

CDCB Overview & System

2024 CDCB Annual Nominator & Laboratory Workshop

José A. Carrillo
Chief Data Officer

July 30, 2024



The Council on Dairy Cattle Breeding (CDCB) is a non-profit dairy driven company that provides pre-competitive services and products in an independent and transparent framework to improve the genetics and management of dairy herds worldwide



What we do?

- The CDCB collaborates with U.S. and global partners to produce premier dairy genetic evaluations and data services.
- CDCB results benefit dairy farmers worldwide as they work to improve the health, welfare and productivity of their cattle.
- CDCB stewards the National Cooperator Database – the world’s largest animal database – that integrates genomic information and more than 80 years of recorded U.S. dairy animal performance data.
- CDCB works to move the dairy industry forward with new genetic selection traits and evolving methodologies; through strategic partnerships with USDA-AGIL, universities and other organizations.

CDCB Values



Dairy-driven



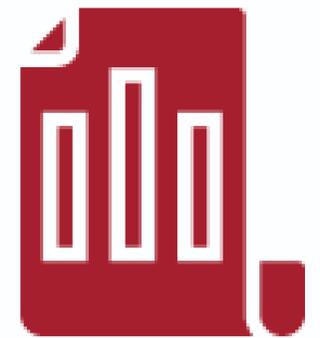
Science-based



Cooperative



Transparent

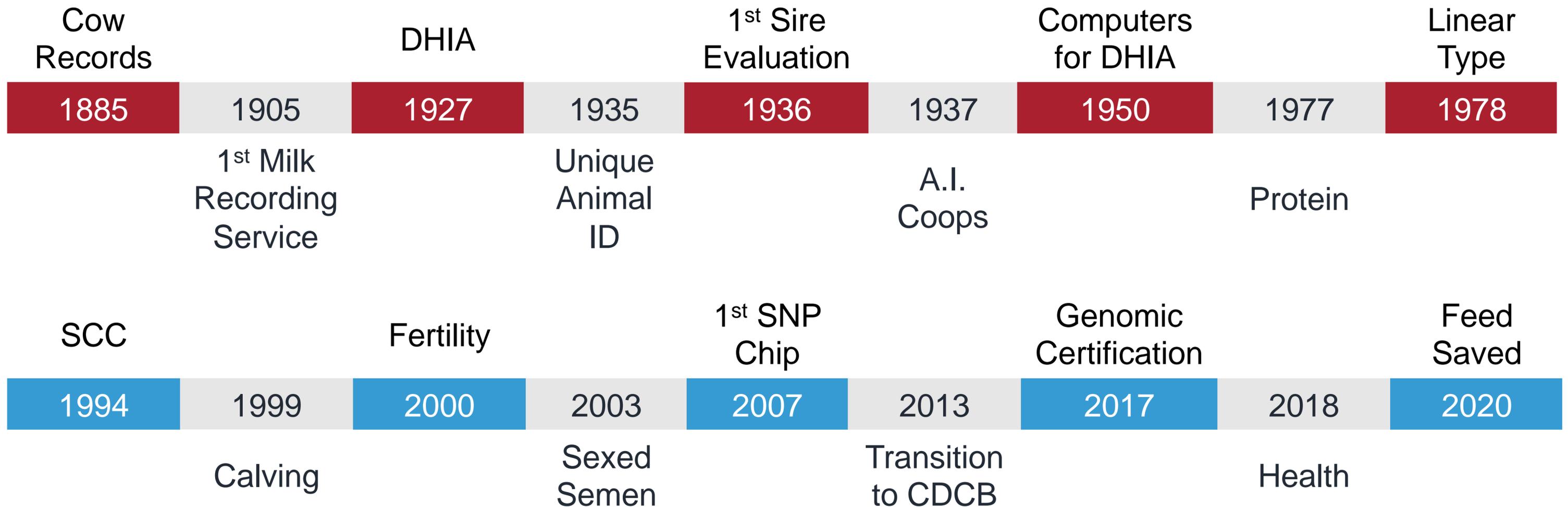


Data-driven

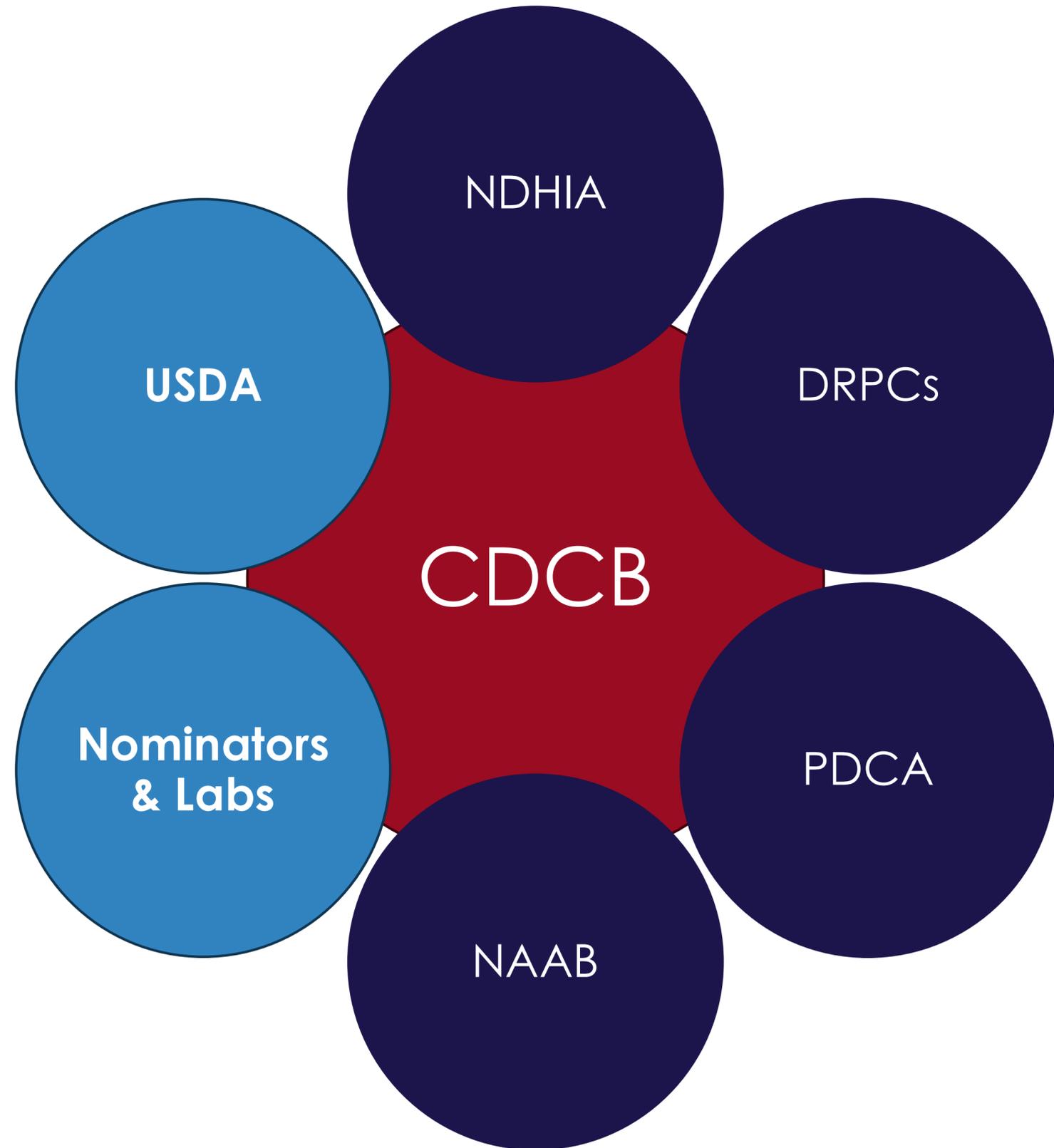
Core Value

