Genotyping is the base of data driven dairy farming

Louwrens van Keulen, CRV

ICAR, Puerto Varas, Chile,
October 2016

CRV

Cooperative herd improvement organisation

- Genetics
- Management information and solutions
- Services and consultation

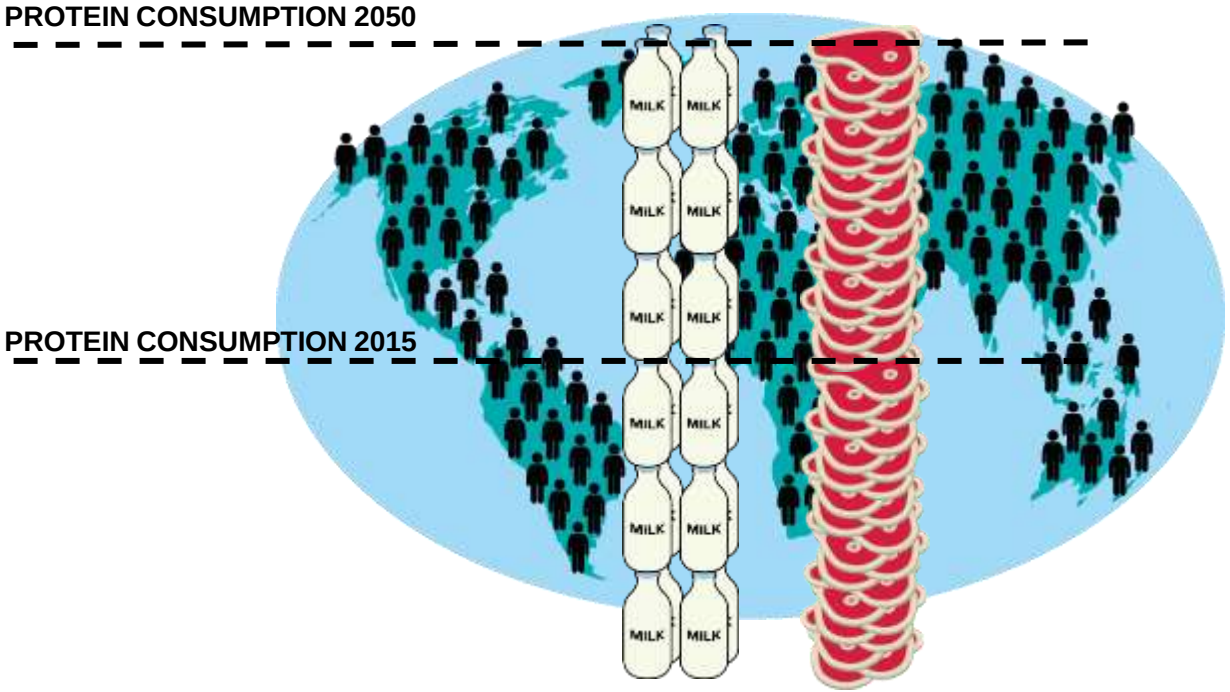
THE WORLD

GROWING POPULATION

9 BILLION PEOPLE TO FEED IN 2050

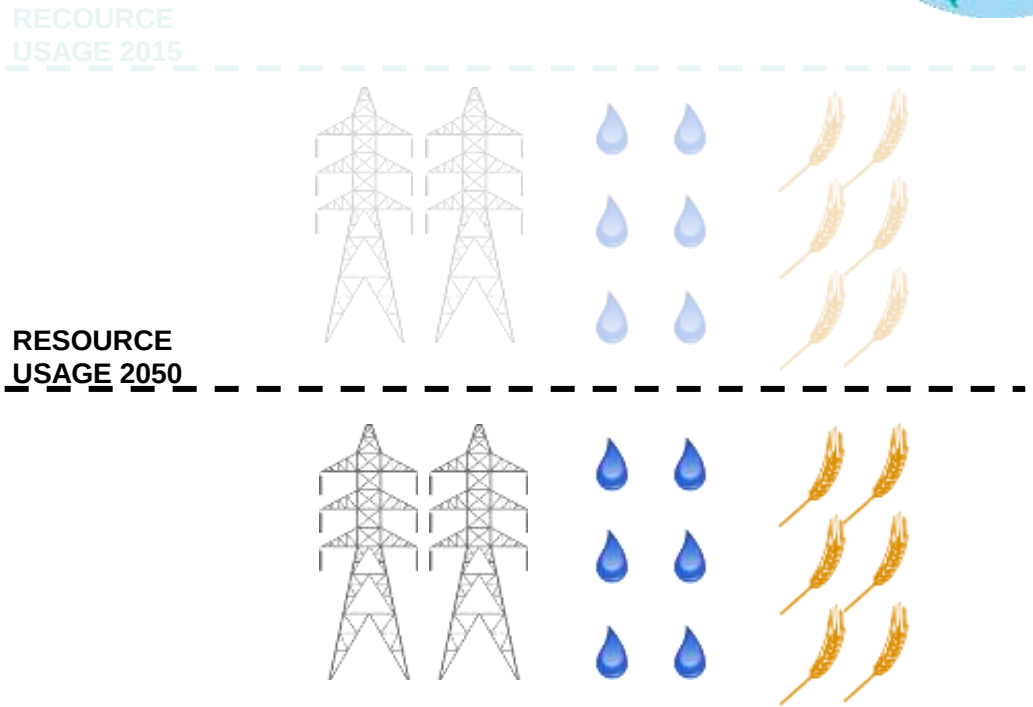
THE WORLD

CONSUMPTION DOUBLES



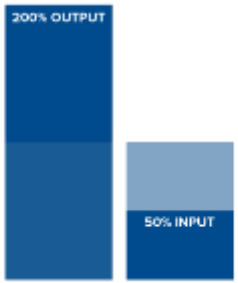
THE WORLD

HALF THE RESOURCES AVAILABLE



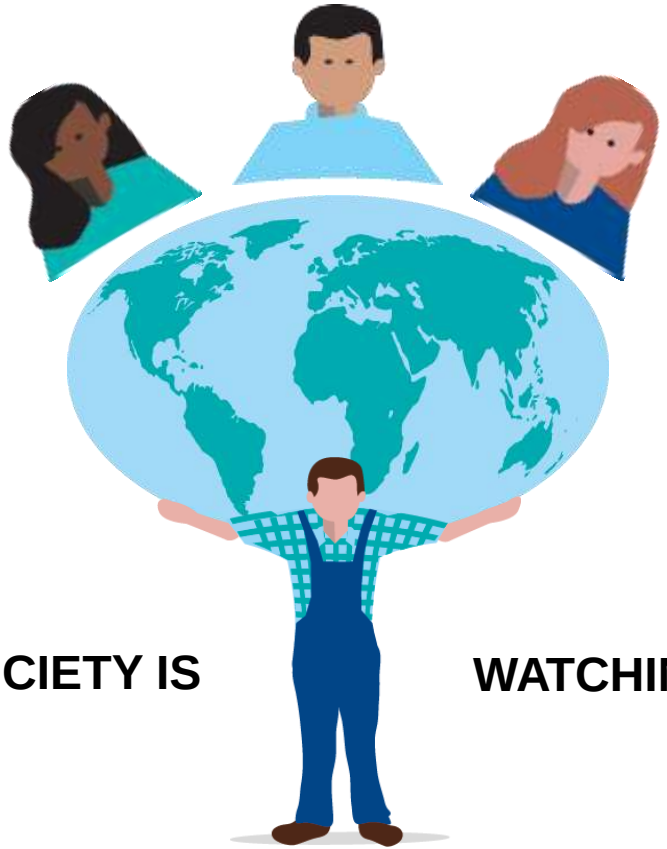
THE FARMER

Faces this CHALLENGE…



….strives for CONTINUITY

THE FARMER



SOCIETY IS WATCHING

The Dutch farmer

- Fast change in market regulations cause insecurity
  - Removal of milk quota
  - Prospect of phosfate regulations
  - Antibiotic use restrictions
- Farmers are squeezed into a corner
- Forced to farm with high efficiency and adaptability
- Little room for ‘error’
- Pressure on sustainability

Meanwhile, technology develops fast

- Technological solutions are offered to unburden farmer
- Technological devices offer optimal control → information
- 23% of Dutch farmers now have a milking robot
- Efficient management → Sensor technology
- Efficient breeding → Genomic Herd Management

