Governing and managing animals by standards and information infrastructures. The case of the genomic (R)evolution in dairy cattle breeding

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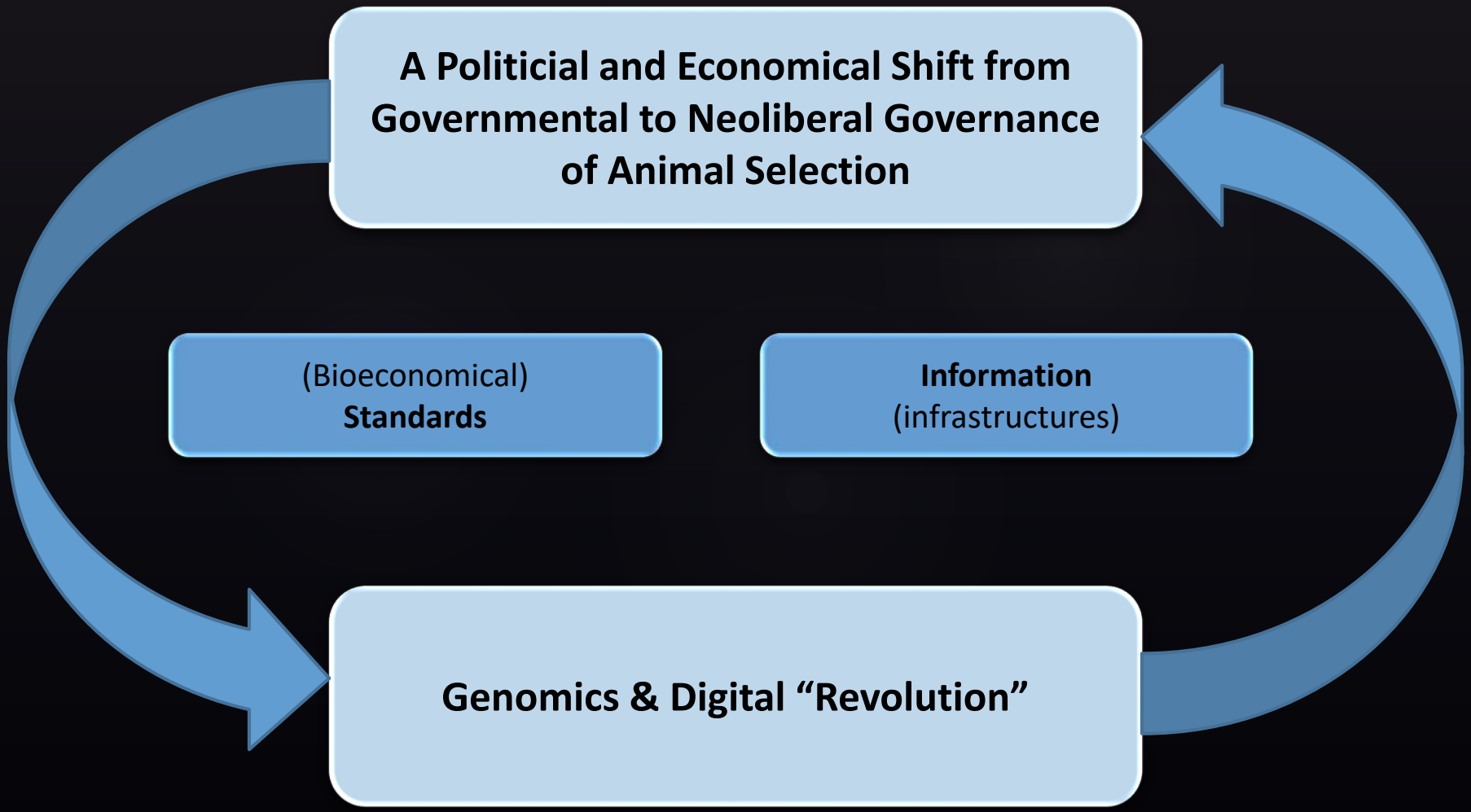
Governing and Managing Animals by Standards and Information Infrastructures