Providing premier dairy genetic information services and industry collaboration

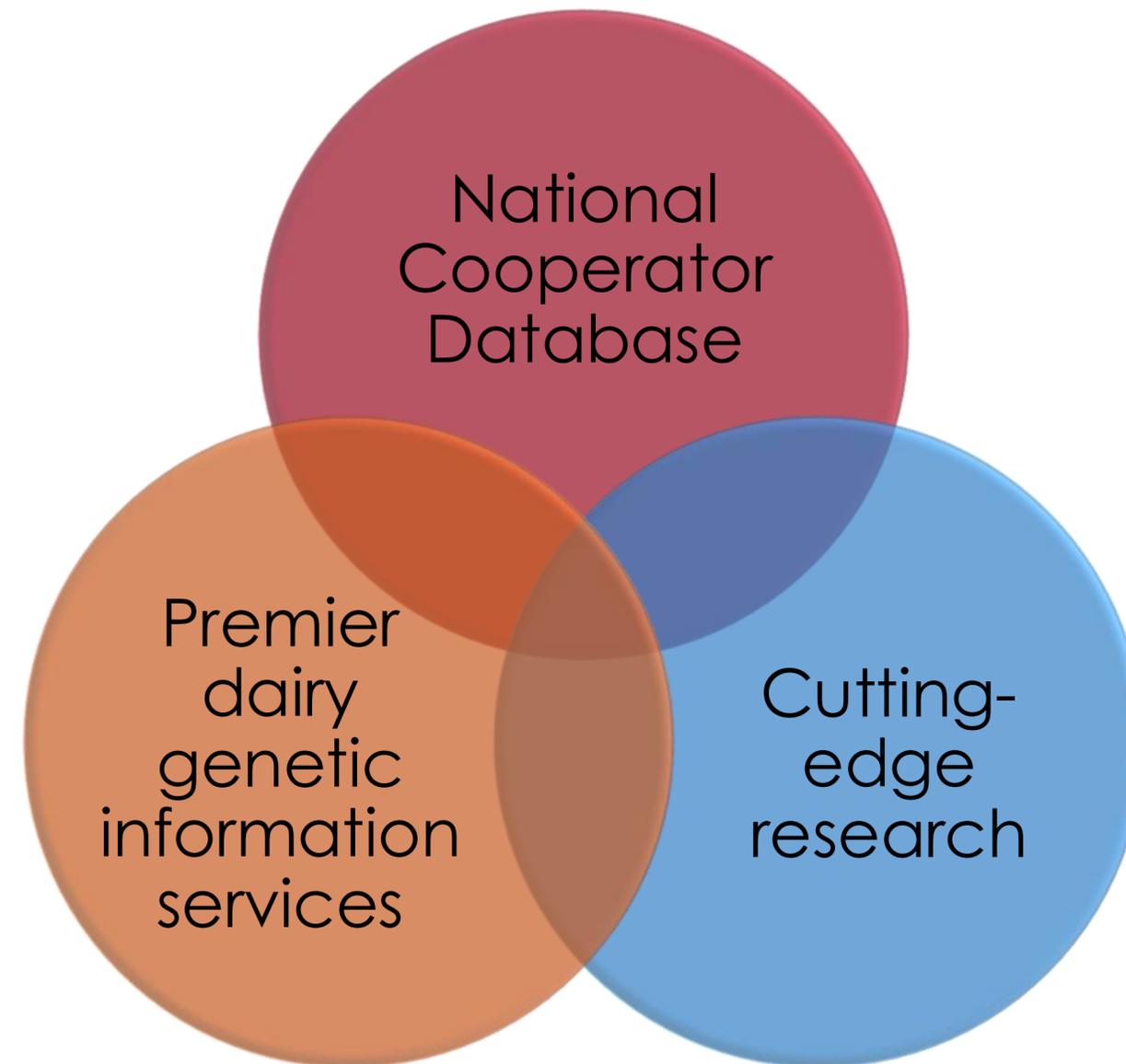
A bit of history



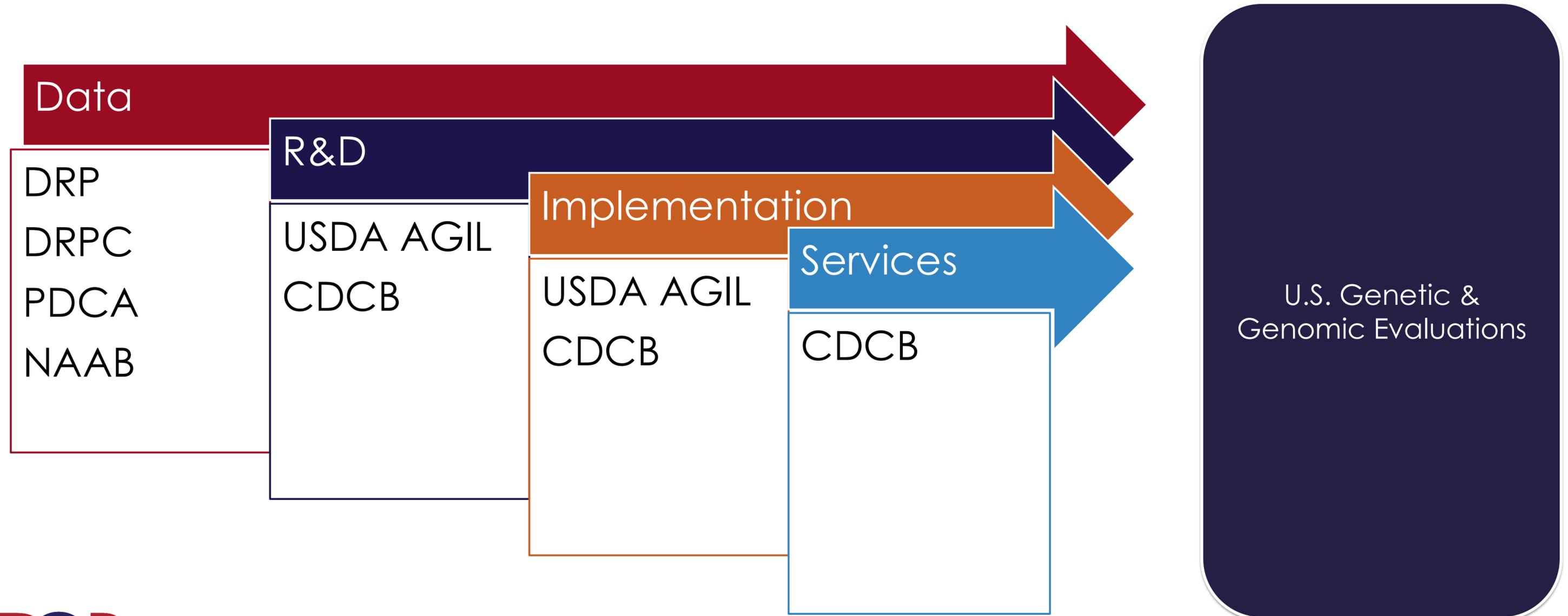
Full collaborative Arrangement



CDCB Purpose: Add value to dairy producers



US Genetic Evaluation Process



Focus on Purpose

Genetic Evaluations

- Weekly
- Monthly
- Triannual
- Interim
- Quick turnaround

Traits

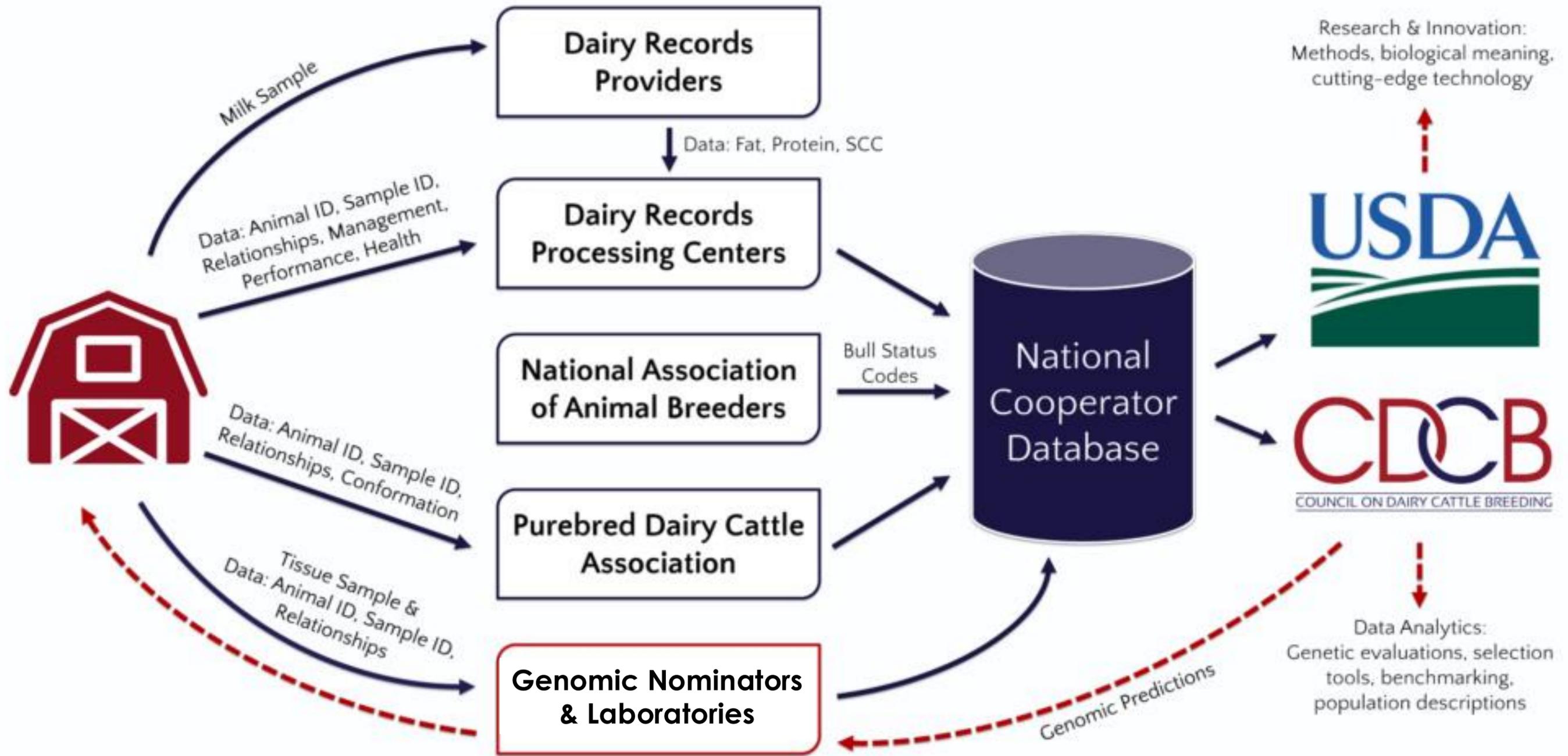
- Production (5)
- Feed Efficiency (2)
- Longevity (4)
- Health (7)
- Fertility (4)
- Calving (5)
- Conformation (22)
- **Total Merit Indices (4)**

Breeds

- Ayrshire
- Brown Swiss
- Guernsey
