CONTEXT PROFILE

THE NETHERLANDS

FARMER
Hielke and Hanny de Rooij

INNOVATION
Optimising grazing with automation and diversity

Video

MAIN DOMAIN OF THE INNOVATION
Improvement of grassland management

SOIL TYPE
Clay

FINANCE/INVESTMENT
Low

AGROCLIMATIC AREA
Atlantic central

MANAGEMENT
Pasture dairy

MARKET
Global

CLIMATE
Moderate rainfall

TECHNICAL
Difficult

SOCIAL
Full-time farmer

All contents of this document are expert opinions of the G4AE Scientific Technical Working Group

CONTEXT PROFILE

THE NETHERLANDS

Case Study: NL_05	Agroclimatic Zone								
Item (Key Innovation Elements)	**Alpine**	**Atlantic Central**	**Atlantic North**	**Atlantic South**	**Boreal**	**Continental North**	**Continental South**	**Mediterranean North**	**Mediterranean South**
Automatic milking with parttime grazing	++	+++	+++	+++	+++	++	++	++	++
Herd separated in two groups for grazing (split herd)	+++	+++	+++	+++	+++	+++	+++	+++	+++
Frequent direct seeding of herbs in permanent pastures	++	+++	+++	+++	+++	++	++	++	++

+++ **Strong transferability**

++ **Slightly limited transferability**

\+ **Very limited transferability**

× **Generic information/not relevant**

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Implementation Gaps

- Limited access to sufficient grazing areas close to the milking facility can restrict grazing opportunities and increase walking distances
- Direct seeding methods often have high failure rates, requiring improvements in technique or equipment for better establishment of herbs
- High initial investment and operational costs for automated milking systems, which may be a barrier for smaller or less capitalized farms

Research Gaps

- To identify herbal species that can withstand frequent grazing without compromising pasture productivity and biodiversity

Suggestions to Adapt

- To maximize grazed grass intake, restrict supplemental feed in the barn for a few hours before cows go out to graze, encouraging greater pasture consumption
- To improve seed establishment, schedule direct seeding during periods of high soil moisture, ensuring better seed-to-soil contact for successful germination

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COST-BENEFIT ANALYSIS

INVESTMENT COSTS

Total initial investment costs at start up:	low
• Initial authorisation costs (e.g. sanitary, veterinary, etc.)	low
• Initial advisory costs	low
• Initial buildings and machineries	low
• Initial certification costs	low
• Initial working capital (personal qualification, marketing and promotion, etc.)	low

ON-GOING COSTS

On-going advisory costs	low
On-going certification costs	low
On-going buildings and machinery costs	low
On-going working capital	low

BENEFITS RELATIVE TO ORIGINAL SYSTEM

- **Economic**

Reduction in energy consumption (electricity; fuel consumption)	not applicable/not known
Reduction in input use (fertilizers; pesticides; feed) etc.	not applicable/not known
Payback period	not applicable/not known
Product value added	not applicable/not known
Additional farm income through agroecological/agri-environmental payment schemes	not applicable/not known

- **Environmental**

Animal feed self-sufficiency increase	mid
Biodiversity increase	high
Improved nitrogen cycling	mid
Soil regeneration	not applicable/not known
Animal health and welfare improvement	mid

- **Social**

Workload reduction	not applicable/not known
Engagement of young generation	not applicable/not known

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Literature

English

- Shortall J, Foley C, Sleator RD, O'Brien B (2018). The effect of concentrate supplementation on milk production and cow traffic in early and late lactation in a pasture-based automatic milking system. *Animal* 12, 853-863. https://doi.org/10.1017/S1751731117002221
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