



The dairy cow- a metabolic athlete

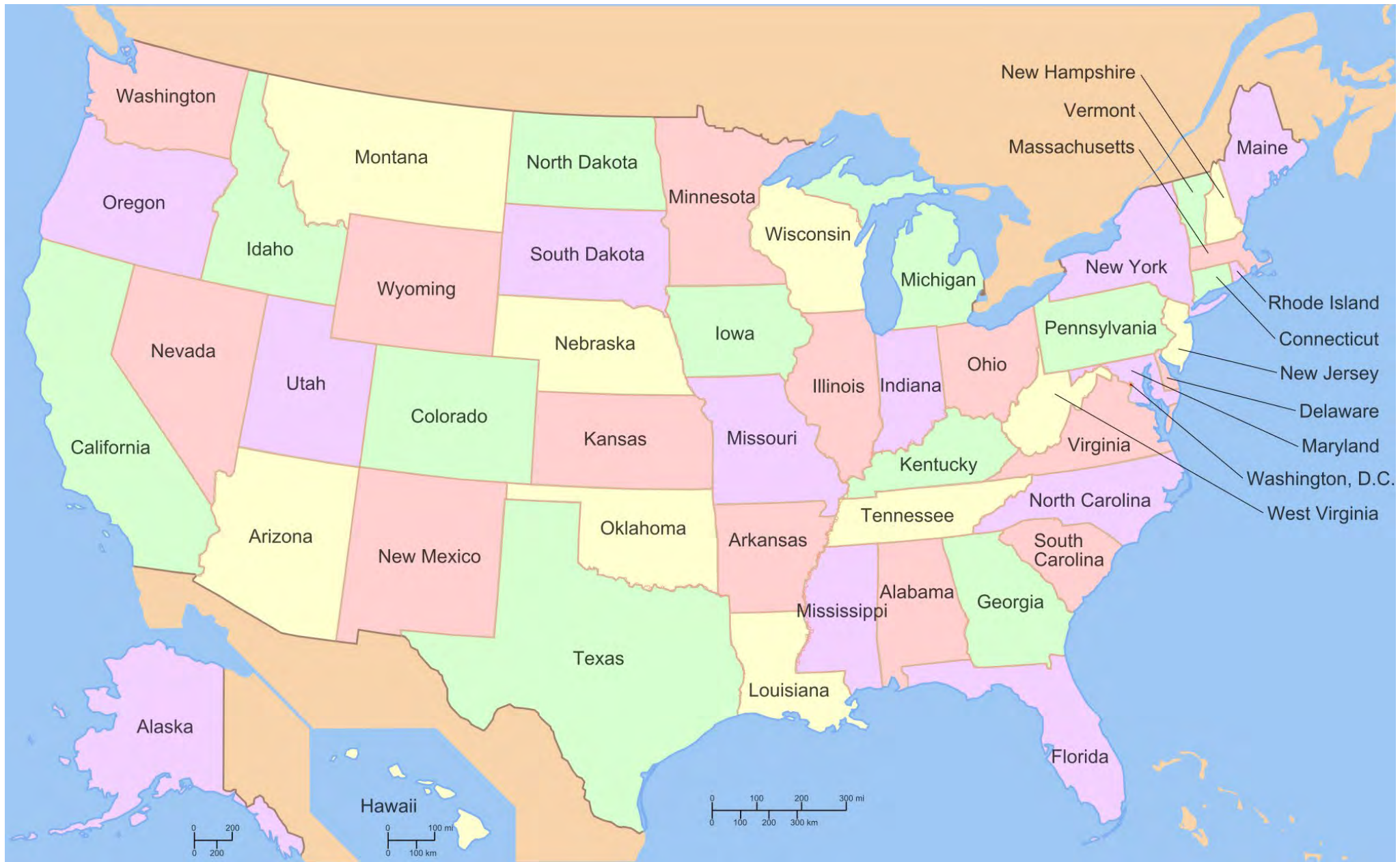
Nial J. O'Boyle

15th April 2025

AgriSearch



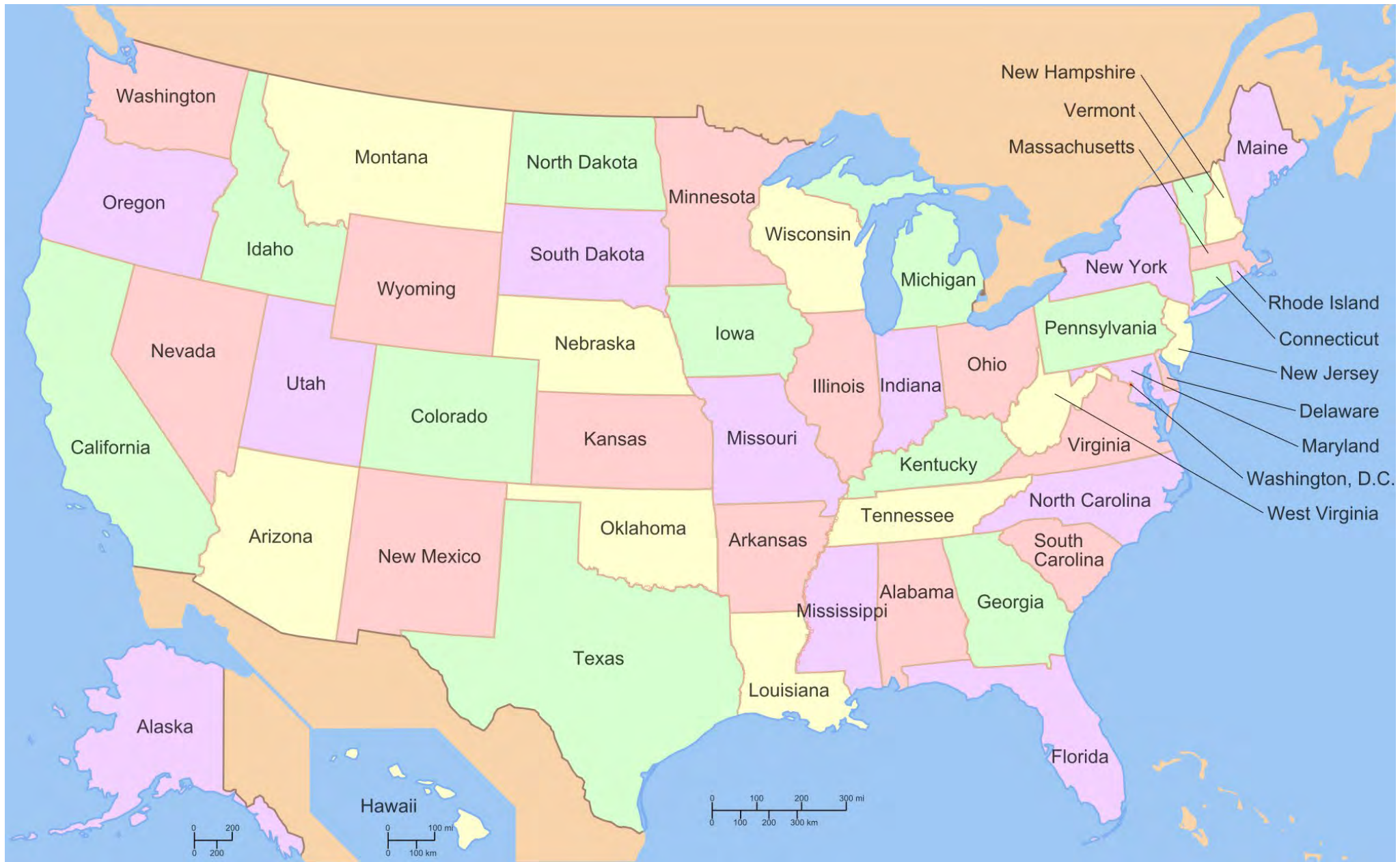
















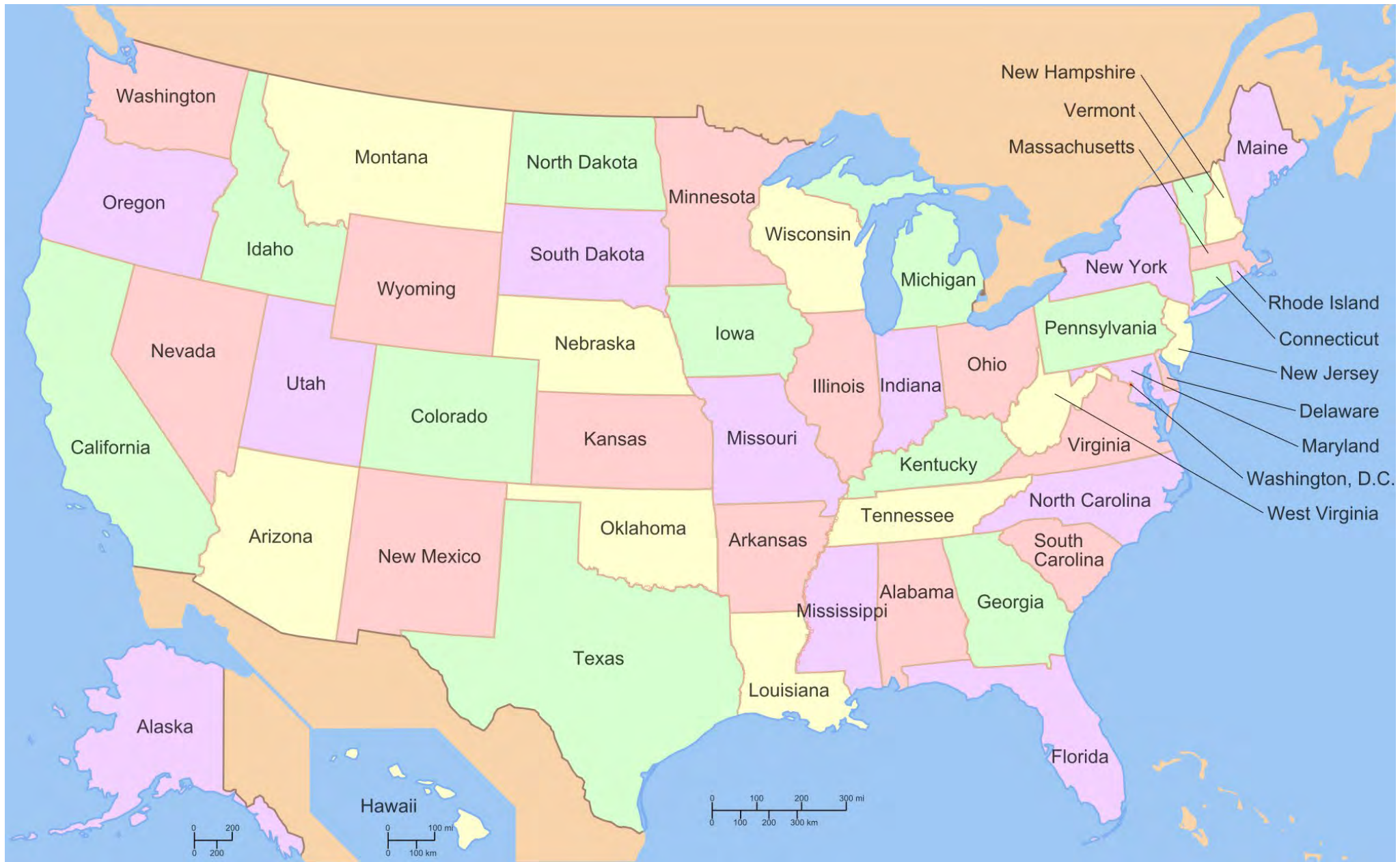












Washington

Oregon

Idaho

Nevada

California

Arizona

Alaska

Montana

North Dakota

Wyoming

Utah

Colorado

New Mexico

Texas

Hawaii

South Dakota

