Experiences and lessons learnt in Dutch dairy farming

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Uganda visitors
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Personal intro

Dutch veterinarian with extensive dairy experience worldwide.

Director Dutch Farm Experience

International coordinator Natural Livestock Farming (NLF) network
Special experience in the Netherlands, South America, India, Ethiopia, Uganda
Background Dutch dairy farming

- Cold climate 6 months/year
- Around 17,500 dairy farmers
- Average 85 cows per farm
- Total milk production per year = 14,000,000,000 kg milk
- Average production 33 kg milk per cow per day
  (8,700 kg total over 260 days lactation)
- 80% in cooperative members
- Export of 75% of the dairy products (mainly cheese)
- Agriculture provides over 50% of GDP
Only 60 years ago ... agriculture in the Netherlands was low input and labor intensive.

Manure from livestock was used for crops on the same farm.
In the 1960’s – EU policies changed

Milk tank obliged in every farm

Construction of free roaming stables
Conducive policies in agriculture 1950-1960’s

- Market protection - fixed prices
- Easy access to credit for farmers
- Support to education-extension-research
- Rigorous disease control programs
- Subsidies for chemicals/artificial fertilizer
- Farmers organization in co-operatives
Artificial insemination & breeding policies

Replacement of smaller Friesian dual purpose cow (meat and milk) by Holstein-Friesian cow specialized only in milk production
Gaining land by making more ‘polders’ & enlarging existing plots for mechanization
## Dairy farms and Milk production

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</thead>
<tbody>
<tr>
<td>Dairy farms</td>
<td>180,000</td>
<td>91,500</td>
<td>58,000</td>
<td>37,500</td>
<td>23,500</td>
<td>21,300</td>
<td>17,500</td>
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<tr>
<td>Total milkproduction (x1000)</td>
<td>6.721</td>
<td>10.286</td>
<td>12.525</td>
<td>11.280</td>
<td>10.827</td>
<td>11.134</td>
<td>14.100</td>
</tr>
<tr>
<td>Dairy cows (x1000)</td>
<td>1.628</td>
<td>2.218</td>
<td>2.367</td>
<td>1.708</td>
<td>1.433</td>
<td>1.413</td>
<td>1.690</td>
</tr>
<tr>
<td># of dairy cows per farm</td>
<td>9</td>
<td>24</td>
<td>41</td>
<td>45.5</td>
<td>61</td>
<td>66</td>
<td>97</td>
</tr>
<tr>
<td>Milkproduction/farm (x1000)</td>
<td>37</td>
<td>112.5</td>
<td>216</td>
<td>301</td>
<td>460</td>
<td>522</td>
<td>806</td>
</tr>
<tr>
<td>Milkproduction (kg/cow/year)</td>
<td>4.200</td>
<td>4.650</td>
<td>5.300</td>
<td>6.610</td>
<td>7.550</td>
<td>7.880</td>
<td>8.706</td>
</tr>
<tr>
<td>Milkproduction (kg/ha/year)</td>
<td>5.500</td>
<td>8.864</td>
<td>12.512</td>
<td>12.018</td>
<td>12.560</td>
<td>12.980</td>
<td>17.000</td>
</tr>
<tr>
<td>Labor productivity (kg milk/hour)</td>
<td>8</td>
<td>37</td>
<td>72</td>
<td>89</td>
<td>128</td>
<td>141</td>
<td>280</td>
</tr>
</tbody>
</table>

**Resulting in:**

Impressive increase in milk and labour productivity and...loss of 90% of family dairy farms in 50 years

2018: 17,500 dairy farms

A loss of another 70% is predicted

(Info: WUR-LEI, 2010
info 2017: RABO, NZO, ALFA)
EU subsidies to Dutch agriculture (in millions of Euros per year)

High subsidies in 1980’s due to over-production of milk
Even today one billion per year – for around 40,000 farmers

GLB income Netherlands – rural development excluded – x € million.
(nominal amounts, not corrected for inflation) Source: LEI
# Dependence on subsidies

Farm income, add on subsidies and % subsidies – average 2010-2015 (in Euros)

<table>
<thead>
<tr>
<th></th>
<th>Farm income</th>
<th>Income added</th>
<th>% subsidies</th>
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<tbody>
<tr>
<td>Dairy farms</td>
<td>49.533</td>
<td>29.517</td>
<td>60</td>
</tr>
<tr>
<td>Veal calves</td>
<td>55.000</td>
<td>50.700</td>
<td>92</td>
</tr>
<tr>
<td>Pig farms</td>
<td>14.800</td>
<td>5.533</td>
<td>37</td>
</tr>
<tr>
<td>Laying hens</td>
<td>25.800</td>
<td>7.733</td>
<td>30</td>
</tr>
<tr>
<td>Broiler chicken</td>
<td>66.700</td>
<td>11.683</td>
<td>18</td>
</tr>
<tr>
<td>Crops</td>
<td>68.917</td>
<td>31.250</td>
<td>45</td>
</tr>
<tr>
<td>Potatoes</td>
<td>81.650</td>
<td>59.650</td>
<td>73</td>
</tr>
<tr>
<td>Flower bulbs</td>
<td>135.750</td>
<td>5.883</td>
<td>4</td>
</tr>
<tr>
<td>Greenhouse production</td>
<td>174.850</td>
<td>24.083</td>
<td>14</td>
</tr>
<tr>
<td>Fruits</td>
<td>46.700</td>
<td>5.233</td>
<td>11</td>
</tr>
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*contractbasis bron: Ministerie van Economische Zaken, LEI Wageningen UR*
Major changes in cattle feed:

