



Working with farmers to implement advances in genetics

HOW DOES ANIMAL BREEDING CONTRIBUTE TO SUSTAINABLE LIVESTOCK FARMING IN EUROPE?

18 DECEMBER 2025 | 10.00 AM TO 11.15 AM
EUROPEAN PARLIAMENT STRASBOURG
WINSTON CHURCHILL 100

www.sustainablelivestockintergroup.eu

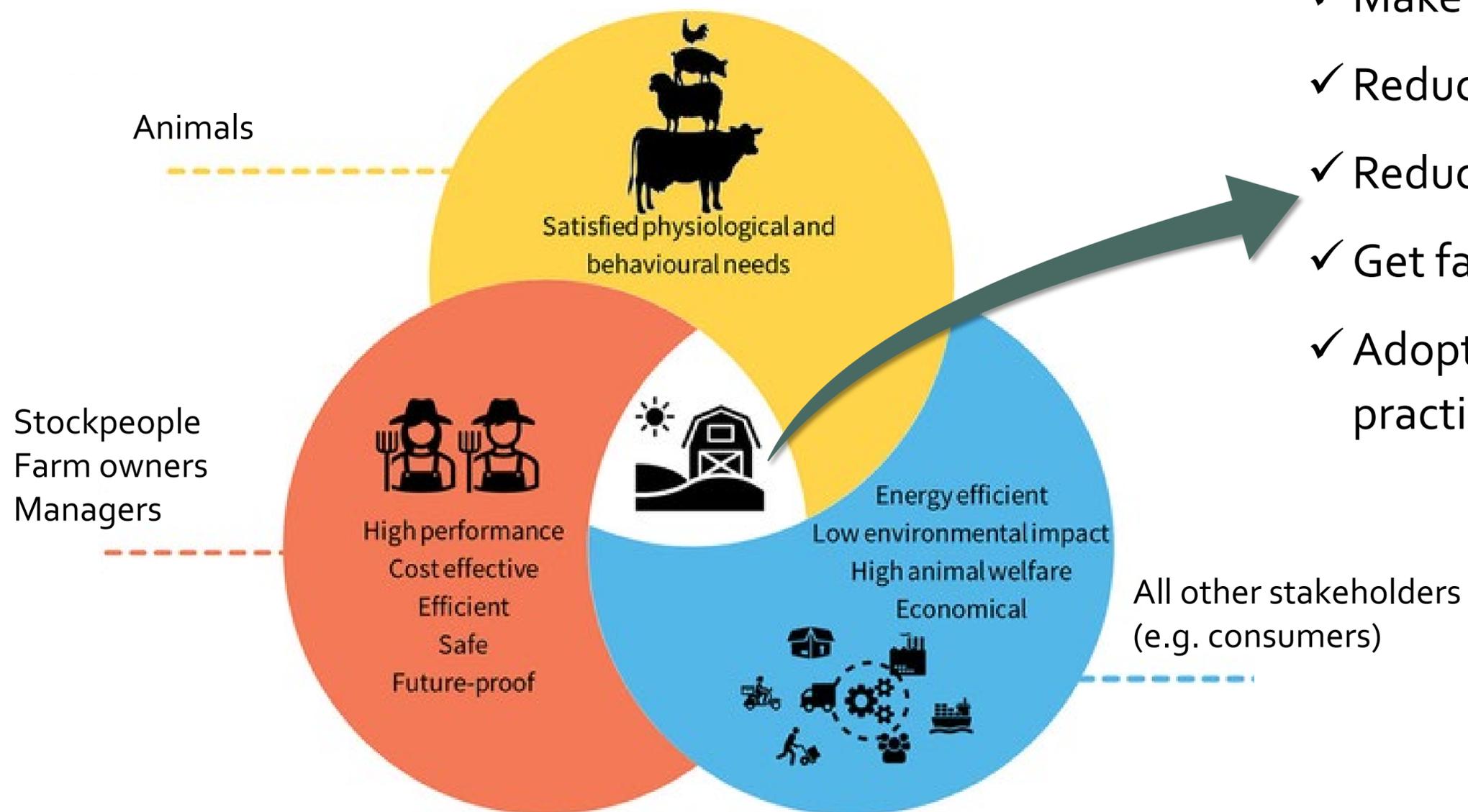


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Head Research and Development office ANAFIBJ

