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

Which of these two alternatives do you prefer?
(given they're identical in all other respects)

Milk production
+35 kg per 305 days lactation
Mastitis
As in your herd today

OR

Milk production
As in your herd today
Mastitis
5 less cases per 100 cows

they are equal

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>
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<tr>
<td>Milk yield, kg</td>
<td>9,885</td>
<td>9,864</td>
<td>9,142</td>
<td>0.04</td>
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<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>

- **Farms**
  - 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

- Farmer want what they don’t have?

<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>

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