- maize-grass silage
- soy beans in concentrates
- higher protein %
- lower fibre
Resulting in changes in the stomach system and in manure quality

- More liquid
- Rotting process in manure tanks
- More ammonia (NH3) release
- Undigested parts
Change of fertilizer:
change in quality of organic manure
+ large amounts of artificial fertilizer
Resulting in environmental problems
(reduced soil fertility + water quality due to nitrification)
Leading to higher productivity/year .... but also animal disease and shorter life span

Average life span of milking cows is 2,5 lactations (4.7 years of age)

High loss and mortality during 1st lactation
Excessive use of antibiotics to control disease

In 2012 the livestock sector was obliged to reduce antibiotic use by 70% by 2016 compared to 2009. To reduce risk of multi-resistant microbes for human health.
Dutch (and EU) farmers are in trouble: their income is low and insecure.

High production costs + dependence on world market prices
Young people reluctant to take over

68% of farmers over 50 has no successor...

and 20% of farmers is over 65 years of age
Income insecure due to dependence on:

- EU subsidies
- Fluctuating world market prices
- Supermarkets

Producers (17,500)

Supermarket chains (4)

Consumers (17.5 million)
EU farm policy still harms poor countries – it’s high time for change

+ International dependency and lack of balance

Soy from South America to feed animals in the Netherlands – cheap animal products are then being exported again
So you see a lovely farm: green fields, big stables and high producing animals...
...but the overall picture of Dutch dairy also includes:

- Loss of employment - over 90% of dairy farms has stopped since 1960’s
- Uncertainty about income and future
- Dependence on EU subsidies
- Problems with manure, soil and water quality
- Problems with animal health – short life span
- Problems with antibiotic use & microbe resistance
- Effects on other countries
- Criticism of general public – especially related to animal wellbeing
Way out for farmers #1
Stop farming

7 farms stop every day
Way out for farmers #2
Start farming abroad
Way out for farmers #3

further scale enlargement:
Latest technologies require higher levels of investment.

Milkrobot

Greenhouse gas curtains + floors
Way out for farmers #4
diversification of income

Tourist activities

Care on the farm

Farm shop selling local produce
Way out for farmers  #5

Cycle farming: increasing soil fertility & reducing costs

Farmer study groups learning from each other how to improve soil fertility and to reduce costs
They are re-establishing the natural cycle

Less artificial fertilizer and concentrates producing more milk on basis of fodder
Lessons learnt (1):

Build on farmers’ knowledge and experience + supported by research
Lessons learnt (2):
Restoring soil fertility and soil organic matter is highest priority for efficient farming
Lessons learnt (3):

Optimization rather than maximization

Focus on high total animal life-production – rather than on maximum milk production/animal/year
Lessons learnt (4):
Focus on reducing mortality rather than productivity
Lessons learnt (5): Diversifying farmer’s work and income reduces economic vulnerability
Lessons learnt (6):
Stronger links between farm and natural environment

Protecting wild birds and natural biodiversity
Lessons learnt (7):

- Growing trend of direct marketing (10% of farmers)
- Making efficient use of internet
Lessons learnt (8)
Re-value local and dual-purpose breeds / strategic crossbreeding

Lakenvelder cow

Blaarkop cow (Whitehead)

Friesian cow
Lessons learnt (9)

‘Traditional’ animal management practices re-valued

- Cows in field
- Keep horns
- Calf with cow
Lessons learnt (10)

Herbs and medicinal plants are re-valued

To improve health and reduce antibiotic use stablebooks for farmers have been elaborated
Lessons learnt (11)
Importance of farmers’ organization for joint learning

Farmer study groups and marketing cooperatives + representation at political level
Lessons learnt (12)
High investments and big farms do not necessarily lead to high incomes
Future of Dutch dairy farming?

- Scale enlargement + higher inputs
- Closing nutrient cycles + less inputs
Major debate on the best way forward in agriculture

Opinion of (ex) dean of Wageningen University: Intensification with scale enlargement - or hunger?
Opinion of ex-director of RABO Bank:

Radical change is needed towards closing nutrient cycles and shortened marketing chains.
2018 - interviews amongst 2000 Dutch farmers indicates:

57% of farmers: Export model with scale enlargement is not sustainable on the long term

80% of farmers: motivated to change to nature-inclusive farming methods – if supermarkets and consumers pay more

Direct farmer-consumer sales
September 2018:

New strategy minister of agriculture:

Radical change towards closing nutrient cycles and shortened marketing chains
Copy the lessons learnt in Dutch dairy – not the problems!

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