The Case of the Genomic (R)evolution in Dairy Cattle Breeding

Antoine Doré

AgreenSkills Annual Meeting
13-16/02/2017

Co-funded by the European Union


A Politicial and Economical Shift from Governmental to Neoliberal Governance of Animal Selection
(Bioeconomical) **Standards**
Information (infrastructures)
Genomics & Digital “Revolution”

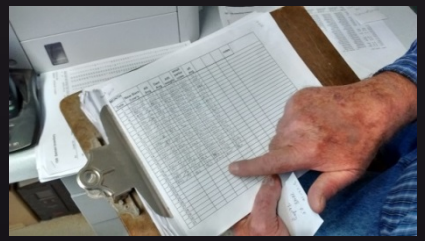
METHOD

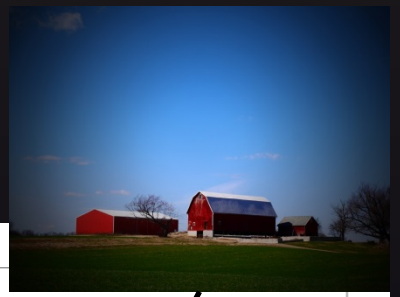
Qualitative research:

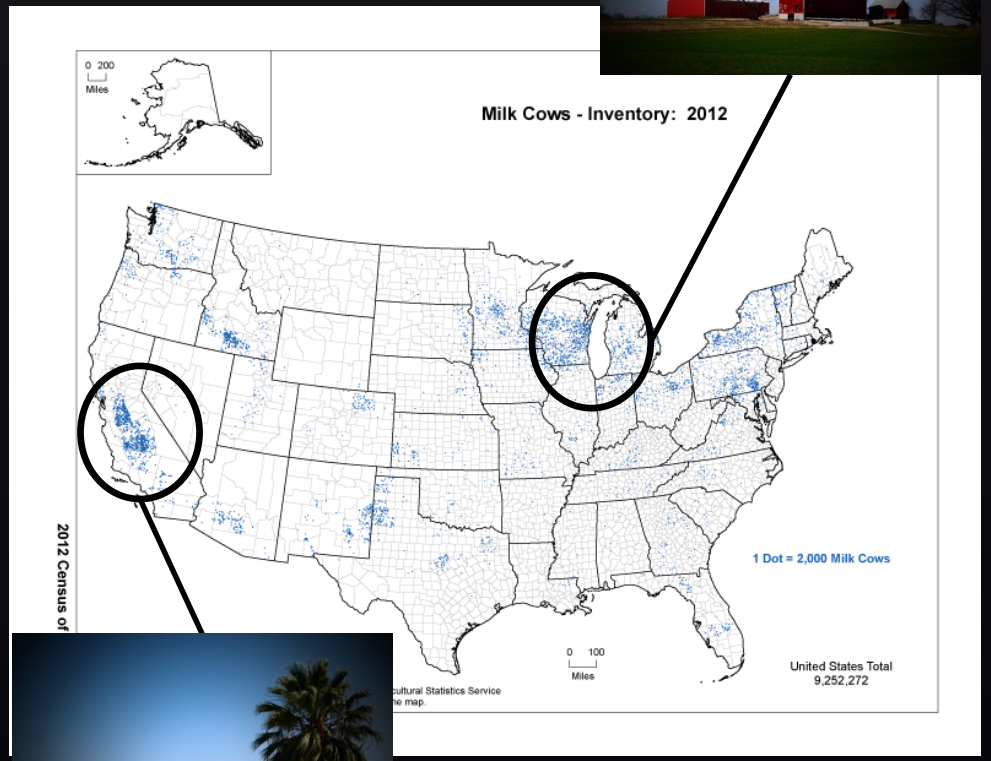
(1) ethnographic observation (dairy farms, AI companies, scientific labs)

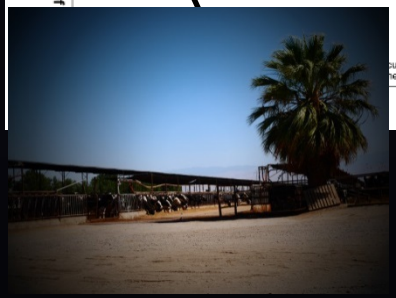
(2) semi-directive interviews (dairy producers, performance evaluators, breeding companies, geneticists, etc.; N=41)

