Preferences for Breeding Goal Traits for Danish Red and Jersey Cattle

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Farmer preferences for breeding goal traits

Weight in breeding goal = Economic value + Farmer preferences

Economic model (Simherd)  The farmer survey
Farmer preferences for breeding goal traits

• Economic models don’t account for everything
  – Organic principles

• Create ownership
  – Ensure the breeding goal reflects farmers’ requirements
Aim

• To characterize preferences of farmers with Danish Red (DR) or Danish Jersey (DJ) cows
  - Heterogeneity in farmers’ preferences
  - Herd characteristics and production system
The survey

Improvements economically equal

Economic weights for an organic system

Breed specific survey

87 Danish Red
76 Danish Jersey
Danish Red

• Highest mastitis and milk production

• Lowest calving difficulty

• Clear clusters
  - Robustness
  - Production and health
  - Fertility and production
## Herd characteristics Danish Red

<table>
<thead>
<tr>
<th></th>
<th>Robustness</th>
<th>Production and Health</th>
<th>Fertility and Production</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECM, kg</td>
<td>9,723</td>
<td>9,322</td>
<td>8,733</td>
<td>0.01</td>
</tr>
<tr>
<td>Fat yield, kg</td>
<td>404</td>
<td>402</td>
<td>375</td>
<td>0.04</td>
</tr>
<tr>
<td>Milk yield, kg</td>
<td>9,885</td>
<td>9,864</td>
<td>9,142</td>
<td>0.04</td>
</tr>
<tr>
<td>Protein yield, kg</td>
<td>335</td>
<td>334</td>
<td>307</td>
<td>0.03</td>
</tr>
<tr>
<td>% Organic</td>
<td>17</td>
<td>24</td>
<td>50</td>
<td>0.01</td>
</tr>
<tr>
<td>% Crossbreeding</td>
<td>33</td>
<td>17</td>
<td>6</td>
<td>0.04</td>
</tr>
<tr>
<td>Herd size</td>
<td>153</td>
<td>156</td>
<td>113</td>
<td>0.05</td>
</tr>
<tr>
<td>Udder disorders</td>
<td>0.27</td>
<td>0.25</td>
<td>0.19</td>
<td>0.08</td>
</tr>
</tbody>
</table>

- **Farming practices:**
  - Ranked milk production the lowest
  - Herds using DR semen for crossbreeding
  - Ranked mastitis the highest
Danish Jersey

- Highest mastitis
- Lowest calving difficulty
- Clear clusters
  - Fertility and production
  - Production and robustness
  - Survival
Herd characteristics Danish Jersey

<table>
<thead>
<tr>
<th></th>
<th>Fertility and Production</th>
<th>Production and Robustness</th>
<th>Survival</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Dead cows</td>
<td>1.7</td>
<td>4.4</td>
<td>5.5</td>
<td>0.04</td>
</tr>
<tr>
<td>Udder disorders</td>
<td>0.18</td>
<td>0.27</td>
<td>0.33</td>
<td>0.03</td>
</tr>
</tbody>
</table>

- Farmer want what they don’t have?

Ranked cow mortality the lowest

Ranked mastitis the highest
Conclusions and implications

• Farmers’ preferences are heterogeneous
  – Clear groups of farmers found

• Herd characteristics linked to farmer groups
  – Farmer want to improve what they don’t have

• Customized indices (at herd level) or different breeding goals
  – Increases ownership
  – Simulate long term effects