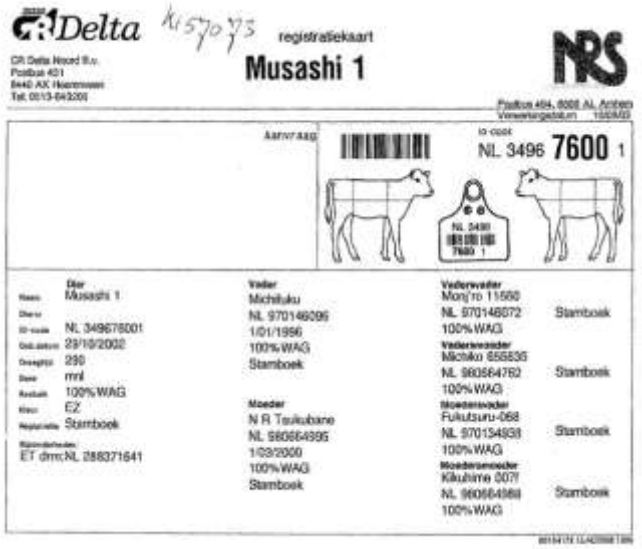
Genomic Herd Management

Genomics = more information = more control

- Control and exploit genetic merit of the herd
- 65% accurate prediction of genetic merit animals 0-2 years
- Better selection of young stock – no raising of costly cattle
- Strategic and better matings
- Accelerate genetic progress

Insight: Pedigree

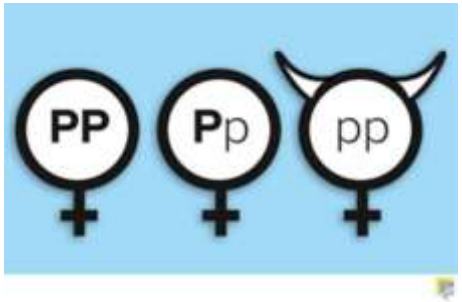
- The genomic test gives you next to genomic breeding values and genetic defects also parentage verification/validation.
- In the Netherlands and Flanders,
  we find approcimately 5% registration errors
- CRV corrects the pedigree where possible



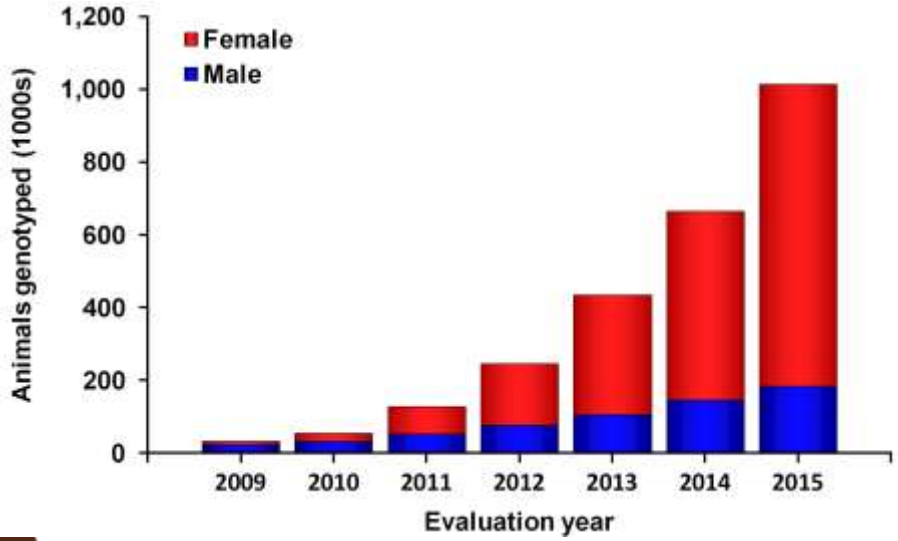
Insight: Genetic defects

Genetic conditions:
Genomic testing will give you a status for:

- Redfactor
- BLAD
- Polled
- CDH
- A2 (Beta Caseine)
- Beta-LactoGlobuline
- Kappa Casein