your COW
our FUTURE

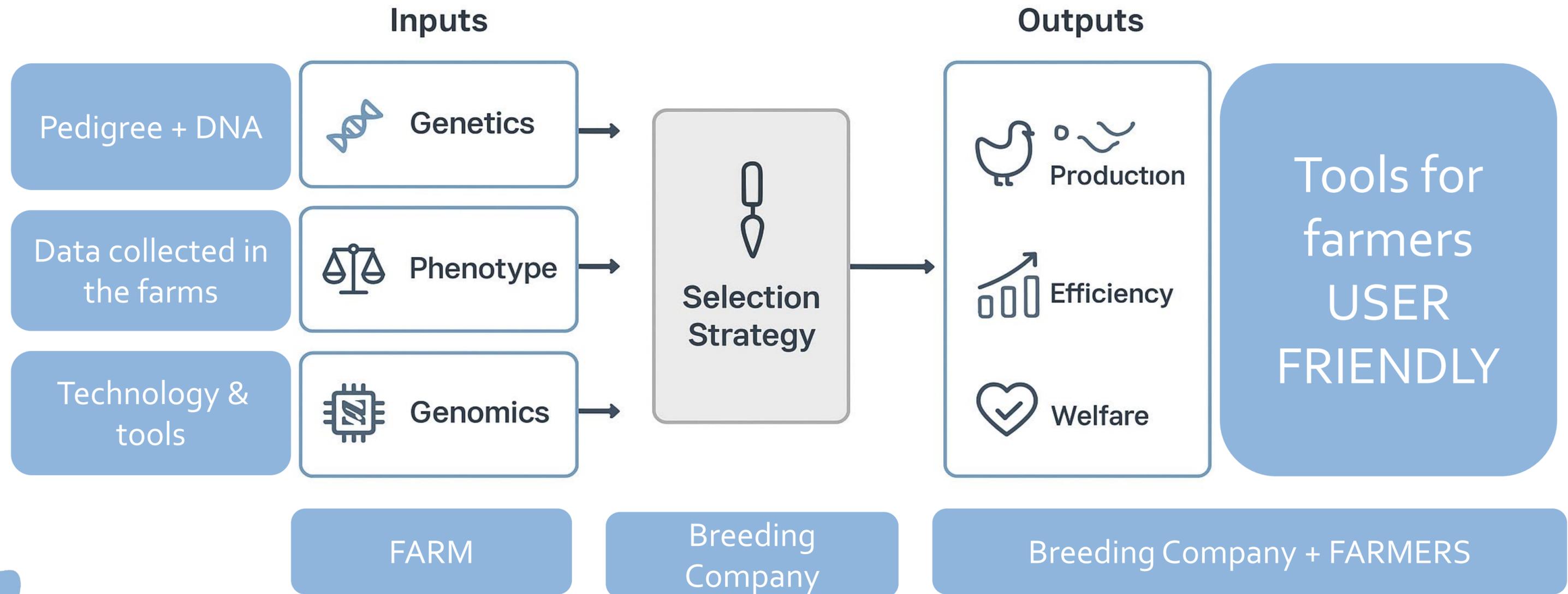
The farmers' needs



Breeding associations are working in order to:

- ✓ Make a better production,
- ✓ Reduce health problems,
- ✓ Reduce risks,
- ✓ Get fair prices,
- ✓ Adopt modern sustainable practices.