- Holstein
- Jersey
- Milking Shorthorn
- (Crossbreds)

Other

- Parentage
- Breed %
- Genomic inbreeding
- Haplotypes & Genetic Conditions
- WebConnect
 - Stats
 - Results
- Outreach



Data quantities (April 2024)

Trait	Counts
Lactations	106.98 million
Type (non-HO)	3.52 million
Residual Feed Intake	10,341
Fertility	97.86 million
Somatic Cell Score	70.57 million
Calving Ease	39.55 million
Health	11.56 million

82.8 Million

Number of animals who received an evaluation in April 2024

Fee Schedule

- The CDCB fee system has been structured to reward participants based on their contribution to the National Cooperator Database
- It's based-on herd contribution; NOT on animal basis
- It depends on the herd of the animal or the animal's Dam (the most convenient)
- It's recalculated triannually and determined from the database
- Rules are described in the Fee Schedule at:
https://redmine.uscdcb.com/projects/cdcb-customer-service/wiki/CDCB_Fee_Schedule_for_Genomic_Evaluation_Fees

Fee Schedule

Female nomination fees

Female Basic Nomination Fee	\$	8
Cooperator Credits^a:		
Female born in a US herd?	\$	4
• Milk yield data provider?	\$	2
• Conformation data provider?	\$	1
• Health data provider?	\$	1
Female born in a Canadian herd?	\$	2

