



Genotyping is the base of data driven dairy farming

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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

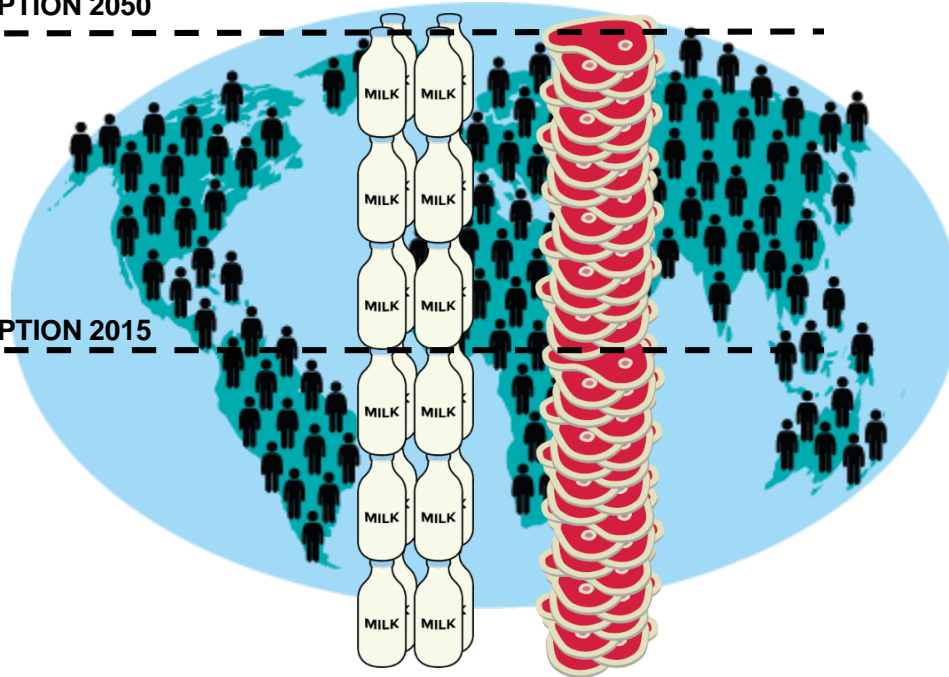


THE WORLD

CONSUMPTION DOUBLES

PROTEIN CONSUMPTION 2050

PROTEIN CONSUMPTION 2015

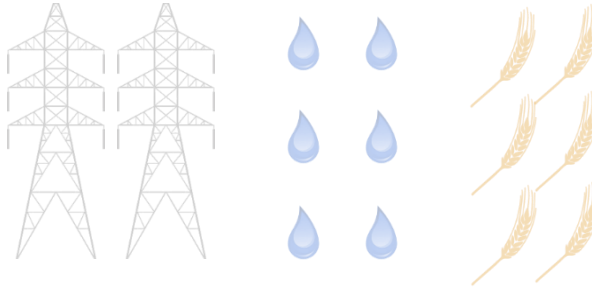


THE WORLD

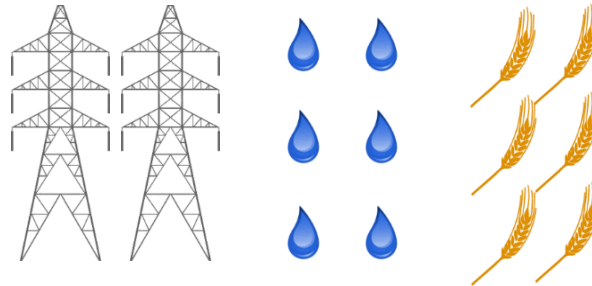
HALF THE RESOURCES AVAILABLE



RESOURCE
USAGE 2015

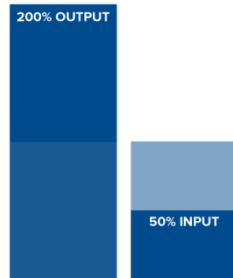


RESOURCE
USAGE 2050



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 phosphate 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 approximately 5% registration errors
- CRV corrects the pedigree where possible

Delta *K157073* registratiekaart
Musashi 1

CR Delta Noord B.v.
 Postbus 431
 8440 AK Hoerenvveen
 Tel: 0513-643200

Postbus 454, 6800 AL Arnhem
 Verwerkingsdatum 10/09/03

Aanvraag ID-code
 NL 3496 7600 1



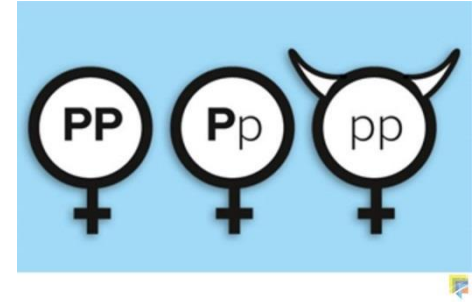
Dier Musashi 1	Vader Michifuku NL 970146096 1/01/1996 100% WAG Stamboek	Vader Vader Korj'ro 11550 NL 970146072 100% WAG Stamboek
Naam Musashi 1	Moeder N R Tsukubane NL 980664995 1/03/2000 100% WAG Stamboek	Vadersmoeder Michiko 855635 NL 980664762 100% WAG Stamboek
Diersn NL 349676001	Moedersvader Fukutsuru-068 NL 970134938 100% WAG Stamboek	Moedersvader Fukutsuru-068 NL 970134938 100% WAG Stamboek
ID-code NL 349676001	Moedersvader Kikuhime 007 NL 980664988 100% WAG Stamboek	Moedersvader Kikuhime 007 NL 980664988 100% WAG Stamboek
Obs.datum 29/10/2002		
Geagte 290		
Sex mnl		
Ras 100% WAG		
Kleur EZ		
Registratie Stamboek		
Bijzonderheden ET dnm:NL 288371641		