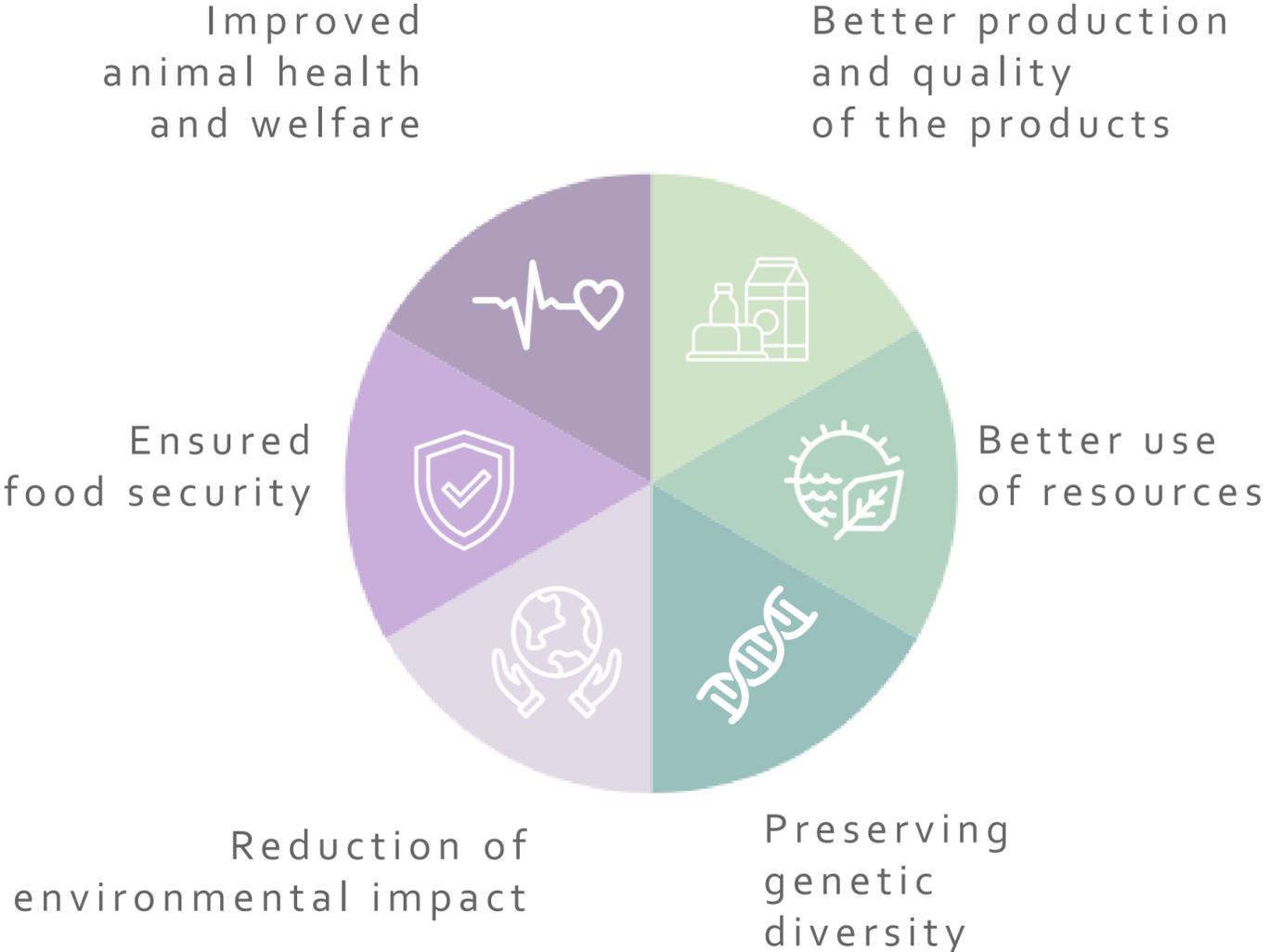
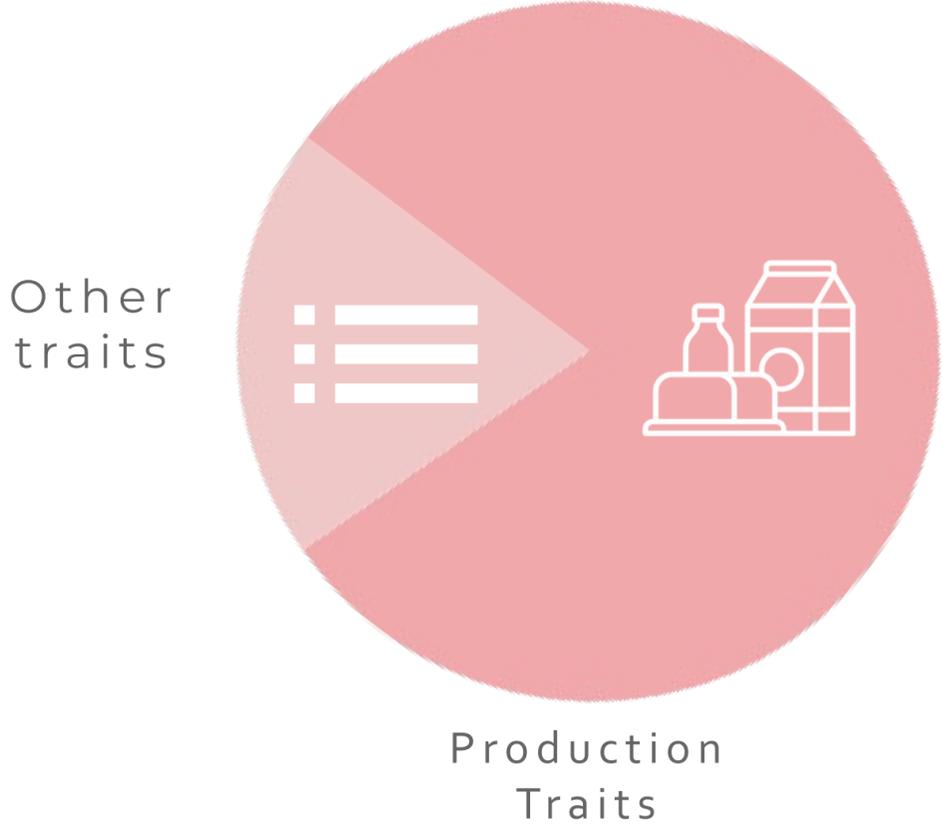
Breeding companies → Farmers