Nebraska

Kansas

Oklahoma

Wisconsin

Iowa

Missouri

Mississippi

Louisiana

Minnesota

Michigan

Illinois

Indiana

Kentucky

Tennessee

Alabama

Georgia

Florida

New Hampshire

Vermont

Massachusetts

Maine

New York

Pennsylvania

Delaware

Maryland

Virginia

North Carolina

South Carolina

Rhode Island

Connecticut

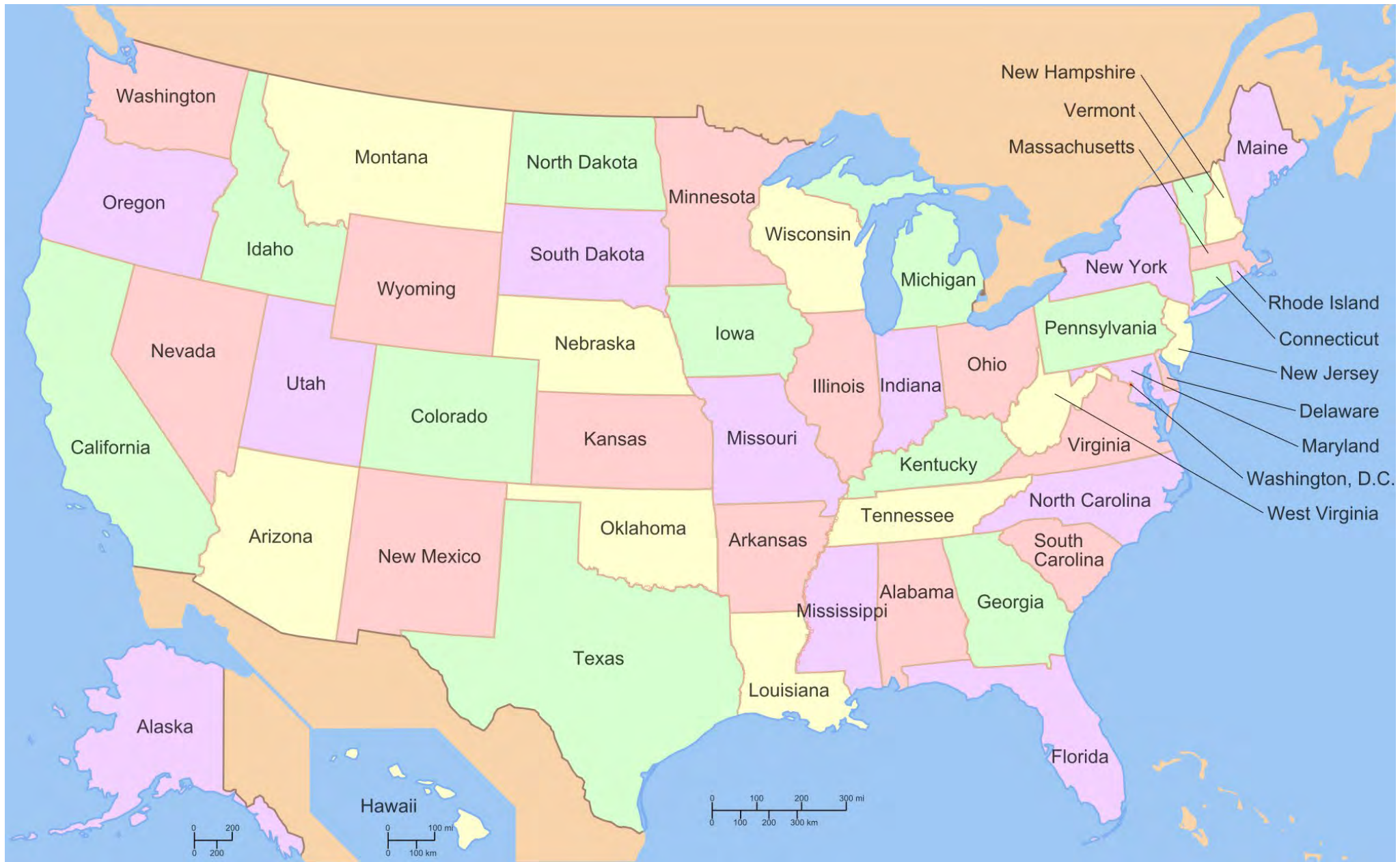
New Jersey

Washington, D.C.

