



Precision livestock farming

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Agenda

- **Introduction**
- **Overview of innovations in Dairy**
- **Effects of innovations**
- **Critical success factors**

Introduction

- **Harm-Jan van der Beek & UNIFORM-Agri**
- **Born on a dairy farm in 1960**
- **Studied Wageningen University**
- **Showed first Milking robot on TV in 1984**
- **MD of UNIFORM-Agri**
- **Chairman of Dutch Dairy Centre**

Introduction UNIFORM-Agri

- **International Dairy software supplier**
- **30 years in business**
- **10.000 farmers use software worldwide**
- **50 employees and 10 nationalities**
- **Head office in Holland (Assen)**
- **Since 2013 owned by Delaval**
- **Innovative: System integrator, App, Google glass**
- **Cooperation with U-Gent, prof Bradley, Dairy Campus**

Overview Innovations in Dairy

- **Milking robot (90's)**
- **Cow related sensors (next page)**
- **Weighing feed wagons (Loading and unloading)**
- **GPS for fieldwork (fertilizer) (Drones)**
- **Genomics (DNA per bull/cow)**
- **Sensor for water quality (<90% of milk is water)**
- **Big data for better analyzing**

Cow level sensors:

- Milk meters (incl. milk flow /second)
- Activity sensor of cow
 - for heat detection
 - for lay/stand-up time
- Rumination sensor
- Conductivity during milking
- Camera for Body Condition core (young stock weight)
- Camera for Lameness
- Lab info from milk (Fat, Protein, Urea, SCC, Preg., more)

Effects of Innovation:

- ✓ **More with Less; “to feed the world”**
 - ✓ - Labor (less labor/kg milk produced)
 - ✓ - Production (more milk with less Feed)
 - ✓ - Environment (less recourses, less pollution)
- ✓ **Animal health (Less disease, less antibiotics)**
- ✓ **Animal welfare (Increase lifetime of cows)**
- ✓ **Food Safety (Traceability, Quality)**
- ✓ **More economical (when used properly)**

Critical success factors (User level)

- **Knowledge to use innovations. (User level)**
- **Level of investments versus profitability and to much changing regulations.**

Critical success factors (Industry)

- **Protection of investments** (initiated or bought).

Complicated in cooperation's (IP rights etc.)

Put's a brake on open brainstorming

Good regulations will help! (not only for big ones)

- **Awareness of real issues of Food production/consumption, Animal welfare in society.** (f.e. negative image of Mega Farms)

Thank you