^aFinal nomination fee = Basic nomination fee – Cooperator credits

Male nomination fees

Male Basic Nomination Fee	\$	200
Cooperator Credits^a:		
Controller is a collaborator stud?	\$	175
Foreign male submitted by an international genotype exchange partner?	\$	200
Male born in a US herd?	\$	100
• Milk yield data provider?	\$	25
• Conformation data provider?	\$	25
• Health data provider?	\$	25

^aFinal nomination fee = Basic nomination fee – Cooperator credits

Get Fee	
Run:	April 2024
Fee Code:	3
Yield Credit:	Yes
Health Credit:	No
Type Credit:	No

National Cooperator Database

100+ million

Individual animals represented in the database

3.9 million

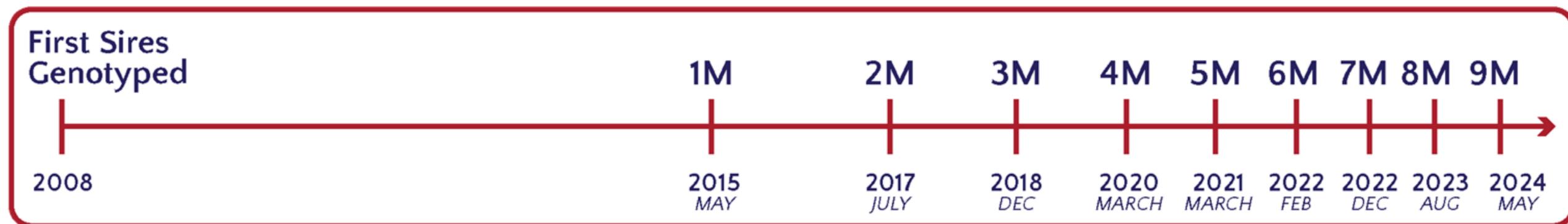
Cows in DHI herds submitting data (2023)

