic herds**
From accounting system compared with production data

<table>
<thead>
<tr>
<th>All breeds</th>
<th>10 % highest longevity</th>
<th>Average</th>
<th>10 % lowest longevity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost per ECM</td>
<td>2,41 / 3,03</td>
<td>2,46 / 3,30</td>
<td>2,58 / 3,46</td>
</tr>
<tr>
<td>Price per ECM</td>
<td>2,66 / 3,41</td>
<td>2,64 / 3,38</td>
<td>2,61 / 3,38</td>
</tr>
<tr>
<td>Gain (Kr)</td>
<td>3001 / 3.559</td>
<td>3.019 / 3.405</td>
<td>2.862 / 3.058</td>
</tr>
</tbody>
</table>
Thank you for your attention!

Contact us

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