RuminOmics Regional workshop
Improving efficiency of production
and reducing environmental impact

Baltic cattle breeding industry

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Baltic Foundation
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1 September 2015, Warsaw
## General figures of the Baltic States

<table>
<thead>
<tr>
<th>Country</th>
<th>Total surface in km²</th>
<th>Agricultural area in ha</th>
<th>Cropland in % of AA</th>
<th>Population</th>
<th>Dairy cattle / cows</th>
<th>Beef cattle / cows</th>
<th>Beef breeders</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ESTONIA</strong></td>
<td>45'226</td>
<td>1'000'000</td>
<td>40</td>
<td>1'332'900</td>
<td>100'000</td>
<td>14'000</td>
<td>290</td>
</tr>
<tr>
<td><strong>LATVIA</strong></td>
<td>64'589</td>
<td>2'520'000</td>
<td>67</td>
<td>2'290'300</td>
<td>154'000</td>
<td>23'000</td>
<td>600</td>
</tr>
<tr>
<td><strong>LITHUANIA</strong></td>
<td>65'301</td>
<td>3'150'000</td>
<td>90</td>
<td>3'354'700</td>
<td>426'000</td>
<td>70'000</td>
<td>16'000</td>
</tr>
</tbody>
</table>
Dairy cows population in Baltic countries has decreased since 1990 by 40 -50 % and additionally since 2000 by:

- Lithuania – 19 %
- Latvia – 10 %
- Estonia – 20 %

Cows population will continue decreasing in the future.
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Cattle population 2006 - 2014 in Baltic counties (thousands)

- Estonia
- Latvia
- Lithuania
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Cattle and cows number (thousands) 2004 - 2015 in Lithuania

- Cattle
- Cows

Graph showing the number of cattle and cows (thousands) in Lithuania from 2004 to 2015.
Different Dairy Cow Breeds

Estonian Holstein 74.7%
Estonian Red 24.5%
Estonian native 0.6%
Other breeds 0.2%

Latvian Braun 63.6%
Holstein 32.7%
Latvian native 0.4%
Other breeds 3.4%

Lithuanian Black and Whites 74%
Lithuanian Red 21.4%
Holstein 2.3%
Lithuanian native 0.4%
Other breeds 2.8%
Milk Recording Dairy Breeds in Baltic Countries

In milk recording participated of all dairy cow:

- Lithuania - 47%,
- Latvia - 69
- Estonia - 90 %.

The average cows number in milk recording herds:

- Lithuania – 17.
- Latvia – 13,
- Estonia – 75.
Dairy breeds productivity increased since 2000:

- Lithuania 18%
- Latvia 14%
- Estonia 29%
Fat content in milk has increased since 2000:

- Lithuania 23%
- Latvia 19%
- Estonia 28%
Protein content in milk also has increased since 2000:

- Lithuania 26.39 % (3.36 %)
- Latvia 21.08 % (3.37 %)
- Estonia 40.29 % (3.36 %)
Milk production per person has been increasing since 2000 in all three countries:

- Lithuania 14 %
- Latvia 6 %
- Estonia 11 %
Distribution of cows in local municipalities

Total 314,346 cows
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Number of Dairy Farms

From 2001 until 2007 the number of dairy farms greatly decrease by:

- Lithuania 36%
- Latvia 45%
- Estonia 35%

The average number of dairy cattle per farm is:

- Lithuania – 4
- Latvia – 5
- Estonia – 16
### Baltic Cattle Breeding Industry

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#### Number of Cows in the Farms in Lithuania (%)

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2 cows</td>
<td>34.02</td>
</tr>
<tr>
<td>3-5 cows</td>
<td>17.04</td>
</tr>
<tr>
<td>6-10 cows</td>
<td>12.03</td>
</tr>
<tr>
<td>11-20 cows</td>
<td>10.49</td>
</tr>
<tr>
<td>21-50 cows</td>
<td>10.9</td>
</tr>
<tr>
<td>51 and more</td>
<td>15.52</td>
</tr>
</tbody>
</table>

Total: 314,346 cows
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Average Milk Prices (€ per 100 kg)
Average purchase price of milk 2004–2014, EUR/t in Lithuania
Average purchase price of cattle carcasses 2004–2014, EUR/t in Lithuania
Specialized animal farm
Input, output and surplus of Nitrogen kg/ha

200 N
Fooder
Fertilizers

50 N

150 N

Deposition
Gasförluster
Foder utifrån
Kött
Livs djur
Utlakning
Ytavrinning
Specialized crop farm
Input, output and surplus of Nitrogen kg/ha

150 N → 50 N → 100 N
Ecological Recycling Agriculture (ERA)
Conclusions

✓ Baltic dairy sector will continue to be export driven.
✓ Although the number of dairy cows and farms is declining in all three Baltic countries, the milk production continuous to grow.
✓ Balance between animal and crop production need to coordinate (partly by ERA farms)
✓ Recycling (nutrients and biomass) trough balance between crop production and animal production
✓ Diverse crop rotation with balance between consuming crops and soil organic building nitrogen fixation clover grassland
Thank you for your kind attention!