93%

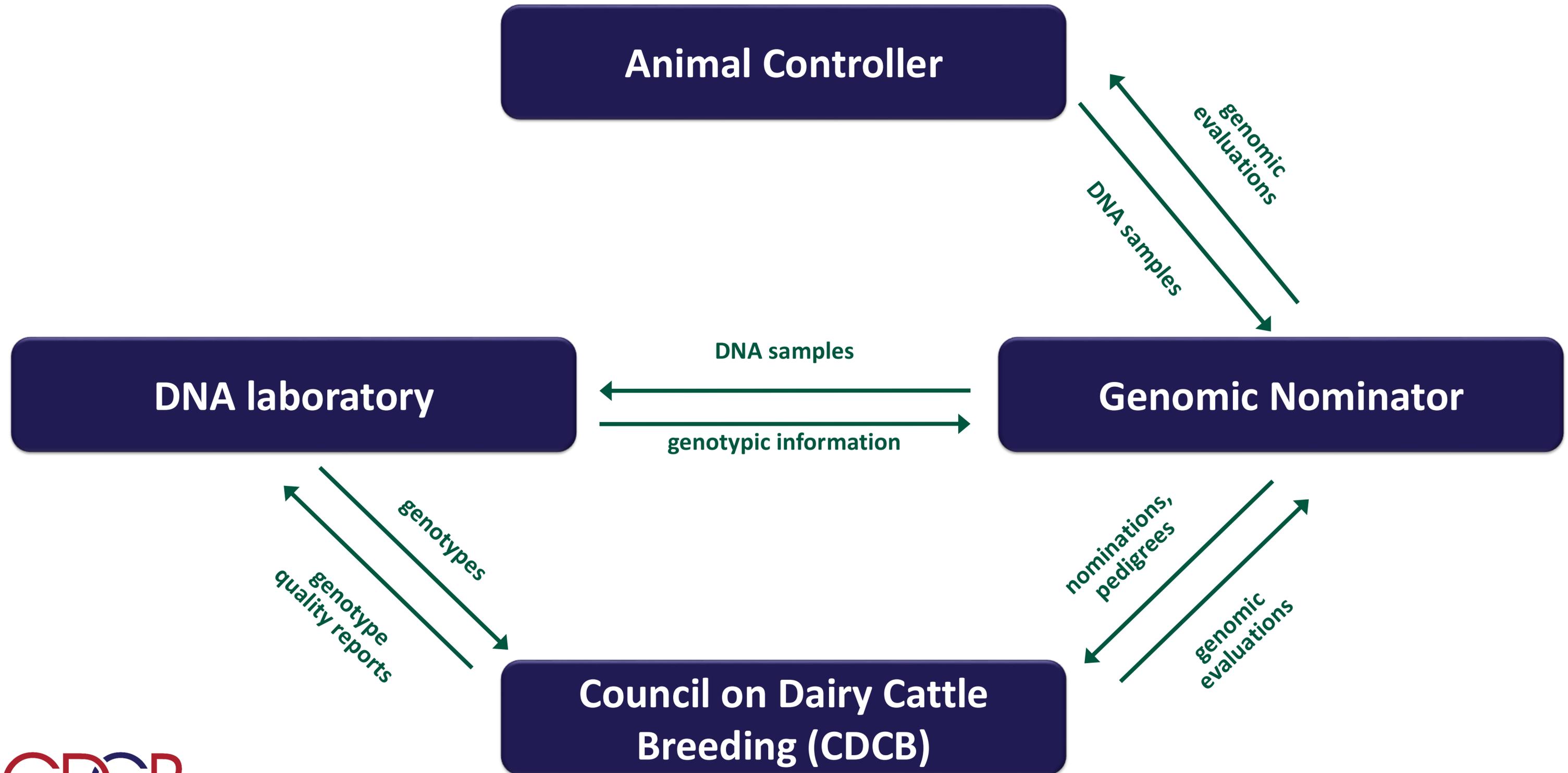
Genotypes are female in the database

Journey to 9 Million

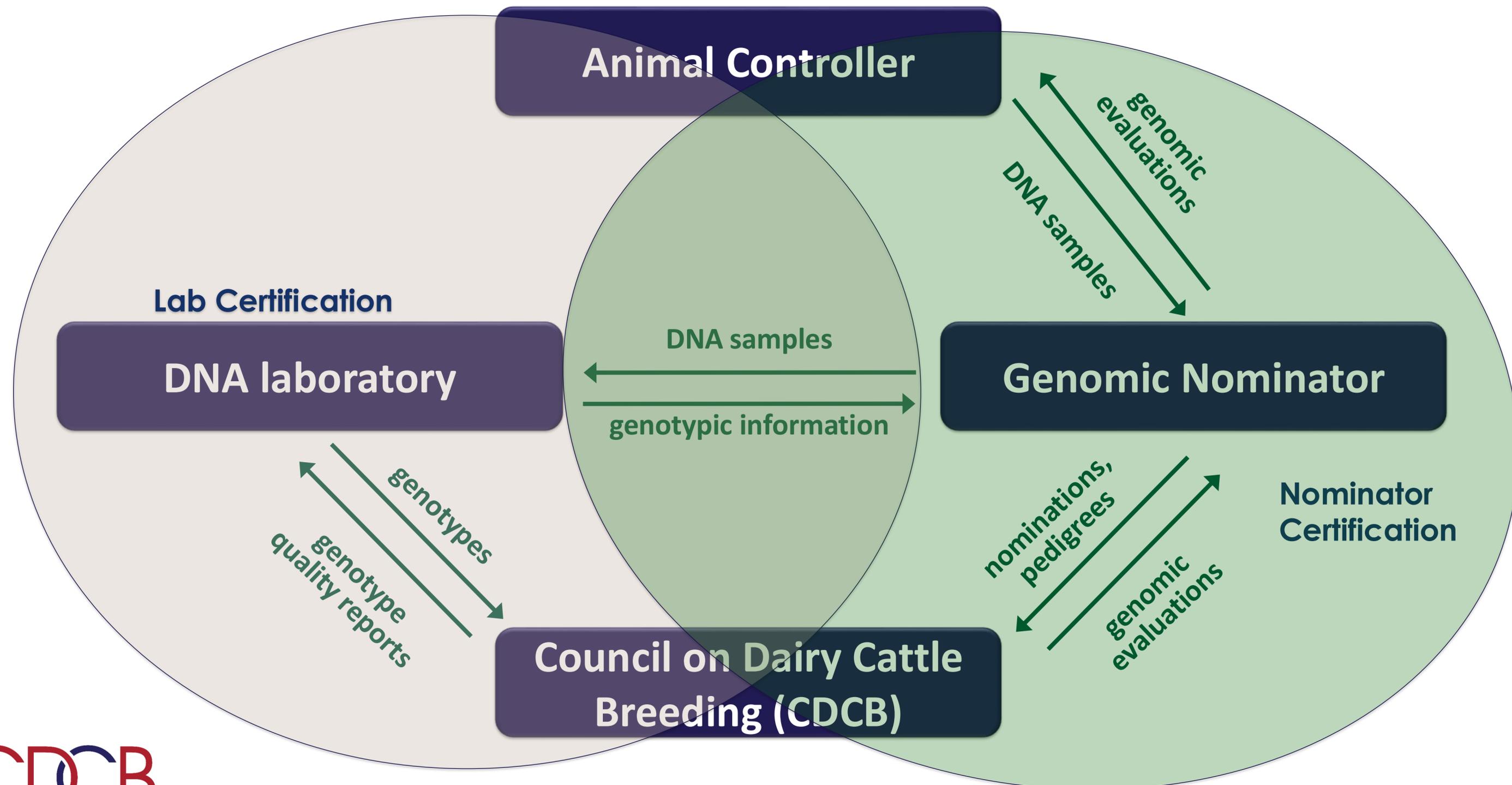
Number of Animal Genotypes in the National Cooperator Database