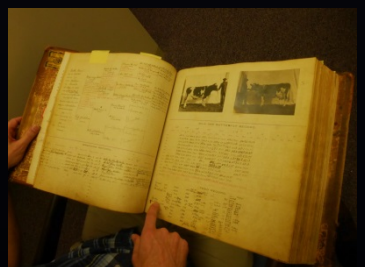
(3) a large body of textual material (technical reports, archives, genetic industry press, ect. ; N>5000)











Archives USDA-AIPL

HISTORICAL OVERVIEW

3 Genetic Evaluation Regimes*

* Regimes of production, regulation and appropriation of selection index for measuring the net merit of breeding animals

Regime	USA
Public evaluation	USDA
Marketing redesign of selection indexes (> 2010)	Every big companies design their own selection indexes
Marketization of genetic evaluation (>2015)	Selection indexes for new traits

NM$ - TPI

ICC Index
Ideal Commercial Cows

CALVING EASE™

IMMUNITY+™

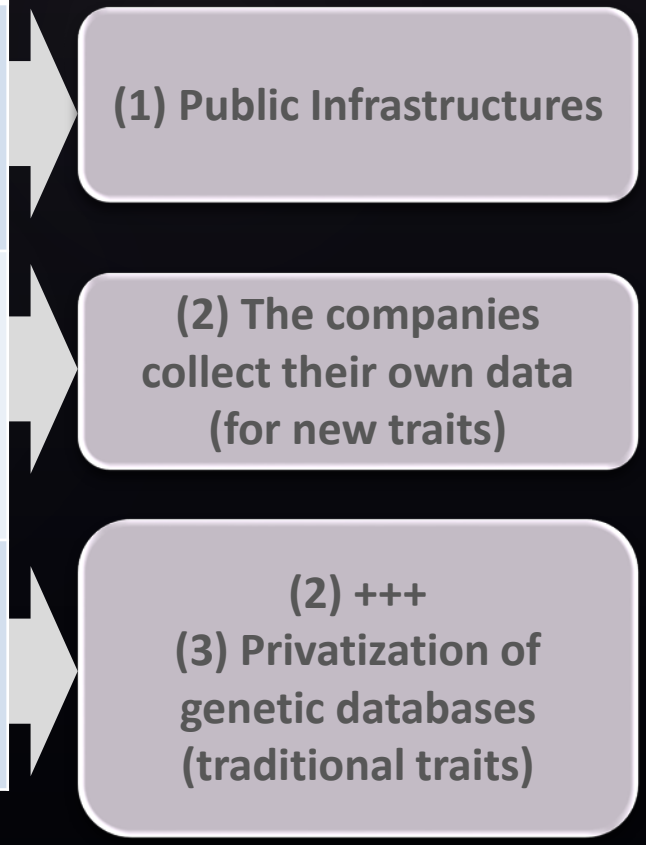
CLARIFIDE® plus

IMPACT OF GENOMICS

- Acceleration of Genetic Progress (from star-system to fast and multiple bulls turn-over)
- Selection for new traits (new products and services on the market)
- New relation to phenotypic data (emergence of new forms of entrepeneurship and competencies for phenotypic data collection and management)

INFORMATION

Regime	USA
Public evaluation	USDA
Marketing redesign of selection indexes	Every big companies design their own selection indexes
Marketization of genetic evaluation	Selection indexes for new traits



STANDARDS

Standards 1: Selection Indexes

- Diversification ☺
- Incomparability ☹

→ Who actually decides?

Standards 2: Breeds

The standard of "breed"=sociotechnical constructs

- When a breed became a brand: toward a specific Holstein for each company?

→ Who owns genetic resources?

CONCLUSION

Genomic and digital innovations are accompanying a "marketization" of genetic evaluation activities that deeply impact the relationships between dairy producers, sciences and industries in animal selection sector

Who are the true master breeders?
(dairy breeders vs Genetic Corporation)

Who are the true master geneticists?
(public research vs private R&D)

What is the true valuable resource?
(genetic resources vs Information resources)