Kmetija Čretnik: Implementation of High Welfare Floor (HWF)

Name of the Organisations Involved

- Farm Čretnik, Slovenia
- ID Agro, Netherlands

Challenges Identified

Farm Čretnik in Slovenia encountered several serious challenges, including:

- *Old barn:* As it was over 35 years old, the barn had structural and functional limitations.
- *No pasture capacity*: The farm lacked space for natural grazing.
- *Tied breeding*: Not an optimal practice for milking cows.
- *Outdated Design:* The barn's layout was not suitable for modern farming practices.
- *Inefficient Farming*: The work on the farm demanded high time and effort.
- *Animal Welfare Concerns*: Artificial flooring negatively impacted animal well-being.
- *Changing Customer Preferences*: Customers demand transparency, higher animal welfare, and lower environmental impact.
- *First HWF implementation* – no guarantee

Goals and Solution

In response to those challenges, the farm undertook a full renovation with the goal of boosting overall farm productivity while aligning with environmental objectives and significantly improving the well-being of the animals. Through combined efforts, the farm management integrated the following solutions:

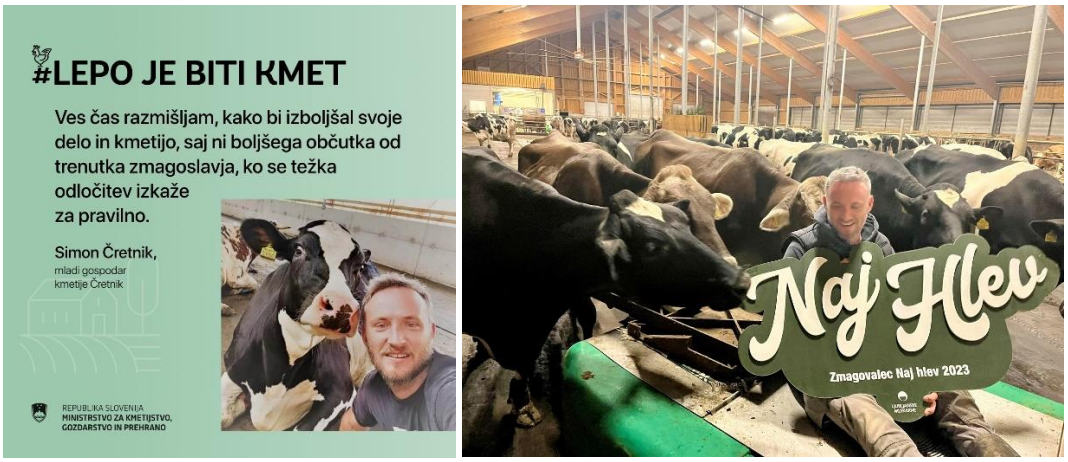
1. *Modernized Barn Design:* The construction involved a new open-floor barn with high ceilings, ample natural light, ventilation, and greenery – aligning with 21st-century farming needs.
2. *High Welfare Floor (HWF) Implementation*: The introduction of HWF, proven to enhance animal welfare, mimics a natural pasture environment with permeable surfaces, like dirt and grass.
3. *Efficient robotic technologies*: The implemented HWF is compatible with the integrated cleaning robots, optimizing workload by constantly managing surface manure. Additionally, a robotic milking machine has been integrated to reduce the time demands on the farmers.

Co-funded by the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them. Project number: 2021-1-DE02-KA220-VET-000034651

Short description of the technology

- *Innovative Three-Layer Flooring*: Concrete base with permeable layers: plastic honeycomb, comfort layer, and fabric; designed for efficient drainage through pipes to the slurry pit.
- *Emission Reduction and Dry Flooring:* Secretion separation on the surface reduces ammonia emissions by 80%; ensures a consistently dry floor, positively impacting udder and hoof health.
- *Smart Monitoring System:* Ankle bracelets equipped with tracking chips and pedometers collect detailed data on cow behaviour and milking metrics.
- Effortless Robotic Milking: Utilizes a 100% automatic robotic milking machine, eliminating the need for manual labour.
- *Implemented systems* to encourage and support the natural behaviours of the animals.



Picture: Simon Cretnik, the farm owner, won a special award in 2023 for his innovative approach and animal welfare. Source: https://www.facebook.com/kmetijacretnik

Actions Taken

Step 1: Recognizing Renovation and Innovation Needs

- Acknowledging the necessity for renovation and innovation in farming practices.

Step 2: Collaboration with Bio-technical University and Dutch Company

- Reaching out to the Biotechnical Faculty (University of Ljubljana) for solution suggestions.
- Establishing Contact with Dutch Company ID Agro, specializing in developing and marketing innovative housing systems for the livestock sector.

Step 3: Tailored Technology Adoption

- *Identifying and adopting technology that aligns with the specific needs of the farms.*

Step 4: Bold Implementation

- Implementing the chosen technology despite potential risks, such as uncertainties about its longevity and performance.

Co-funded by the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them. Project number: 2021-1-DE02-KA220-VET-000034651

Benefits and Impact

The farm owner applied a holistic, comprehensive approach with the adoption of tailored technology, resulting in the following benefits:

- The farm achieved **enhanced well-being of the animals** and **increased productivity**. More specifically, this led to higher milk production (now averaging 34 liters per day, compared to 24-27 liters per day previously), extended lifespan, and overall improved animal welfare. Animals now have the freedom to move and lay down anywhere in the barn, contributing to a more natural and comfortable environment. The High Welfare Flooring (HWF), offering a slightly soft surface beneficial for animals with trotters and promoting higher laying times with no restrictive laying boxes.
- With the integration of automation, there is **a lesser demand for manual labor.** The modernized barn design resolves age-related limitations, and robotic milking along with HWF-compatible cleaning reduces workload.
- **Environmental responsiveness -** the emission reduction aligns with changing preferences.

In conclusion, these changes contribute to **higher quality products**, primarily in milk, with potential benefits extending to meat in later stages of production.

Contact Information

Čretnik farm (Kmetija Čretnik)
Tel. +386 51 317 871
Website: https://www.kmetija-cretnik.si/kontakt.html
Facebook: https://facebook.com/kmetijacretnik/

ID Agro
Tel. +31 (0) 572-37 14 04
Website: https://www.idagro.nl/producten/high-welfare-floor

Prepared by

Drejc Kokošar (ID20)

Application Area
☒ Condition of assets, ☒ Livestock

Digital Technology in the Value Chain
☒ Supply Chain Management

Digital Technologies
☒ IoT ☒ Robotic and Automation

Co-funded by the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them. Project number: 2021-1-DE02-KA220-VET-000034651