West Virginia

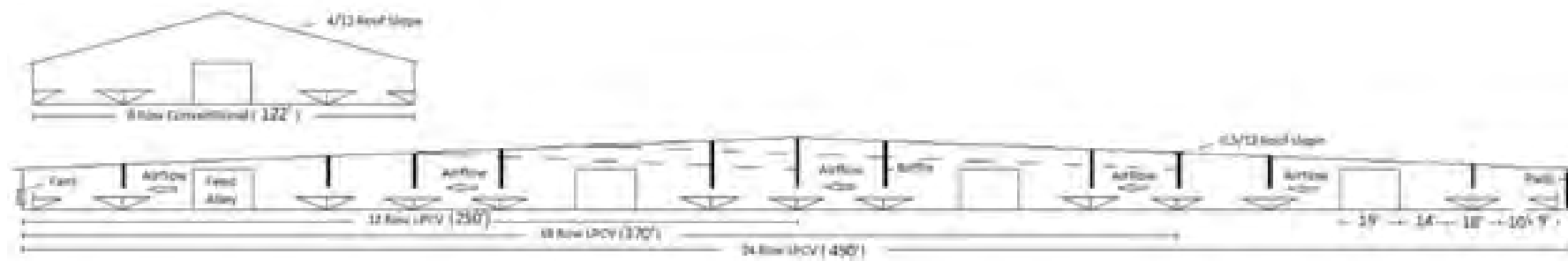










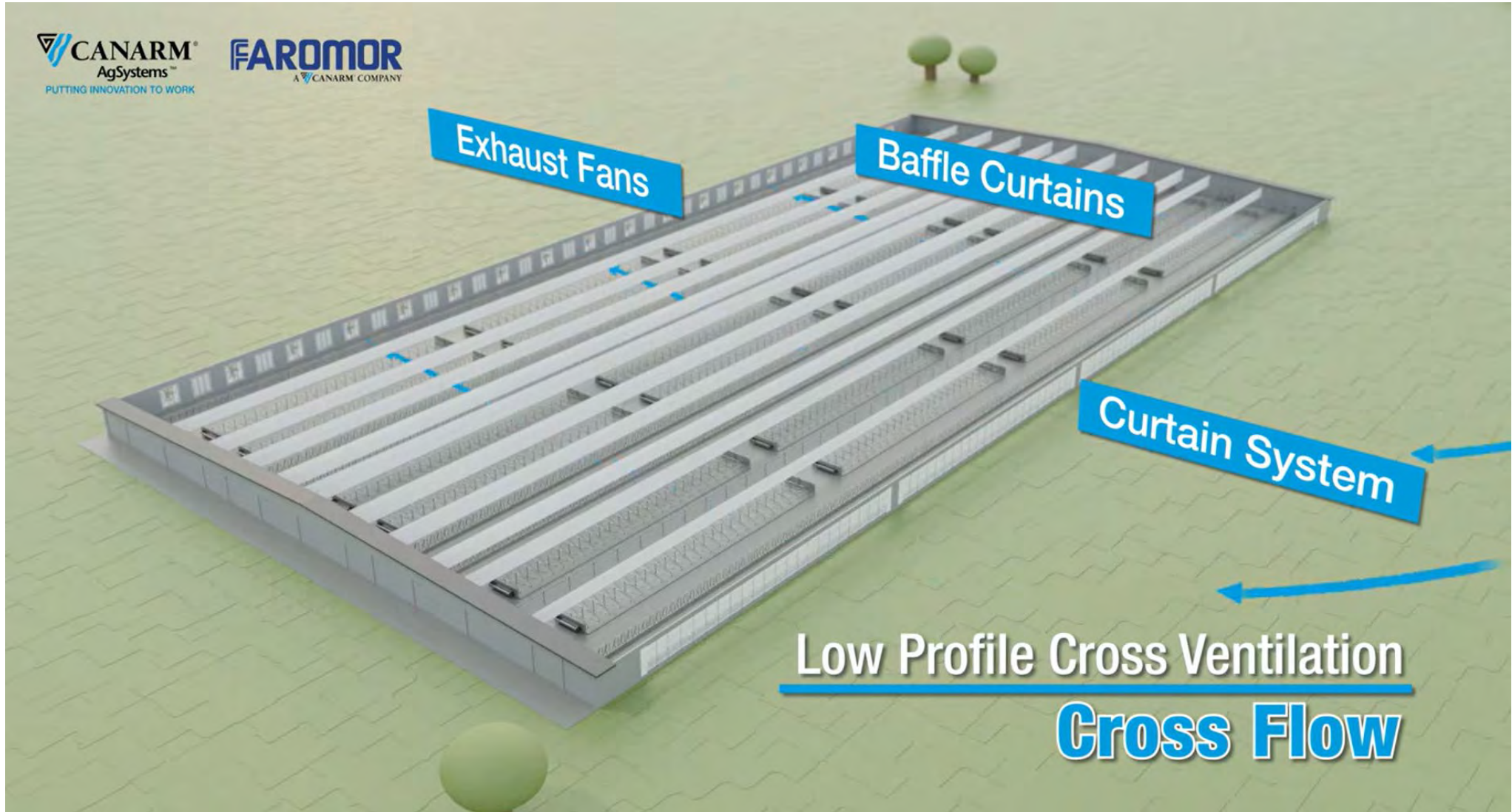


Exhaust Fans

Baffle Curtains

Curtain System

Low Profile Cross Ventilation
