Towards (self) sustainability of local cattle breeds in Europe

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Farmers
National stakeholders
Experts

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Background and objectives

- Replacement of local/regional, often ‘dual purpose’ cattle breeds by specialized, international, mainstream breeds
- How to conserve local/regional breeds, their unique characteristics and important **genetic, cultural, historical, socio-economic and environmental values**?
- **Successfull strategies and policies** for conservation, development and use of local cattle breeds?
## EU policy

- **Community programmes for conservation, characterisation, collection and utilisation of genetic resources in agriculture - GENRES**
  - Council Regulation (EC) 1467/1994
  - Council regulation (EC) 870/2004

- **EU policy to support local endangered breeds**
  - Reg. CEE 2078/92
    - Financial support to farmers
    - Financial support to farmers
    - Financial support for conservation of AnGR

- **Incentives probably are not a long term solution (?)**
- **Potential to add value to local breeds (?)**
EURECA approach

- Assessment of the *state* and *dynamics* of local cattle breeds in Europe
  - Breed demography
  - Breeding, conservation, marketing
  - Farmer survey
  - National coordinator survey

- From breed analysis to breed strategy development
  - SWOT analysis → Breed strategies
Individual breed assessments - 15 detailed breed case studies
Breed case study: Finn cattle

Drivers of change?
Proper genetic management?

Breed case study – MRY - NL

![Graph showing average coancestry over years of birth for MRY and FH breeds.](image)
Role and organisation of cryopreservation

Birth date of bulls in Gene Banks

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Finland</td>
<td>22%</td>
<td>28%</td>
<td>50%</td>
<td>5%</td>
</tr>
<tr>
<td>France</td>
<td>26%</td>
<td>61%</td>
<td>17%</td>
<td>3%</td>
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<tr>
<td>Italy</td>
<td>3%</td>
<td>34%</td>
<td>58%</td>
<td>5%</td>
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<tr>
<td>The Netherlands</td>
<td>26%</td>
<td>55%</td>
<td>19%</td>
<td>1%</td>
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</tbody>
</table>
371 farmer interviews – 8 countries

Methodology/parameters surveyed, including:

- Farm size (ha)
- Number of cows (all breeds on farm)
- % of cows of the local breed on farm
- Herd size relative to the breed average herd size
- Evaluation of the breed, compared to a mainstream breed
- Age of the farmer
- Degree of entrepreneurship activity of the farmer
- Level of cooperation with other farmers of the local breed
- % of farm land owned by the farmer
- % of total family income from cattle farming
- % of total family income from local cattle farming
- % of the cattle production sold on farm/local market
- Farmer’s opinion on the appreciation of “his work” by society
- Farmer’s opinion on the importance of his breed for society
- Relevance of tradition as reason for keeping the local breed

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Analysis farmer survey

- Indicator of ‘sustainability’
  Expected change of local cattle herd size in next five years

- Discriminant analysis was used to identify those parameters that affect herd size trend in all countries
- Parameters to be taken into account when developing policies
3 important aspects were found to affect the trend of herd size, across countries:

- Age of the farmer
- Level of cooperation with other farmers of the local breed
- Farmer’s opinion on the appreciation of the local breed by society

(Gandini et al. 2010)
Can we identify farmers types regarding their attitude towards local cattle farming?

(Gandini et al. 2010; Soini & Lilja 2010)
Farmer types

- Several farmer types with different profiles could be found
- The farmer types could be found in all countries
- Farmer types between and within a breed

- Diversity of farmer types
  - May be a strength considering the future of the local breeds
  - Seems to increase along with the development of the society
Europe wide survey local cattle breeds

- Among National Coordinators Animal Genetic Resources
- Local cattle breeds <7500 females
- Response from 24 (out of 32) European countries
- 108 (out of 173) breed questionnaires returned

- >50% of breeds surveyed benefit from direct subsidies
- Subsidies range from 75-400 euro/head/yr
- 25% mentioned a breed-specific-product
- Not always branded or professional marketed
From breed analysis/assessment…
to development/strengthening
of breed strategies……

Use of SWOT analysis
as a decision making tool
for the development of breed strategies
**SWOT analysis: a decision making tool**

<table>
<thead>
<tr>
<th><strong>SWOT Matrix</strong></th>
<th><strong>Internal factors</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>External factors</strong></td>
<td><strong>Opportunities</strong></td>
</tr>
<tr>
<td><strong>Strengths</strong></td>
<td><strong>Weaknesses</strong></td>
</tr>
<tr>
<td>SO Strategy</td>
<td>WO Strategy</td>
</tr>
<tr>
<td>Maximise both strength and opportunities</td>
<td>Minimise weaknesses and maximise opportunities</td>
</tr>
<tr>
<td>ST Strategy</td>
<td>WT Strategy</td>
</tr>
<tr>
<td>Maximise strengths while minimising threats</td>
<td>Minimise both weaknesses and threats</td>
</tr>
</tbody>
</table>
Identification of driving factors

- Across breed case studies 108 factors were identified
- 39 strengths, 28 weaknesses, 23 opportunities and 18 threats

<table>
<thead>
<tr>
<th>Internal factors categories</th>
<th>External factors categories</th>
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</thead>
<tbody>
<tr>
<td>(strength, weakness)</td>
<td>(opportunity, threat)</td>
</tr>
<tr>
<td>1. Animal</td>
<td>1. Market of current products</td>
</tr>
<tr>
<td>2. Breed</td>
<td>2. Market of new products and functions</td>
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<tr>
<td>3. Farmer</td>
<td>3. Production system</td>
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<tr>
<td>4. Production system</td>
<td>4. Policies and legislation</td>
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<td>5. Products</td>
<td>5. Stakeholders</td>
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<td>6. Marketing system</td>
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</table>

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The table below defines and ranks breed strategies based on the relative importance of all S, W, O, T’s for various breeds:

<table>
<thead>
<tr>
<th>Breed</th>
<th>SO*</th>
<th>WO*</th>
<th>ST*</th>
<th>WT*</th>
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<tbody>
<tr>
<td>Avileña-Negra Ibérica</td>
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<tr>
<td>Ferrandaise</td>
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<tr>
<td>Groningen White Headed</td>
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<tr>
<td>Eastern Finncattle</td>
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<tr>
<td>Deep Red</td>
<td></td>
<td></td>
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<tr>
<td>Modenese</td>
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<tr>
<td>Reggiana</td>
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<tr>
<td>Villard de Lans</td>
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<tr>
<td>Meuse-Rhine-Yssel</td>
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<td></td>
<td></td>
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<tr>
<td>Dual-Purpose Red and White</td>
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<tr>
<td>Alistana-Sabresa</td>
<td></td>
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<tr>
<td>Dual-Purpose Belgian Blue</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Western Finncattle</td>
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</tbody>
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Example - breed strategy development

Groningen Whiteheaded

- Breed related product chain development
- Development of breed-driven breeding program
- Bottom-up approach / network of farmers
- Involvement of main breed interest groups
Conclusions

- Common policies should take into account common factors that affect breed sustainability (age of farmer, cooperation between farmers, awareness in society)
- Large variation between breeds/countries: need for tailor-made, local support measures
- Policies should take into account future farm profiles and attitudes and support various farmer types
- Need for strategic planning on breed level, involving relevant stakeholders and using decision support tools (SWOT)
Thank you for your attention

www.regionalcattlebreeds.eu
www.WageningenAcademic.com/cattlebreeds

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