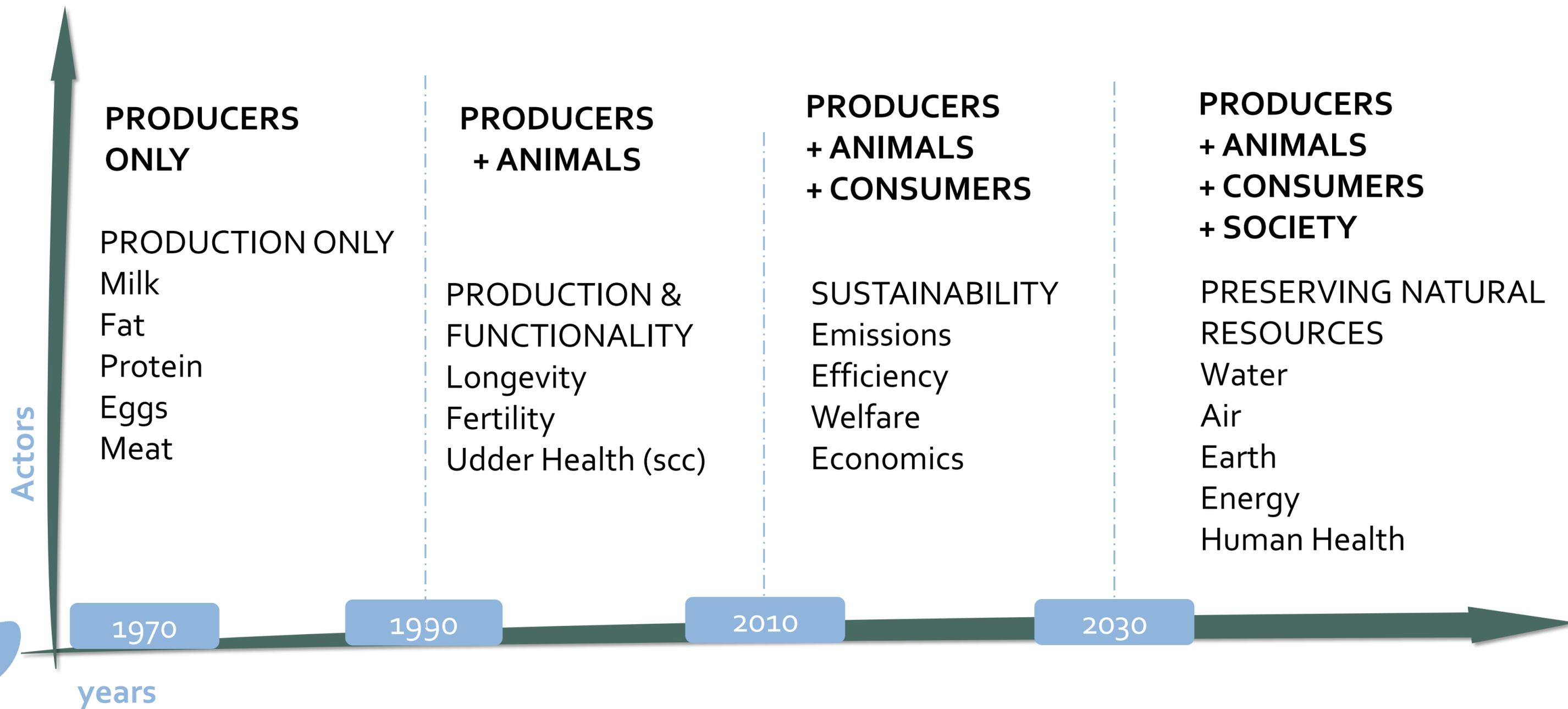
Modern Animal Breeding

1970's - 1980's

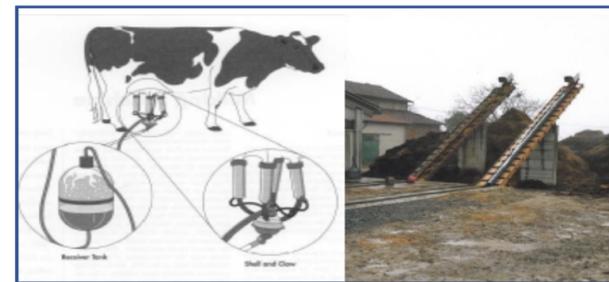
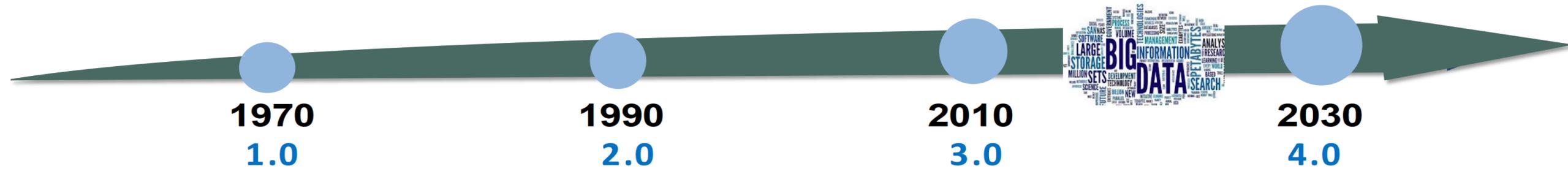
2000's - Today