Cross Flow





















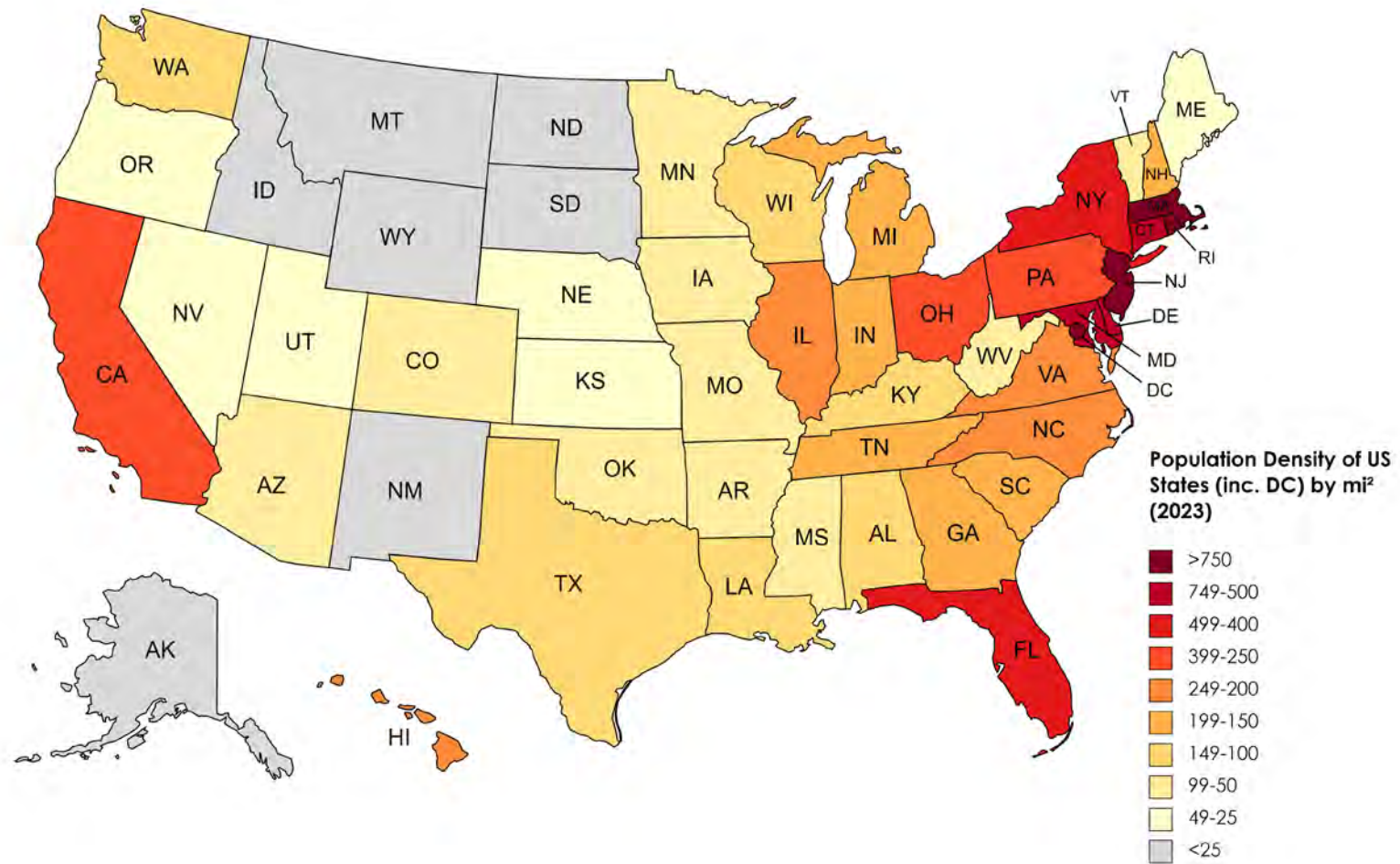
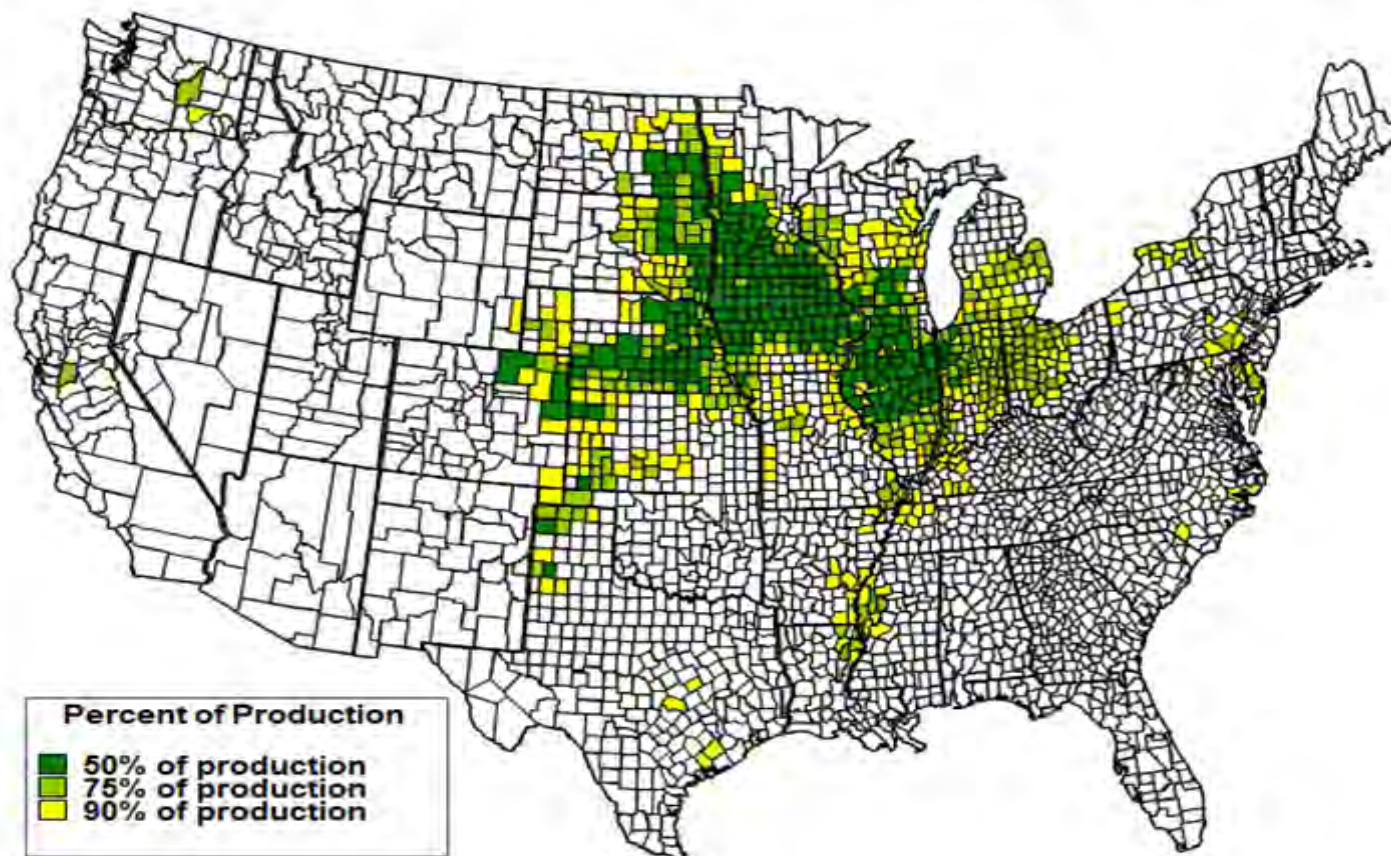
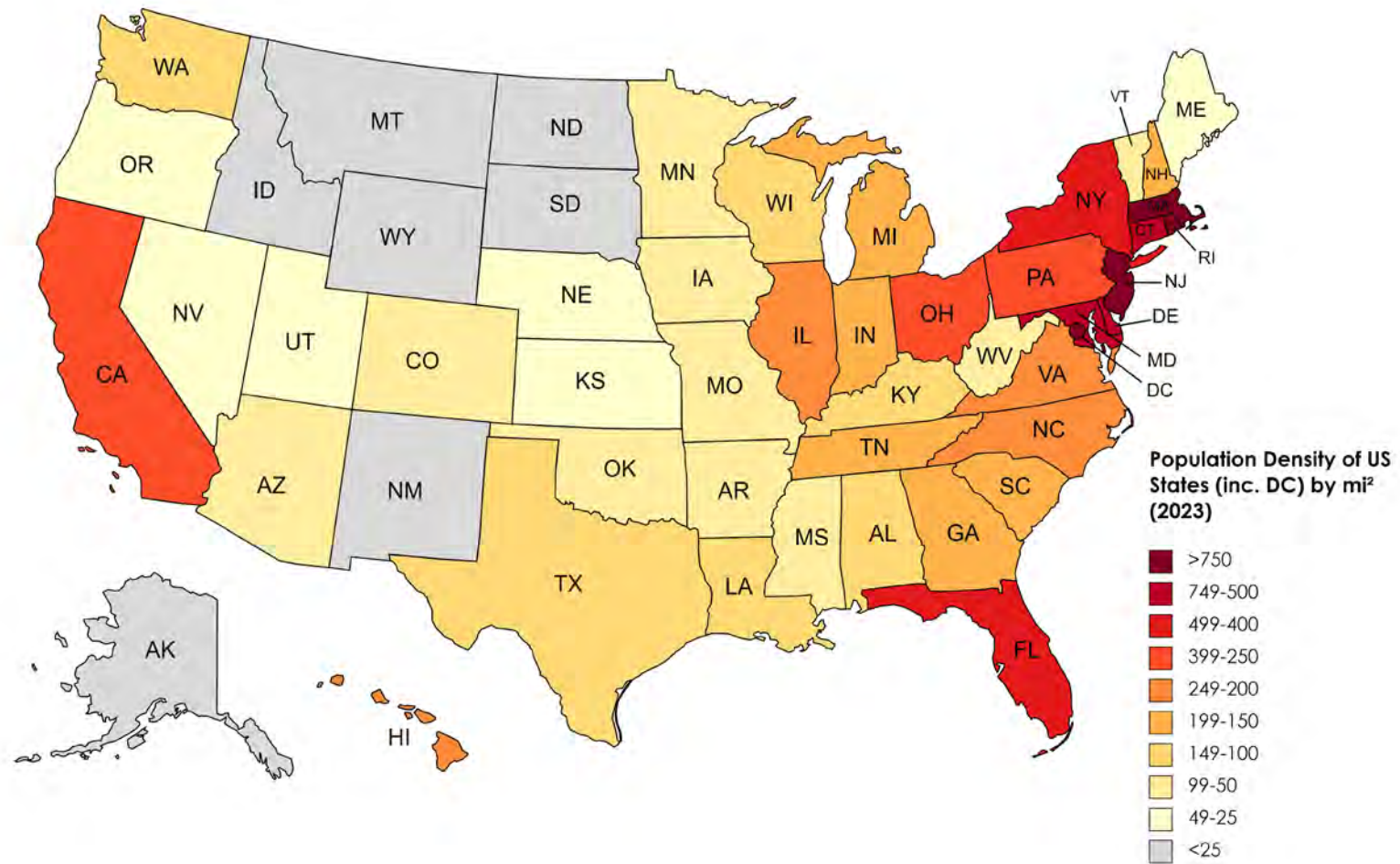