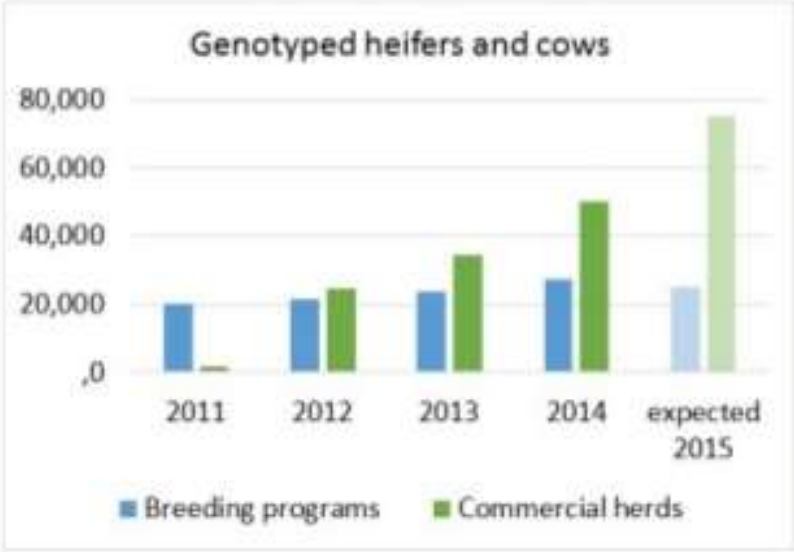


Genomic testing trends



USA

Reference: AGIL, USDA, Beltsville



France

Reference: Institute D'Elevage, EAAP, 2015

CRV Precision Breeding - HerdOptimizer

The shortest way to the best herd with less of young stock

CRV Precision Breeding package

Components CRV Precision Breeding	
Genomic testing (Female Holstein calves)	✓
Management Tool: HerdOptimizer	✓
Support consultancy (start)	✓
Option: SireMatch	
Option: Semen Inclusive	
Option: other (older) female Holstein cows	

What does it offer?

Genomics = more information = more grip

Better decisions in the field of e.g. fertility, udder health, nutrition etc.

= > A marker test is similar with a cow in her 3rd lactation!

Ask the right questions

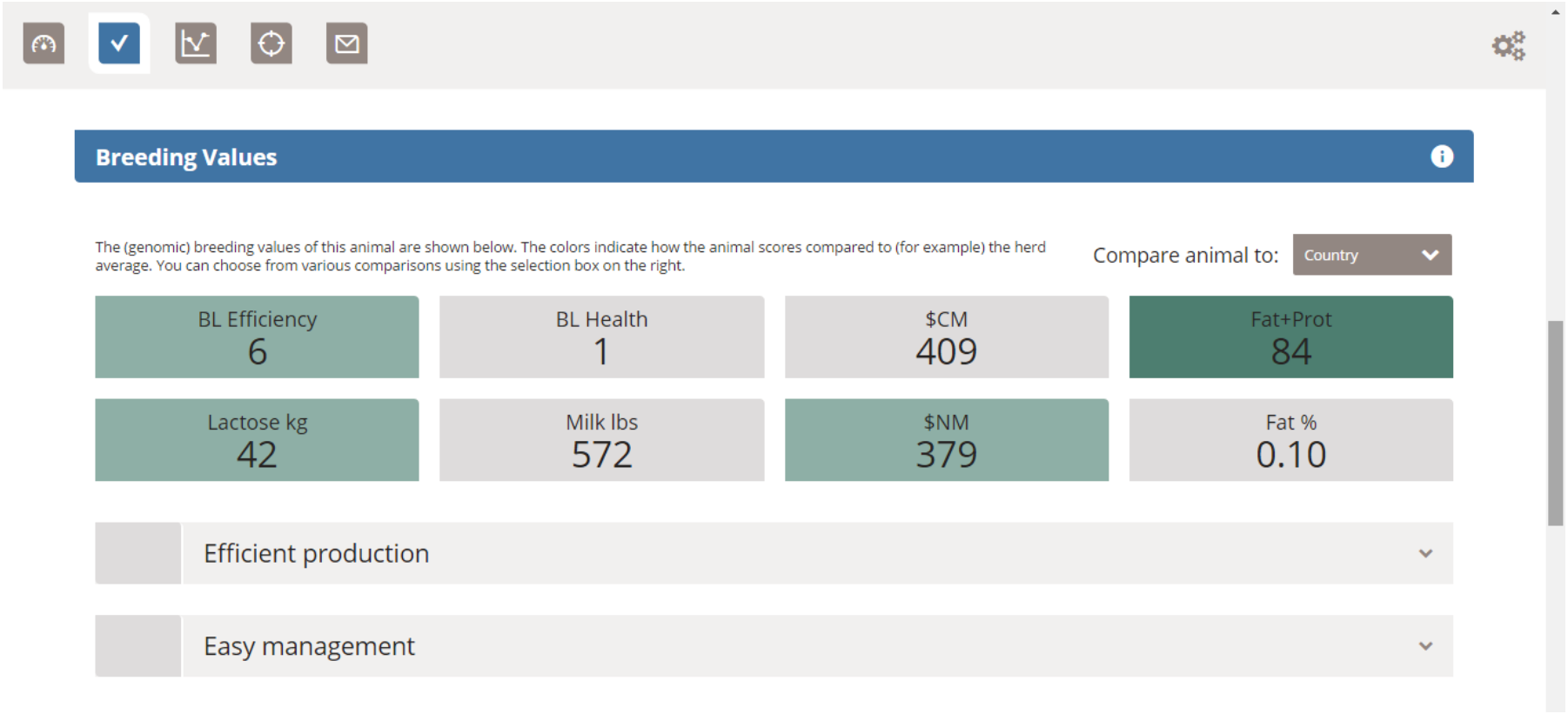
Precision mating's based on genomics is the future