Breeding objectives evolution



Evolution of the livestock system



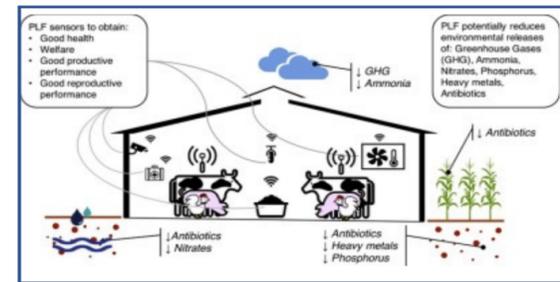
Livestock Mechanization Farming

- Mechanization
- Milking machine
- Less manual labor



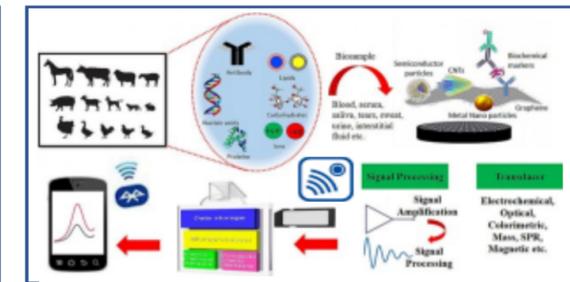
Livestock Intensive Farming

- Infrastructure (LMF)
- Nutrition
- Quantitative Genetics
- Recording data



Livestock Precision Farming

- Livest. Intensive (LIF)
- Automation/Robot
- Genomic analysis
- Management data
- Big-data