Figure 1: U.S. Counties Accounting for 50%, 75% and 90% of U.S. Corn Production





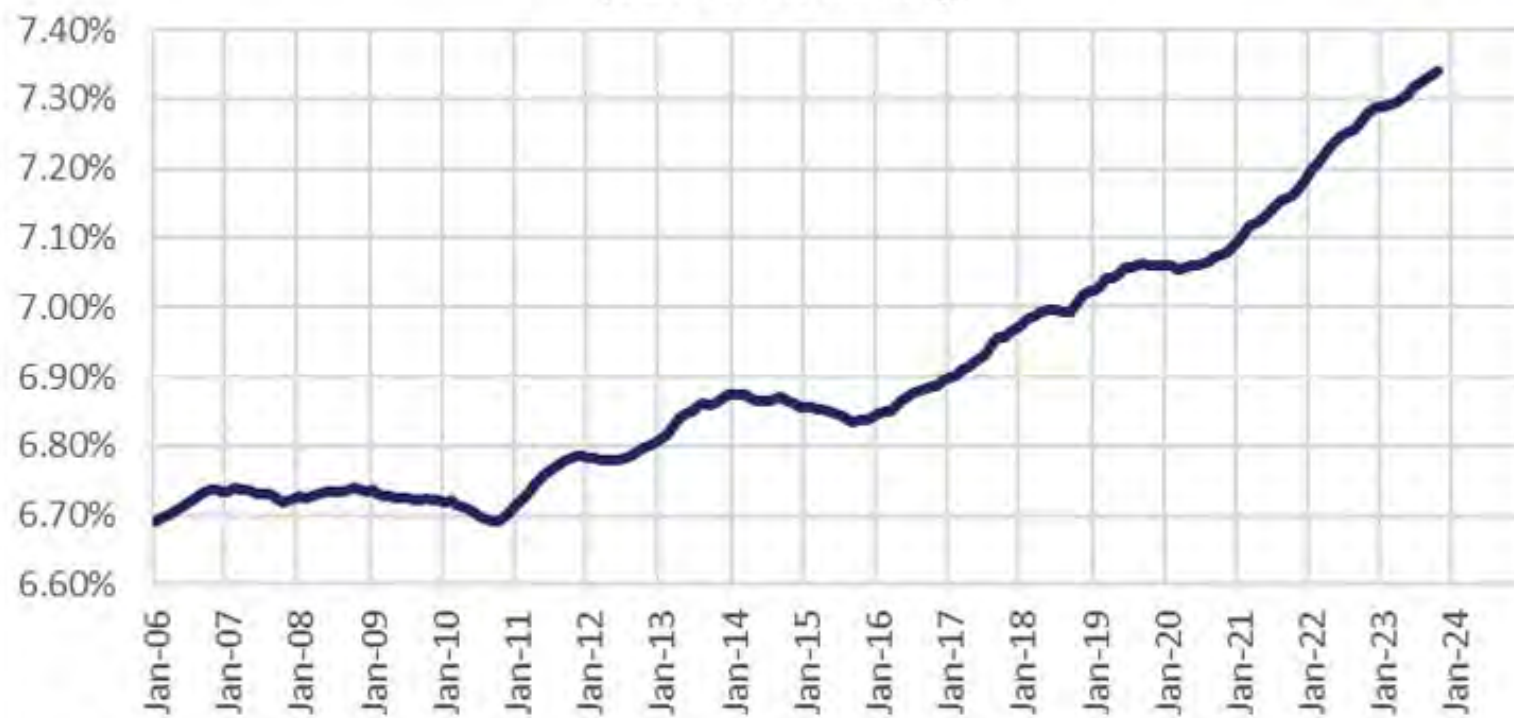








U.S. Fat+Protein Content of Milk (12 Month Rolling)



Source: USDA, FMMO data, StoneX Calculations



HANDLING DOWN COWS





08:05



Video - Handling Down
Cows



Test - Handling Down Cows



Download Your Certificate











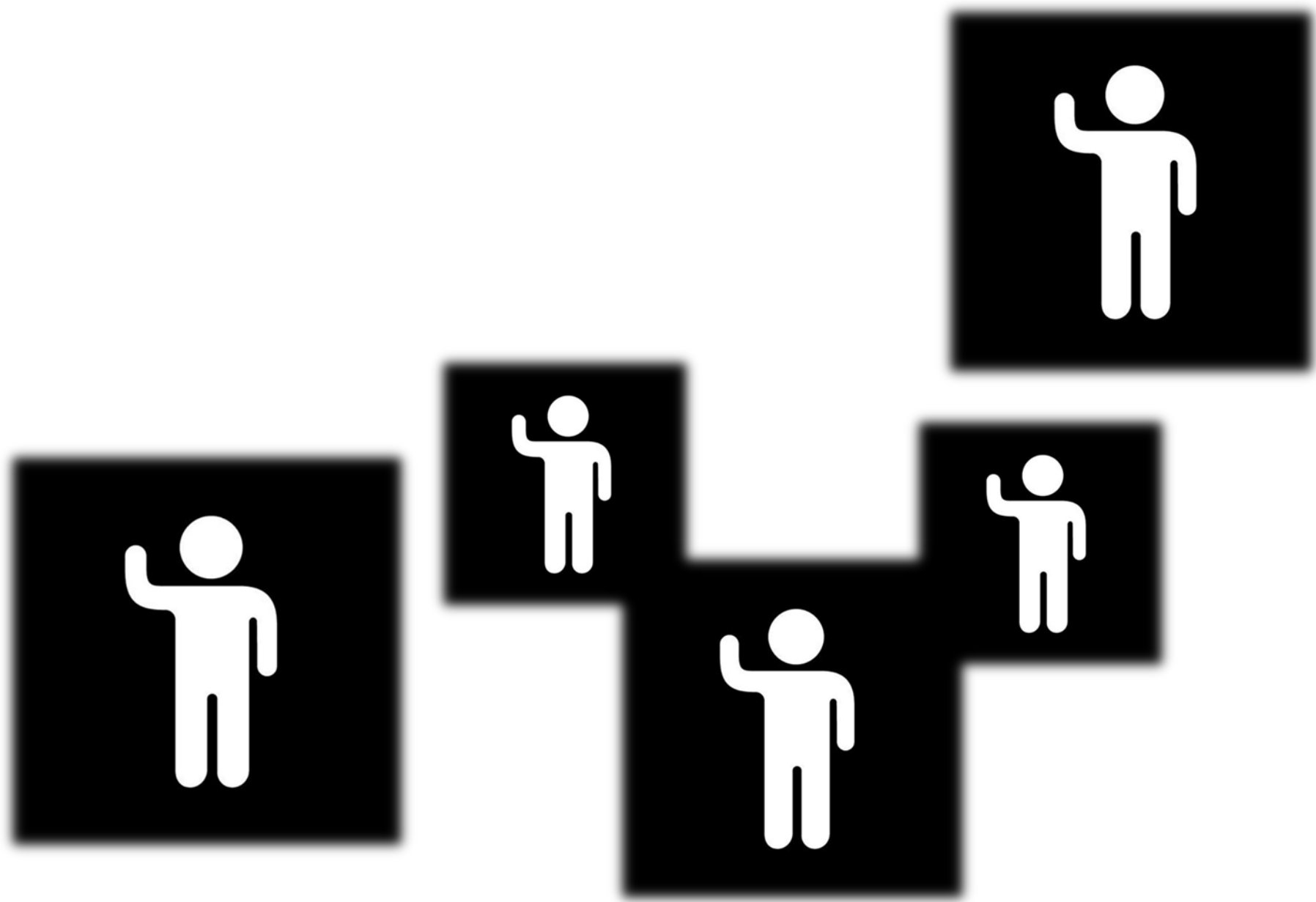


















UDDER ATHLETE



13% Dry Matter

- Protein
- Fat
- Lactose

$$50\text{kgs} \times 0.13 = 6.5\text{kgs}$$



25% Dry Matter

- Protein
- Fat

6.5kgs corrected to muscle DM= 6.5kgs X 4= 26.5 kgs !!!!

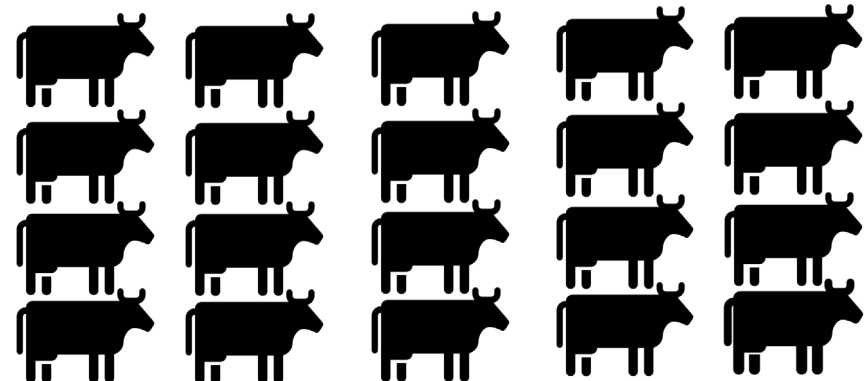
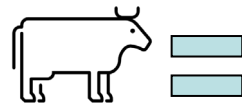


In 4 days-1 cow produces Bundee Aki

A 12,000kgs cow annually produces
 $12,000\text{kg} \times .13 = 1,560\text{kg} \times 4 = 6,240\text{ kg}$

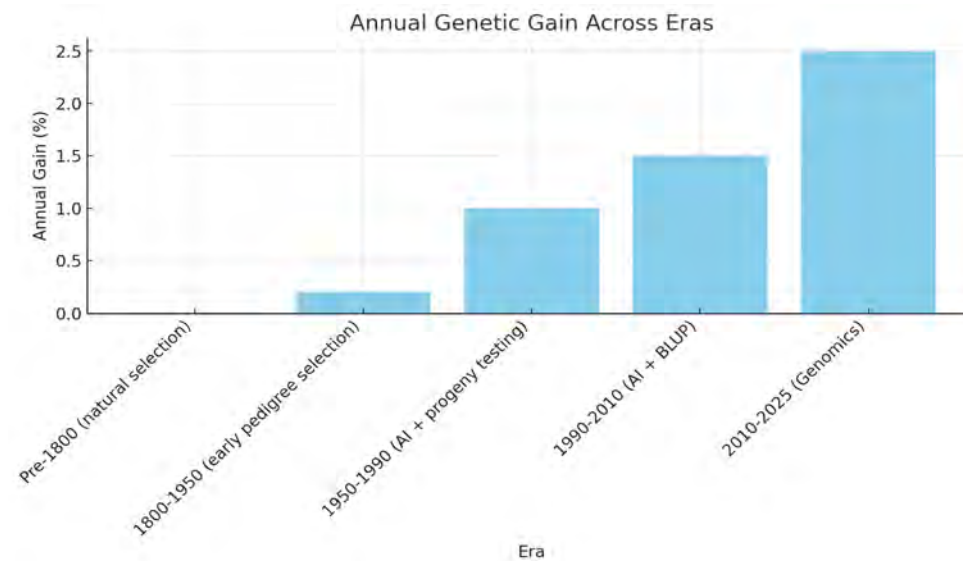
A finished beef animal = $750\text{kg} \times .54 =$
 $405\text{kg} - \text{bone (80kg)} = 325\text{kg}$

