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JD Heiskell & Co.

Feed Industry Future Panel
February 7, 2018

The Feed Industry



Past vs. Future



Feed Mills

Future

General → Specialized

Labor → Automation



Farm Operations

Future

Animals West



**Move to Feed
and Water**

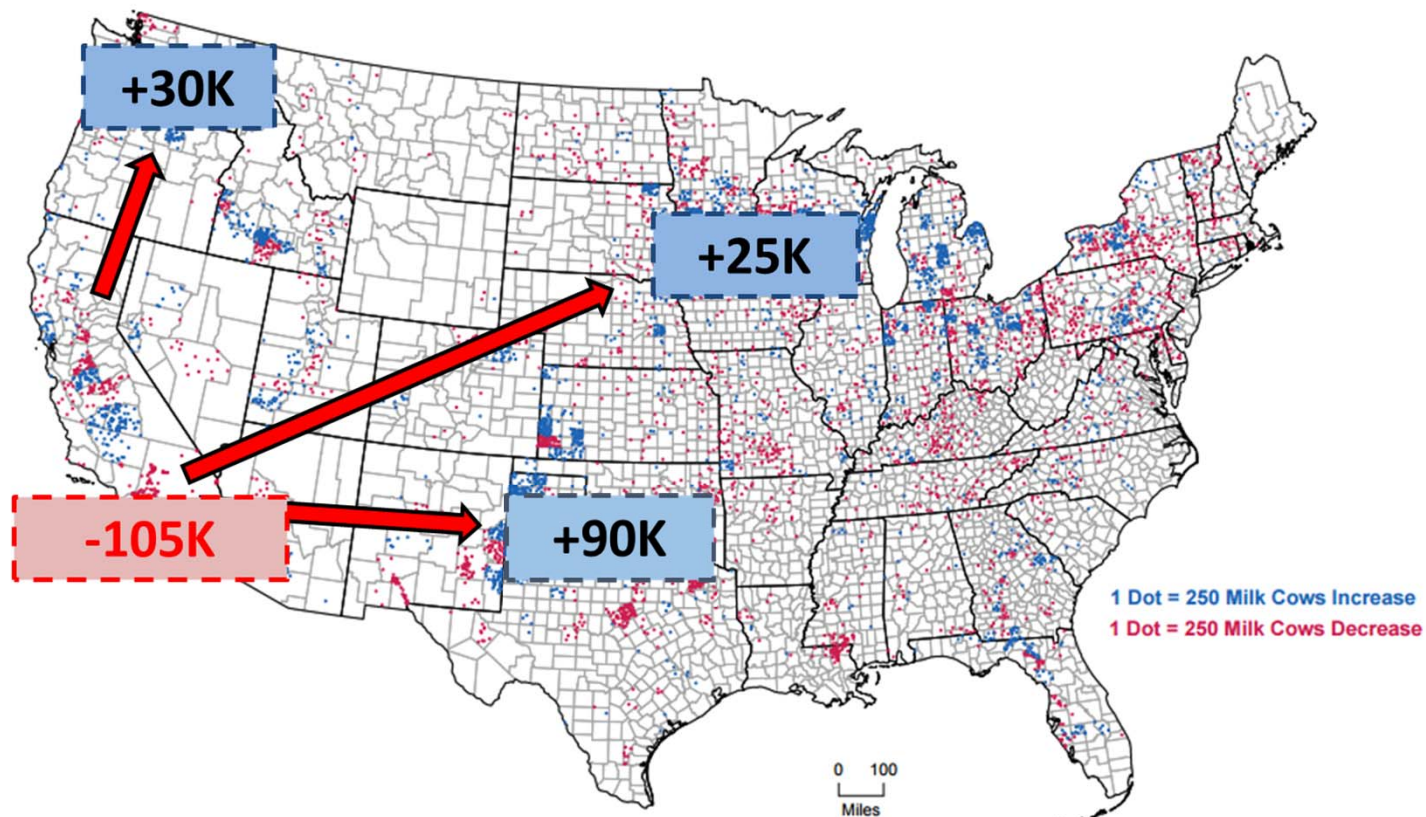
**Labor
Intensive**



**Technology
Advances
Robots and Pods**



California Dairy Cow Number Peaked in July 2008 at 1.847 million, and has declined steadily since.