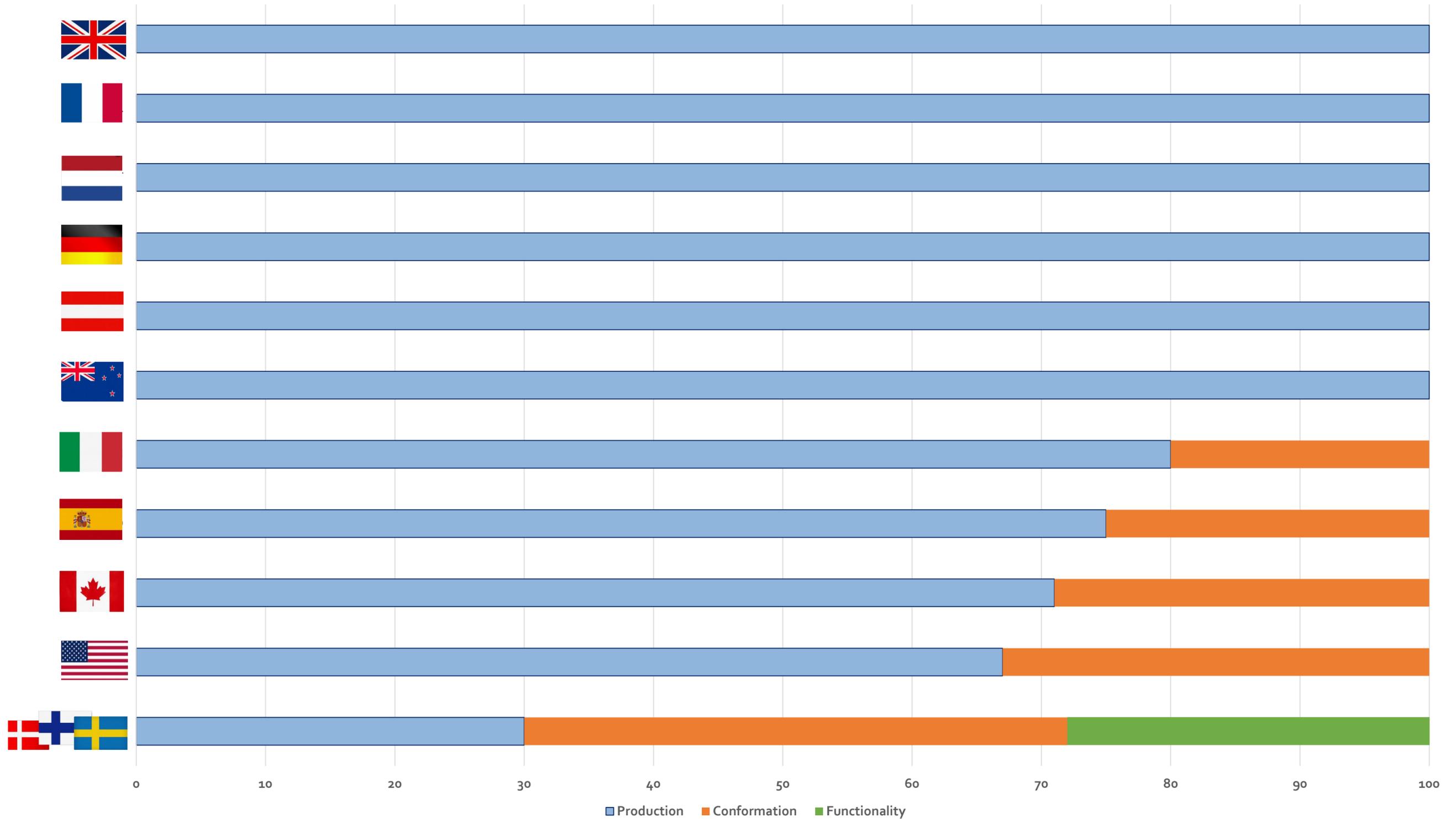
Livestock Holistic Farming

- Precision livestock farming (PLF)
- High-performance phenotyping
- Traits ontologies
- In-/Cross-Breeding
- Genome editing
- Microbiome
- Deep/Machine learning
- Artificial Intelligence



World breeding goal Evolution

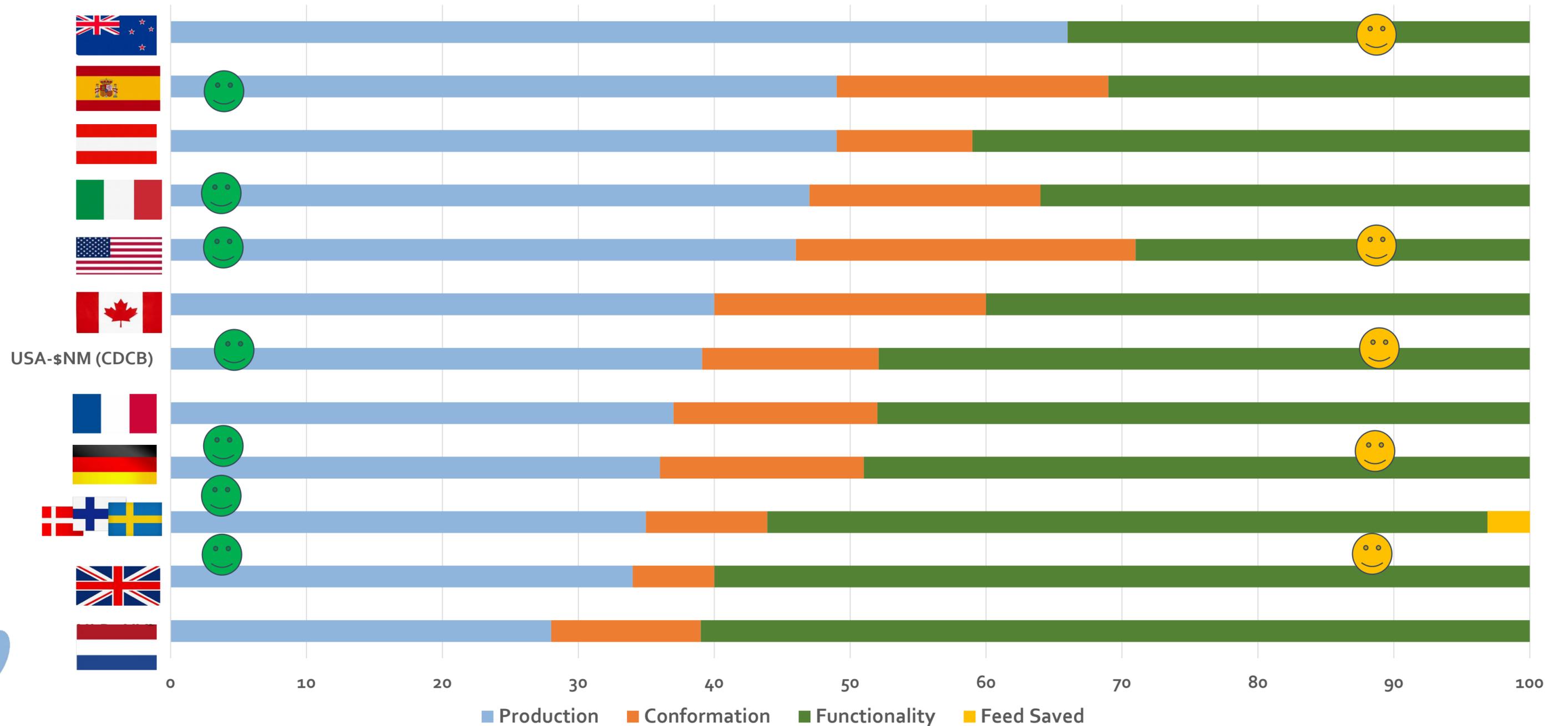
'90s





World breeding goal Evolution (today)