$$6,240\text{kg} / 325\text{kg} = 19.2$$





Data and tech compound progress





Bradley Wiggins



8000 kcal per day

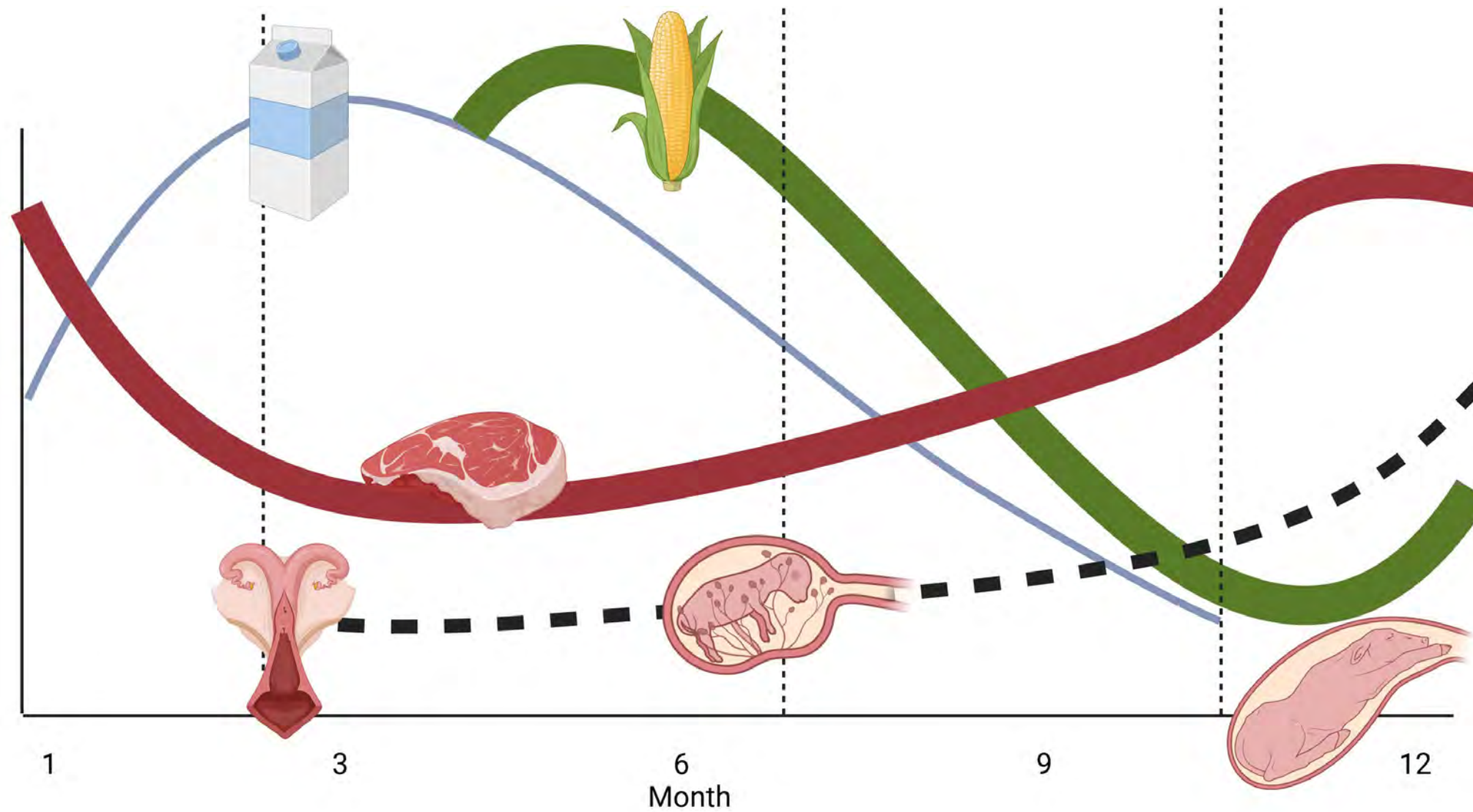


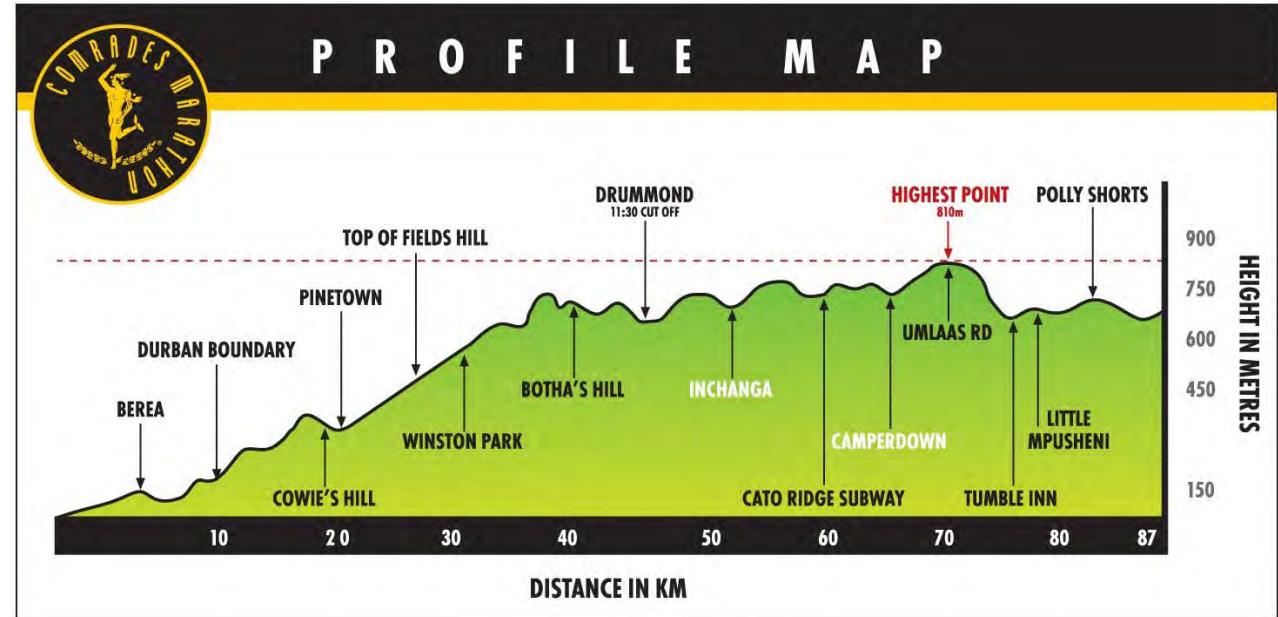
Bradley Biggins



“The light that burns twice
as bright burns half as
long, and you have burned
so very, very, brightly,
Roy.”

BLADE RUNNER







40th
Anniversary
Edition

Eliyahu M. Goldratt and Jeff Cox
THE GOAL
A PROCESS OF ONGOING IMPROVEMENT



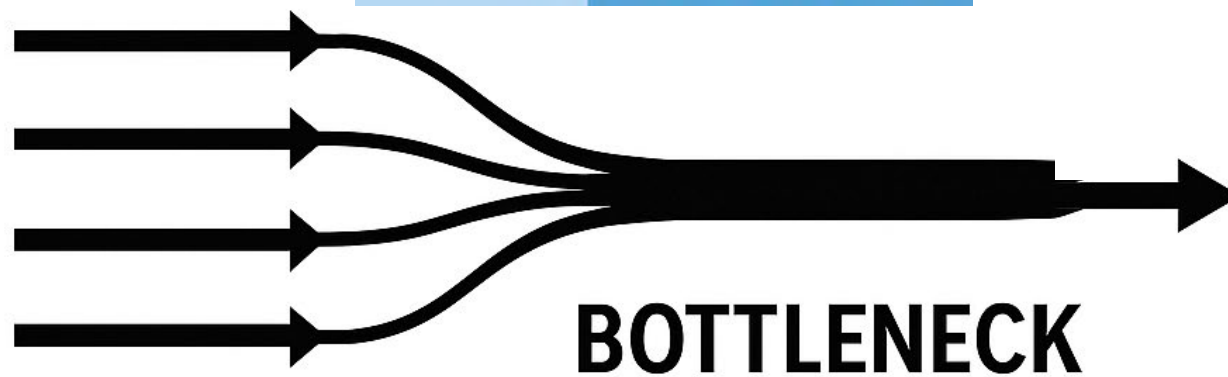
Required reading for
Amazon's management.

