Role of grass land and animal feed in high output dairy farming systems

From a dairy chain perspective
With the story of milk we tell our consumers and stakeholders about the natural aspect of milk.
Our social purpose is aimed at three global challenges

Food and nutrient security for a fast growing world population

Helping small farmers in dairy worldwide (aging farmers is a major issue)

Building more efficient & sustainable food supply chains
Managing sustainable dairy farming is one of the four pillars of our CSR policy.
Grass is valuable for the dairy sector and contributes to:

**Image**
Iconic for The Netherlands and the Dutch dairy sector

**Efficiency in milk production**
Cost price is lowest in countries with grass land as a basis

**Our dairy farming goals on sustainability**

- Energy and climate
- Animal health and welfare
- Biodiversity
- Outdoor grazing

**The ability to grow**
Within environmental footprint
The Dutch dairy sector is based on holding and milking cows and cultivation of grass.
With innovations and craftmanschip of outdoor grazing we can increase grass output

<table>
<thead>
<tr>
<th>Current</th>
<th>Possible scenario (+55%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ 700,000 hectare grass area</td>
<td>✓ 700,000 hectare grass area</td>
</tr>
<tr>
<td>✓ 6 million tons of grass</td>
<td>□ 9.3 million tons of grass</td>
</tr>
</tbody>
</table>

Current Possible scenario (+55%)
The challenge is to optimize our usage of grass and use the benefits of outdoor grazing.

- Cows graze their own feed
- Grazing losses and silage losses can be offset against each other
- Labor intensiveness with outdoor grazing and indoor feeding is practically the same
- Grazed grass saves around 50 to 100 euro per ton dry matter compared to grass silage
Grass is an important factor that can help the dairy sector reduce carbon dioxide.

The dairy sector is committed to carbon neutral growth.

Greenhouse gas emissions:
- Fossil fuel: 1x CO2
- Methane: 28 x CO2
- Nitrous oxide: 265 x CO2
Grass can contribute to animal health and welfare

- A cow can exhibit her natural behaviour
- Space for movement
- Exposure to light
With grass as animal feed we are able to decrease the environmental footprint

More efficiency is needed:
Increase of production of grass and milk with equal usage of nitrogen and phosphate from animal feed and fertilizer
Soil quality increases with long term grass cultivation, and grass output increases with healthy soil.
At FrieslandCampina we stimulate outdoor grazing within our sustainability programm.

**Foqus planet**

- **Basic requirements**
- **Outdoor grazing**
- **Sustainable development**

Supplement for natural grazers with financial contribution from those not using natural grazing.
Our dairy farmers work with six KPI’s for sustainable development

<table>
<thead>
<tr>
<th>Life span</th>
<th>IBR</th>
<th>BVD</th>
</tr>
</thead>
<tbody>
<tr>
<td>healthy cows live longer</td>
<td>working towards a IBR-free status</td>
<td>working towards a BVD-free status</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cell count</th>
<th>Energy</th>
<th>Nature &amp; Landscape</th>
</tr>
</thead>
<tbody>
<tr>
<td>low cell count equals good udder health</td>
<td>reduce use of energy</td>
<td>conservation of biodiversity</td>
</tr>
</tbody>
</table>
In the dairy sector more than fifty food chain players join forces to stimulate outdoor grazing.

The dairy sector in The Netherlands strives to 81% farms that practise outdoor grazing.

- Farmer Organizations
- Dairy companies
- Suppliers animal feeds
- Advisors of farmers
- Retail (supermarkets)
- Cheese producers
- CSR
- Environmental organizations
- Government
- Education and science
With projects and sharing knowledge and experience we stimulate outdoor grazing with dairy sector wide approach

**Projects:**
- combination of outdoor grazing and automatic milk system
- ‘transfer to outdoor grazing’

**Sharing knowledge by experts: farm walks**

**Innovation**

**Science and education:**
- Professor outdoor grazing since January 1st 2015
- Research to grass and outdoor grazing
The Dutch dairy sector needs more knowledge about optimizing grass production and productivity with maintaining biodiversity.

**Spearheads for grass cultivation and outdoor grazing**

- Increase craftsmanship for grass cultivation and outdoor grazing
- Develop management information and tools
- Innovation in soil fertility and grass production
- Increase grass utilization with outdoor grazing with modern systems (AMS) and large heard of cows