- 😊 Countries with **Feed Efficiency** trait included in the breeding goal
- 🙂 Countries with **Hoof Health** trait included in the breeding goal

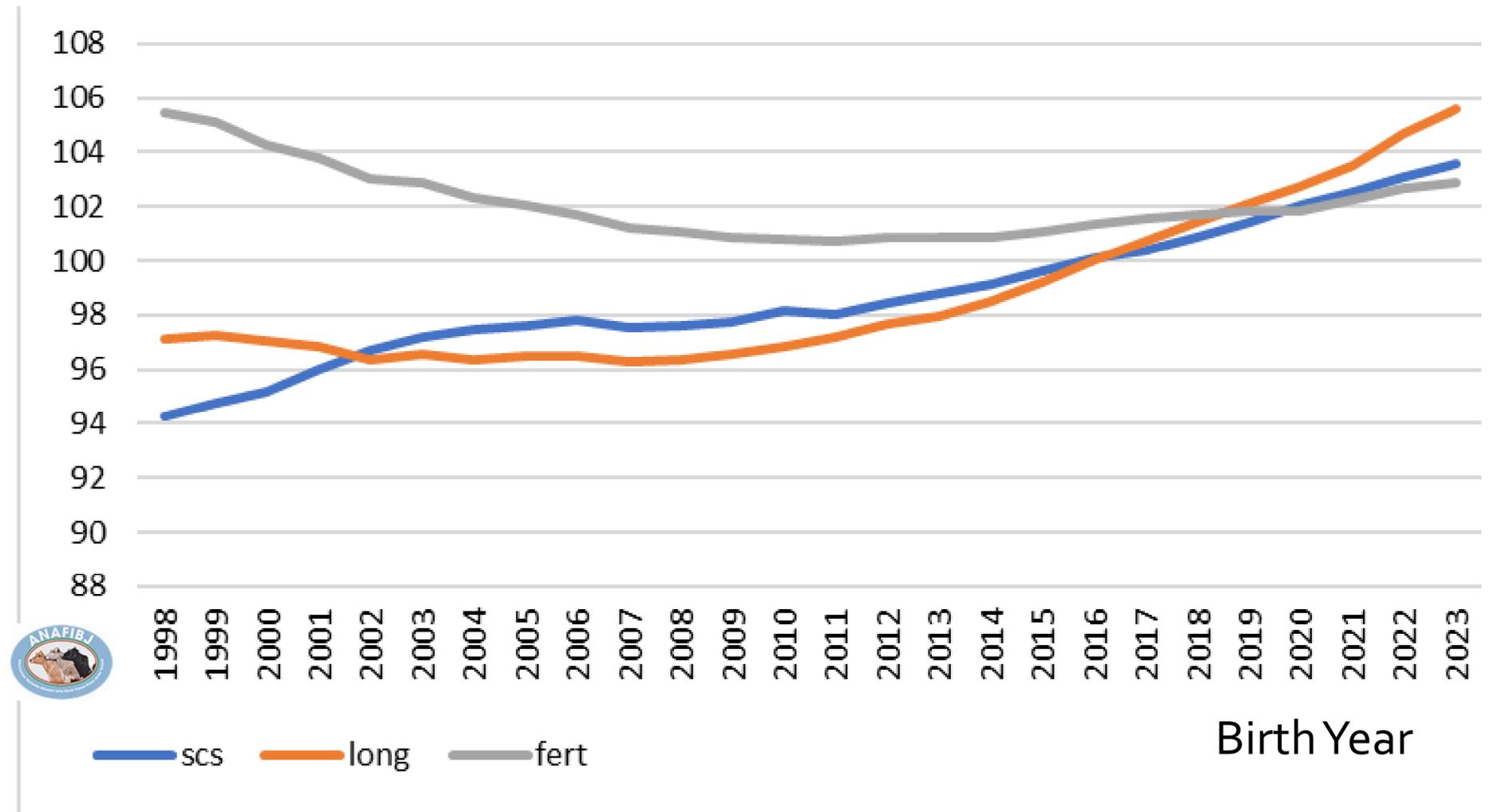


Progress is made since **fertility** and **longevity** were included in breeding goals, resulting in a **genetic progress** for these traits





Genetic trend for Somatic Cell Count (AH), Longevity (AHW) and Fertility



- -14 days calving-concive
- -80 000 cells / mL
- +92 productive days

Phenotypic value of 1 1 DS of index

...different species ..similar breeding objectives

Poultry

Strong focus on

- feed efficiency,
- heat tolerance,
- immunity,
- and welfare traits (leg health, mortality).