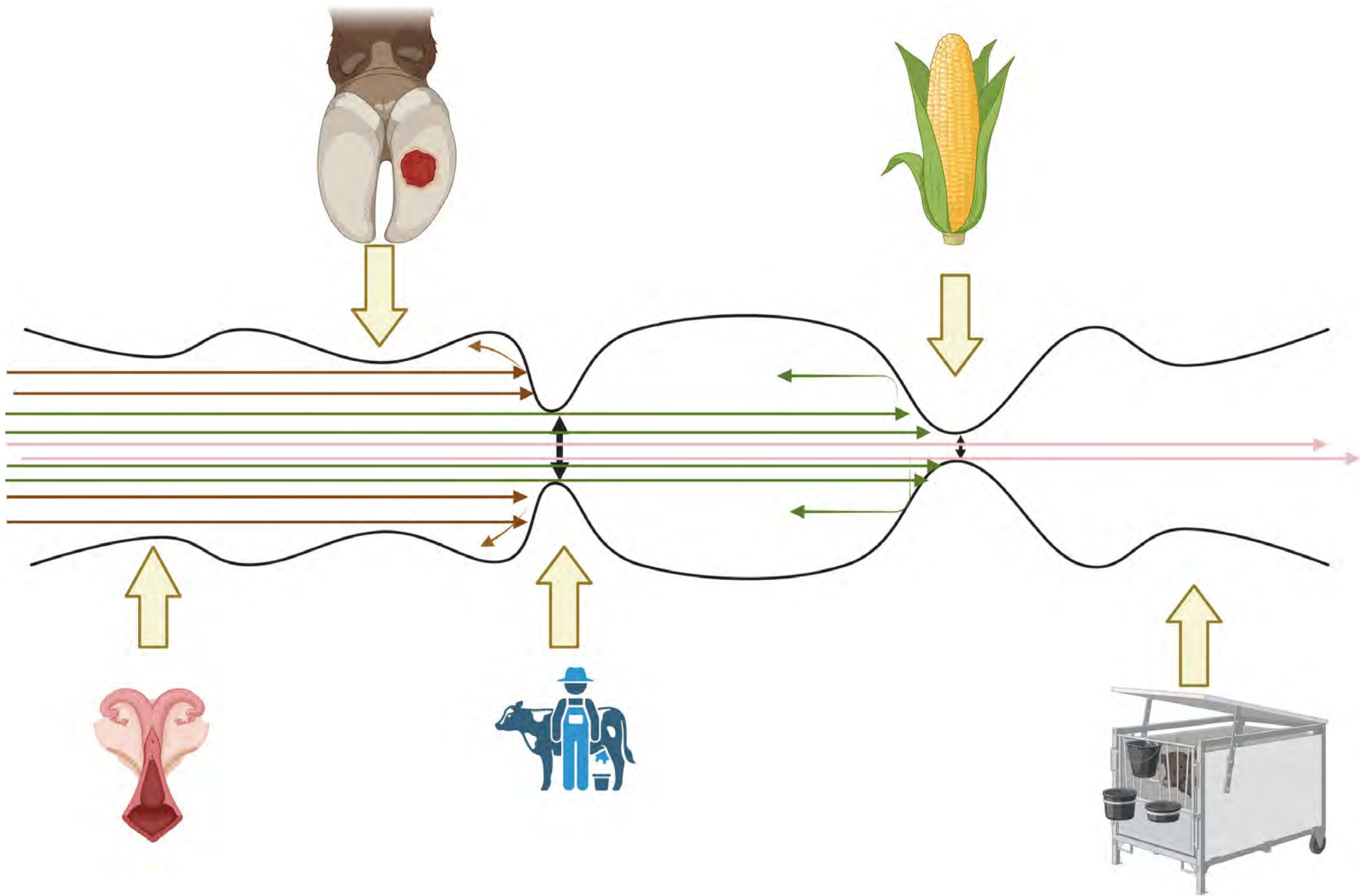
Dr. Goldratt has been
described by Fortune as
a "guru to industry" and
by Business Week as a
"genius". His book, The
Goal, is a gripping fast-
paced business novel.

"A factory may be an
unlikely setting for a
novel, but the book has
been wildly effective..."
Toni Peters

THE BEST-SELLING BUSINESS
NOVEL THAT INTRODUCED THE
**THEORY OF
CONSTRAINTS**
AND CHANGED HOW
AMERICA DOES BUSINESS

**OVER 10 MILLION
COPIES SOLD!**





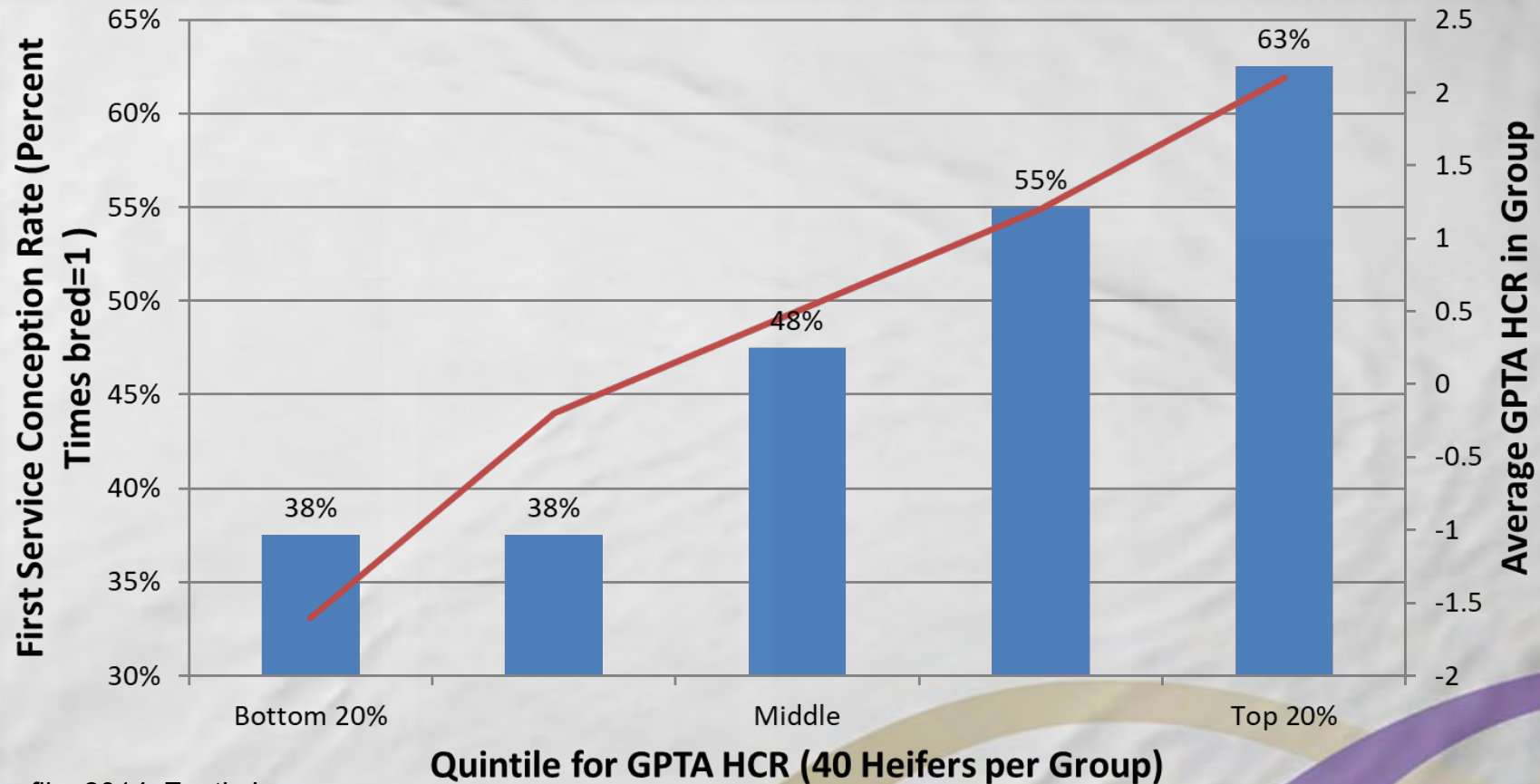
INTAKE



JUST DO IT.

The lowest heritability trait (HCR at 0.01) translates into meaningful reproduction differences within a herd

GPTA HCR ($h^2 = 0.01$) vs. First Service Conception Rate



Data on file, 2014, Zoetis Inc.