To which tail do you attach € 1.500,-?

HerdOptimizer

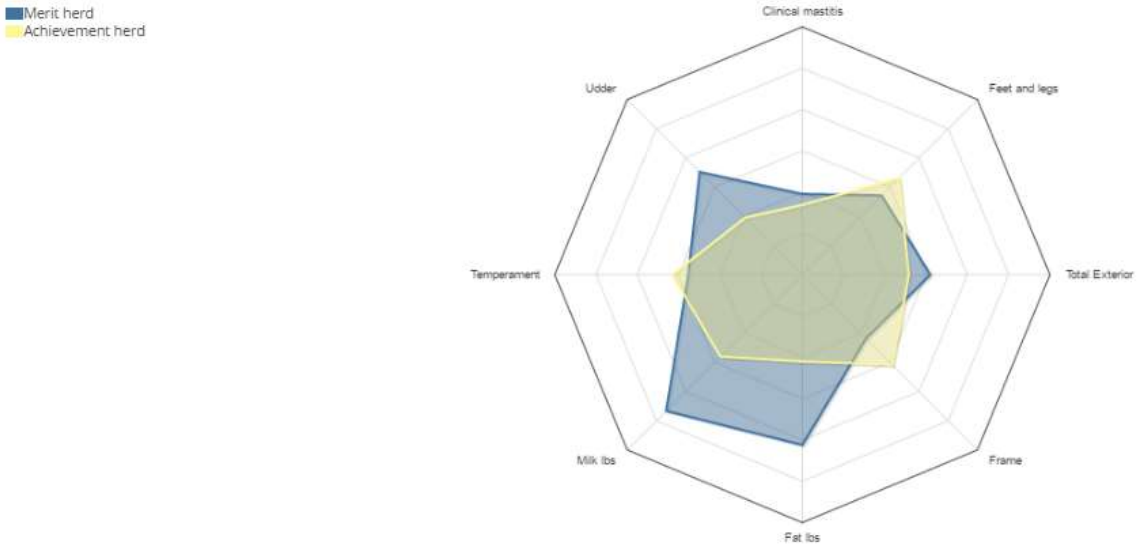
- Support farmers with the use of genomic information of the herd
- Breeding information of the total herd
- Starts with tailor made breeding goal of the farmer
- Puts farmer behind the wheel of his breeding management
- Realtime on desktop, tablet and smartphone

HERDOPTIMIZER
Unleash the power of your herd


Breeding Values
The (genomic) breeding values of this animal are shown below. The colors indicate how the animal scores compared to (for example) the herd average. You can choose from various comparisons using the selection box on the right.
Compare animal to:
Country
BL Efficiency
6
BL Health
1
$CM
409
Fat+Prot
84
Lactose kg
42
Milk lbs
572
$NM
379
Fat %
0.10
Efficient production
Easy management

Merit & performance livestock

Options



CRV Precision Breeding rate (Western-Europe)

The rates includes:

- A fee per farm per month
- A fee per cow per month
- A fee per marker test

	Herdoptimizer incl. Sire Match	Herdoptimizer excl. Sire Match
Per farm per month	€ 6,25	€ 3,35
Per cow per month	€ 0,32	€ 0,20

- Genomic test € 26,60 per test

THANK YOU FOR YOUR ATTENTION

CRV Vision:

In 2020,
50% of Dutch farmers
routinely genotypes
every newborn calf