From 1995 to 2021, dedicated efforts in poultry breeding have improved *leg health*, **reducing valgus/varus issues by more than 90%** and ensuring stable, healthier flocks over time.



Pigs

Emphasis on

- disease resilience,
- sow longevity,
- piglet survival,
- And environmental nutrient efficiency.

PIGLET SURVIVAL BETWEEN 2015 and 2020

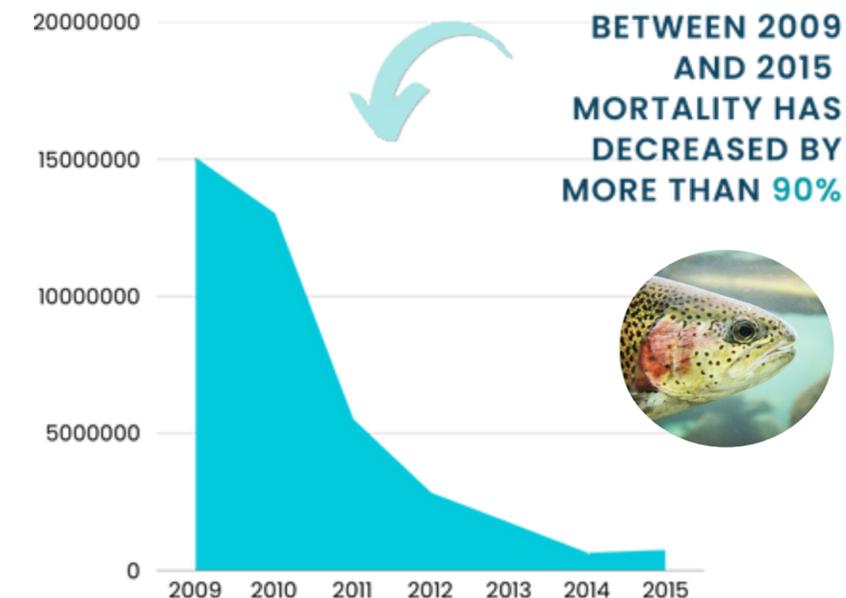


Aquaculture

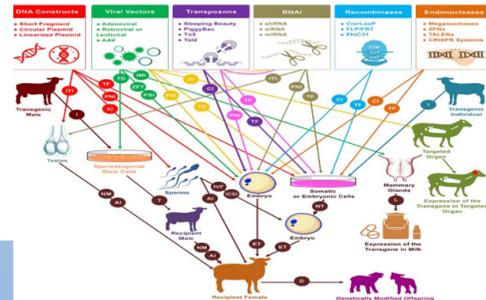
Heaviest emphasis

- on disease resistance
- and environmental tolerance (temperature, salinity, oxygen)

BETWEEN 2009 AND 2015 MORTALITY HAS DECREASED BY MORE THAN 90%



Breeding Services for farmers



GENETIC PROGRESS

- ✓ Breeding values developed and implemented
- ✓ Significant improvement in livestock/farm productivity
- ✓ **Key point:** Progress depends on farmer adoption



ROLE OF FARMERS

- ✓ Farmers are essential for implementing breeding strategies
- ✓ Without their involvement genetic progress cannot be realized

MANAGEMENT TOOLS

- ✓ Selection decisions
- ✓ Breeding strategies
- ✓ Farm Management



Farmers Tool Modules

To optimize dairy herd replacements combining conventional, sexed and beef semen

- ✓ Support farmers to identify annual female replacement needs
- ✓ Based on herd performance level and combination of semen type (conventional, sex-sorted and beef semen) in order to optimized farmer economic outcome



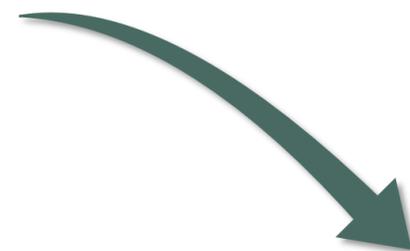
To calculate «Global Warming Potential» at farm level

- ✓ A simplified method for the estimation of the carbon footprint of cow milk. To be used by farmers, both as a self-assessment system, and to simulate what would happen if more indicators varied.





EFFAB has developed a certification that proves the use of **sustainable, responsible and balanced** farming practices that can improve animal welfare and contribute to food safety.



ANAFIBJ offers the Code EFABAR to its members acting as a 'bridge' between the breeder and EFFAB

your COW
our FUTURE



EFFAB
European Forum of
Farm Animal Breeders

Conclusions

➤ Genetic improvement has been **VERY** successful, impacting positively:

- Profitability
- Health and Welfare

➤ Genomic Selection allows **accurate genetic progress** for all economically important traits