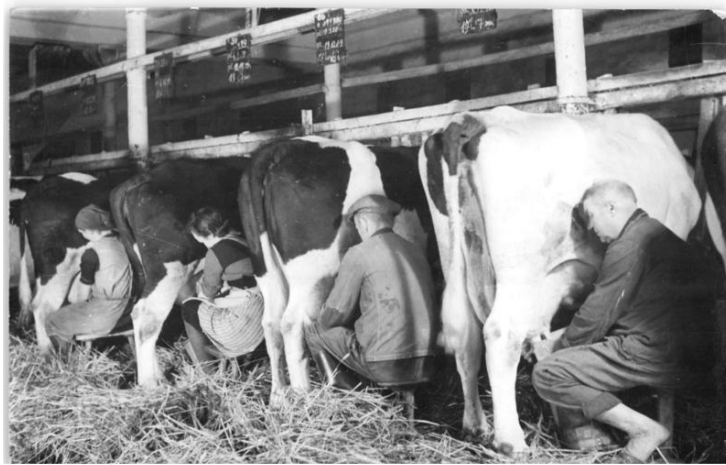








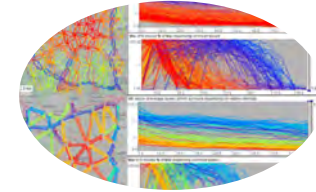
Technology in dairy – where is it going?

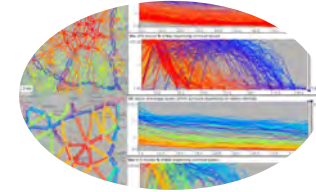
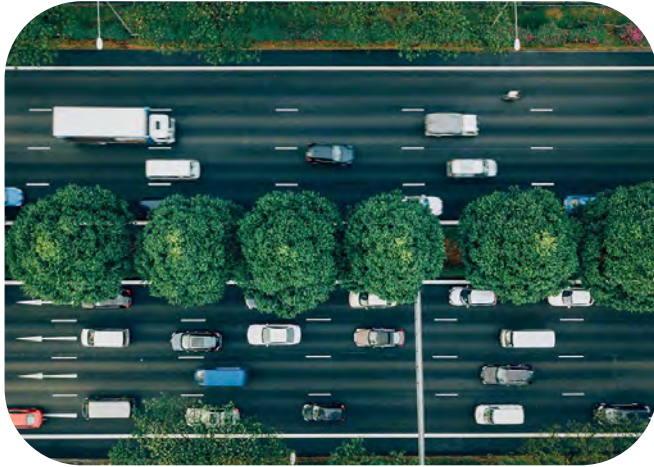


Bundesarchiv, Bild 183-S90917
Foto: Klein 115, August 1950

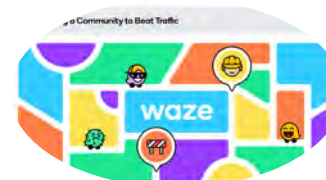


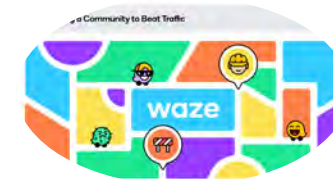
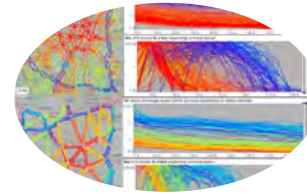
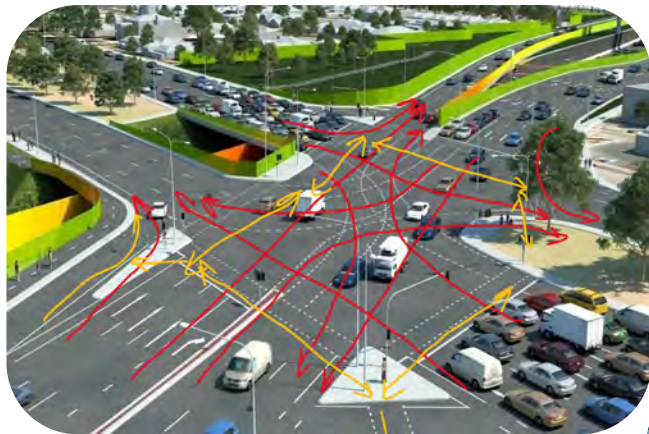




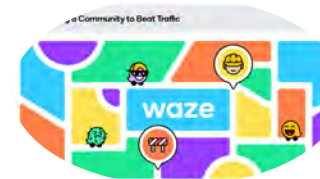
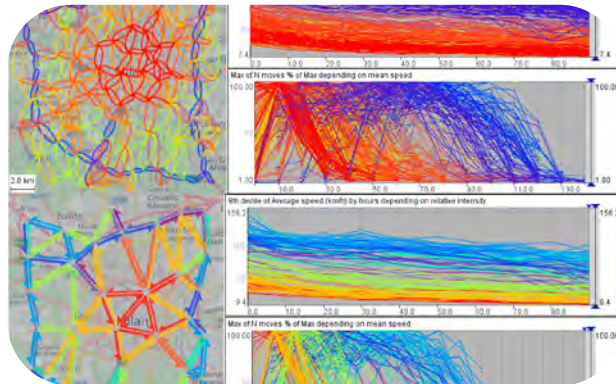


Real-time Data Collection
Cars, speed, accidents,
traffic jams
etc





Data analysis and
processing
**AI and ML algorithms,
anomalies detected**

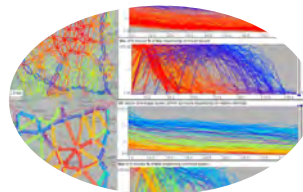


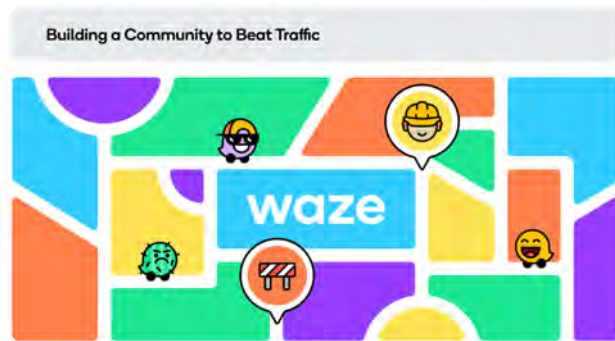
Predictive analytics
**Historical, real-time data,
external events, weather**



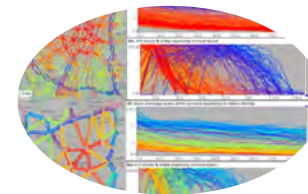


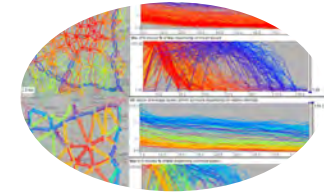
Route optimisation
**Updating with road
closures, real-time data**



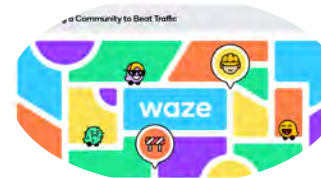


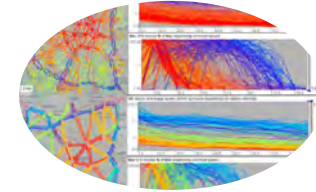
Community-driven updates
**User-generated, hazards,
police**





Continual improvement loop
Preferences, feedback











Real-time Data Collection
**Mobility, BCS, milk data,
wearables**





Data analysis and
processing
**AI and ML algorithms,
anomalies**





Predictive analytics
Historical plus real-time
data, weather, health
events, repro status





Ration optimisation
Income over feed cost





Community-driven updates
**User-generated, feed price,
forage inventory, milk price**





Continual improvement loop
Preferences, feedback





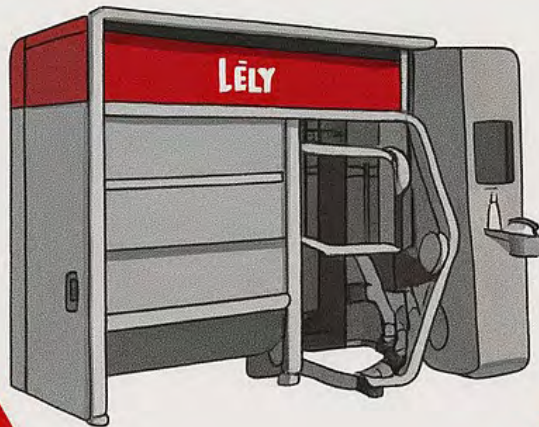






YOU'LL NEVER MILK AGAIN

LIVE LELY



EST·1948



"The
Arrogance
Of Man Is
Thinking
Nature
Is In
Our Control
And Not
The Other
Way Around."

- Dr. Ichiro Serizawa



**THANK
YOU**