00154173 LLAC0308:1200

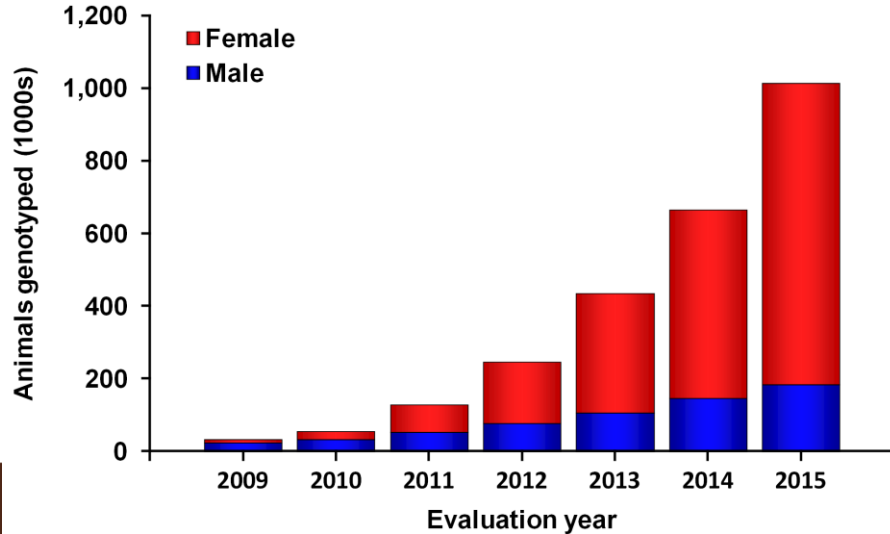
Insight: Genetic defects

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

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

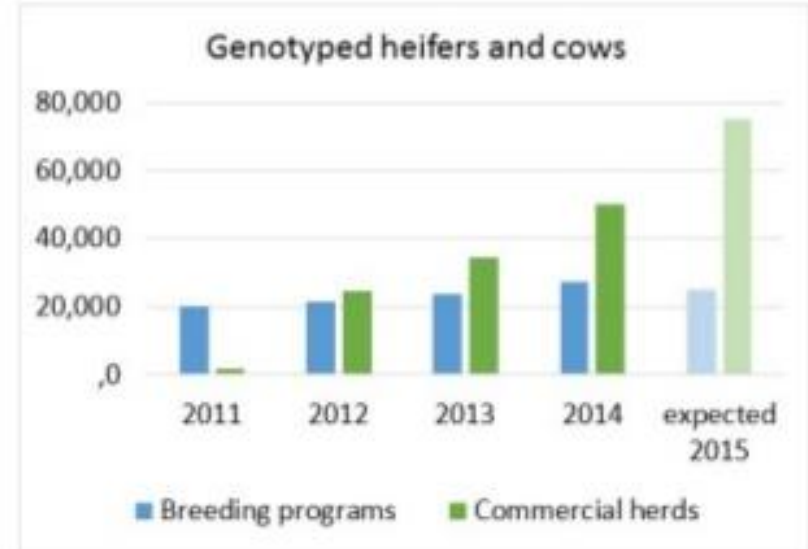


Genomic testing trends



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!**

**ZIT HET
IN HAAR?**



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





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

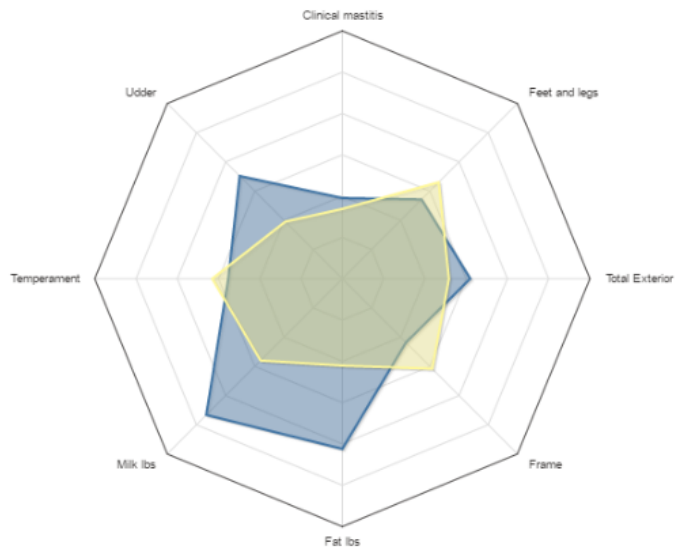


Merit & performance livestock



Options ▼

■ Merit herd
■ Achievement herd



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 genotype
every newborn calf