Genomic data flow



Certification program



Genomic Nominators



Genomic Nominators are the conduit between dairy producers and owners of animals that will be genotyped and receive a U.S. genomic evaluation from CDCB. Nominators must meet CDCB quality certification guidelines before they are permitted to participate in the system, and their performance is monitored routinely and audited annually.



[ABS Global](#)

USJersey
[American Jersey Cattle Association](#)



[CRV USA](#)



ČMSCH a.s. | ČESKOMORAVSKÁ
SPOLEČNOST
CHOVATELŮ
[Czech Moravian Breeders' Corporation, Inc](#)

euofins
[Eurofins Genomics Europe AgriGenomics Products & Services A/S](#)

Genetic Visions-ST
[Genetic Visions-ST](#)



[Holstein Association USA](#)



[Holstein Canada](#)

LABOGENA
DNA Experts
[Labogena DNA](#)

NAAB
[National Association of Animal Breeders](#)



[Neogen GeneSeek Operations](#)



[PEAK Genetics](#)

GROUPE Seenergi
CONSULTING & INNOVATION

[SEENERGI](#)



[Select Sires, Inc.](#)



[Semex Alliance](#)



[Sexing Technologies](#)



[Synergy \(Unione per i Servizi alla selezione e biodiversity\)](#)



[Weatherbys Scientific](#)



[Zoetis](#)



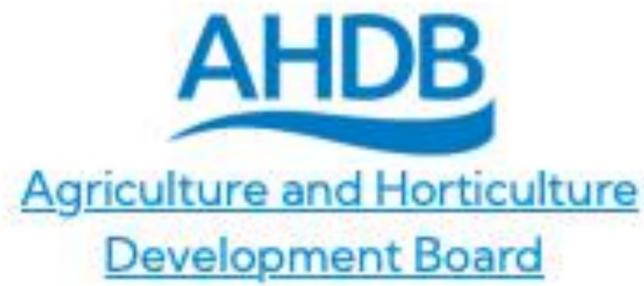
Genomic Laboratories



Genotyping labs analyze biological samples to determine differences in the animal's genetic makeup, with genotype results provided to the CDCB national cooperator database. Laboratories must meet CDCB quality certification guidelines before they are permitted to participate in the system, and their performance is audited on an annual basis.



International Cooperators



Successful collaboration



Leading the way

- 21 Genomic Nominators & 9 Genotyping Labs Certified
- Over 1.38 million animals genotyped in 2023
- 78,964 SNPs used in evaluation. Will be changed to 69,200 in August 2024
- 54 chips validated and supported
- 1,560 cases of chromosomal abnormalities discovered so far
- Only evaluation system using constructed dams to incorporate discovered ancestors
- Genomic evaluation of crossbred animals
- Feed saved genomic evaluations for Holsteins



Thank you for your attention!