Grassland and forages in high output dairy farming systems in Flanders and the Netherlands

Agnes van den Pol-van Dasselaar
Frans Aarts
Eddy De Caesteker
Alex De Vliegher
Anjo Elgersma
Dirk Reheul
Arjan Reijneveld
Roel Vaes
Koos Verloop
In 50 years

- Average number of dairy cows per farm increased ten-fold, to about 85
- Average milk production per cow doubled to somewhat more than 8,000 kg
- The milk production per ha trebled to about 15,000 kg ha\(^{-1}\)
- A ten-fold reduction in the number of dairy farms to about 18,000.

What is high output?

- Different over time
- Different per region
- Milk per cow, per ha land, per farm, per labour unit, per country
- Input and output usually related
Developments

Graph showing the number of dairy cattle per 1000 and milk production per cow over time from 1900 to 2000. The number of dairy cows and milk production both show an increasing trend over time, with some fluctuations.
Developments

Source: photo exhibition on developments in forage supply by Rienk van den Berg, Henk van Dijk and Sije Schukking - to be visited on Tuesday during the EGF mid-term excursion
Regional differences in soil quality

60% of NL below sea level (-1 to -7m), Flanders above

Areas above sea level originally mostly poor sandy soils, fertilisation increased soil mineral content

Average net yield of grasslands 9 – 11 tonnes DM yr\(^{-1}\)

Rations characterised by relatively large amounts of supplementation, mainly maize silage, grass silage and concentrates
Examples high output dairy farming in Flanders

(link to video)
Problems, solutions, perspectives

- Grazing
- Nutrient losses
Grazing in the Netherlands
Society
the Netherlands

- 2012: “Treaty Grazing”
- Aim: stable number of grazing cows
- \(~ 60\) parties signed
Challenges

- Grass intake per individual cow highly variable and not known
- Trends (like larger herds, more AMS) make grazing more difficult
- Milk from grass
- Training advisors / farmers
Solutions

- Automation:
  - Drones
  - Automatic fences
  - Sensors
  - GPS tracking of cows

- Basics first!
  - Craftsmanship, "new grazers", milk from grass, economy and labour
Nutrient losses
Nutrient losses

- High output dairy farming systems in Flanders and the Netherlands characterised by high fluxes of N and P
- Research to avoid losses to the environment and to increase production efficiency
- Insight into the flow of minerals at farm level
- Practical tools for farmers, e.g. ANCA (Annual Nutrient Cycle Assessment)
- From 2015 onwards, ANCA as licence-to-produce
ANCA

- (link to video)
Conclusion and outlook
Conclusion and outlook Flanders and the Netherlands

- Many challenges and constraints
- Solutions tailor-made

- Further scaling and intensification
  - High soil fertility
  - Favourable weather conditions
  - Good infrastructure (roads, harbours)
  - Well-educated farmers
Thank you!