Geert Wilms
Director, Agricultural Innovation Brabant LIB/ZLTO, South Holland Farmers Organization
Agriculture Innovation Brabant (LIB), Netherlands

Smart Livestock farming; enhancing sustainable development

Geert Wilms,
November 1st 2019 - Serres
geertwilms@stuurgroeplib.net, www.stuurgroeplib.net
LIB = Public Private-Partnership since 1995:
(Province North-Brabant and Farmers Organisation ZLTO, goal: contribute to sustainable development)
Brabant: 2,500,000 inhabitants

- 600,000 cows
- 6,000,000 pigs
- 26,000,000 chickens
- 2,000 ha. strawberries
- 10,000 farms

ZLTO: 13,500 members

The Southern Agriculture and Horticulture Organization (ZLTO) represents the interests of entrepreneurs working in green areas. Around 15,000 farmers and growers in the South Netherlands are members of our association. Together with them, we work to produce healthy food innovatively and sustainably.
Smart Livestock Farming (Dairy, Pigs and Poultry)

Contribute to:
1. Resource efficiency, animal welfare, reduce environmental impact.
2. Added Value & Social acceptance.
Sensors and collecting data are crucial. 25% of the dairy farmers use milking robots (that provide a lot of data (60 cows/robot)) and sensors are increasing in popularity:

- welfare biomarkers
- activity-based welfare assessment
- sensors of temperature and pH
Royal Friesland Campina

More (premium for grazing) milk flows are developed: On the way to ‘planet proof’, ‘organic’, (data management is essential to control these different milk flows).
On-farm dairy processing, direct sales (farm level)

The first Lely Orbiter system operates at Dobbelhoeve farm in North-Brabant (2018). It produces (1,000,000 liter) organic, fair, direct, and pure dairy products and increases the value of the milk. This on-farm dairy processor matches the high quality standards of large industrial-scale processors. This innovative system is able to process the milk of small batches of cows separately. Consumers will be able to trace the dairy products back to individual cow family level.
De Hoeve sustainable pork supply chain, started 1997

Sustainable Pork Value Chain Association (KDV), is a cooperative venture between Dutch pig farmers, slaughterhouse, wholesalers, butchers, cold meat producers, retailers and caterers.

- 2015: > 300 associated pig producers (1 million pigs/y).
- 2015: > 500 outlets (supermarket, Quality butchers, catering, restaurants).
- [https://duurzaamvarkensvlees.nl/2016/english.html](https://duurzaamvarkensvlees.nl/2016/english.html)
- 2014: Dutch Agro Entrepreneur of the year
- Partnership: Dutch Organisation of Animal Welfare and NGO Nature and Environment
- 2018: KDV took the lead in Smart Farming (ear tags). The volume of data increased exponentially.
De Hoeve
pork supply chain

Track & Trace
Thanks to the use of RFID ear tags, we are able to accurately follow pigs from birth to slaughter. This helps farmers regulate the health of their pigs more effectively and safeguards the **Antibiotic-free Life Guarantee**. They can accurately track which pigs do better than others and use this to inform farm management decisions. Smart farming also means we now have a watertight track-and-trace system, as we know exactly where each pig comes from and what it has experienced.

RFID ear tag
Smart farming is the future of sustainable pig farming. With smart RFID ear tags, pig farmers can follow each pig fully individually. At birth, each piglet receives an ear tag with a chip. Using the chip, the farmer can register data for the individual animal such as date of birth, gender and the pig’s parentage. During the course of its life, the farmer can add extra information. At slaughter, data on final weight, meat quality, health and the ensuing financial results are added. This allows information on origin, genetics and health to be linked to the slaughter results.
Pigs in the meadow, added value, and direct contact between producer and consumer
Kuijpers chicken, broiler farm and slaughtery in one place

Stable with 1 million chicken for meat production. Sensors and data collection to improve productivity and animal welfare.
Data = production source and businessmodel

Fieldlab  Short Broiler Chain  research and development
Stakeholders: Kuijpers Kip, knowledge partners, customers

Data structure for data exchange, reliable quality assurance, research and support chain financing

Breeders  Hatching  Broilers  Slaughter  Processing

Short Broiler Chain

Broilers:
- Spectrum choice experiment
  - intensity dependence
  - behavior dependence
  - effects food choice
Chicken in a Mobile caravan, (0,35 euro/egg), added value

249 chicken, rain water use for drinking, solar system for energy, automatic closing of caravan at night, direct contact between producer and consumer.
Agriculture Innovation Brabant (LIB), Netherlands

Smart Livestock farming;
enhancing sustainable development

Geert Wilms,
November 1st 2019 - Serres

gleertwilms@stuurgroeplib.net, www.stuurgroeplib.net

LIB = Public Private-Partnership since 1995:
(Province North-Brabant and Farmers Organisation ZLTO, goal: contribute to sustainable development)