Change in cow #'s 2008 - Dec 2017



Cattle on Feed Numbers

- Decreasing Southern and Western States
- Steady Growth in Midwest States



Feed Industry Segments

Commercial

- Low cost
- Limited SKU
- Integrated Mills
- Commodity based
- Transparency
- Highly efficient

Lifestyle

- Family Farms
 - Pod effect
 - Robots Increase
 - Compound Feed
- Companion Animals
 - Stage of Life Products
 - Retail Stores
 - Farm and Fleet
- Full SKU offering

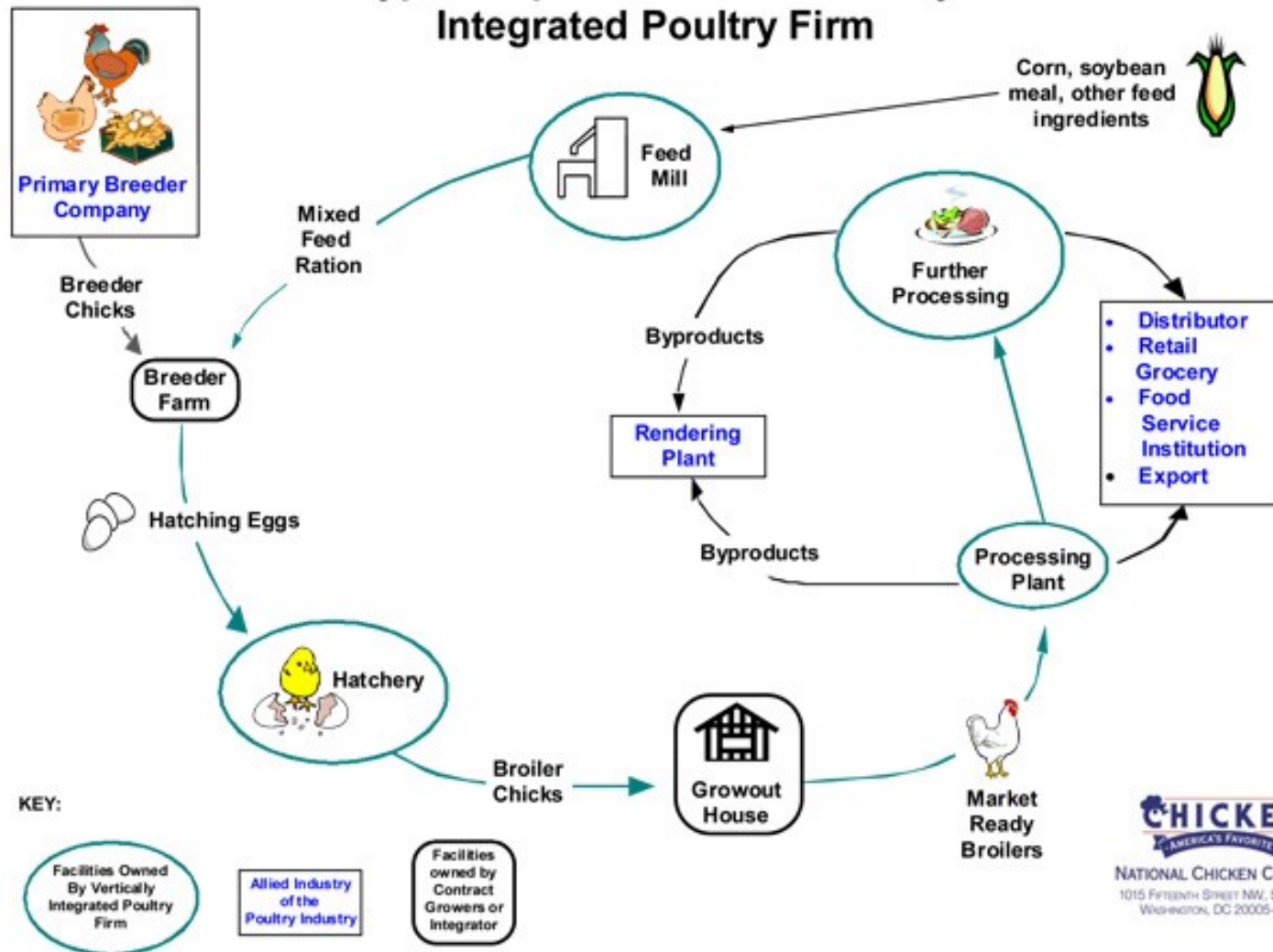


Commercial Feed Key Drivers:

- Consolidation of Producers
- Integration (Poultry, Swine, Feedlots)
 - ☐ Low Cost
 - ☐ Efficiency
 - ☐ Minimize SKUs (complexity)
 - ☐ Control



Typical Operation of a Vertically Integrated Poultry Firm



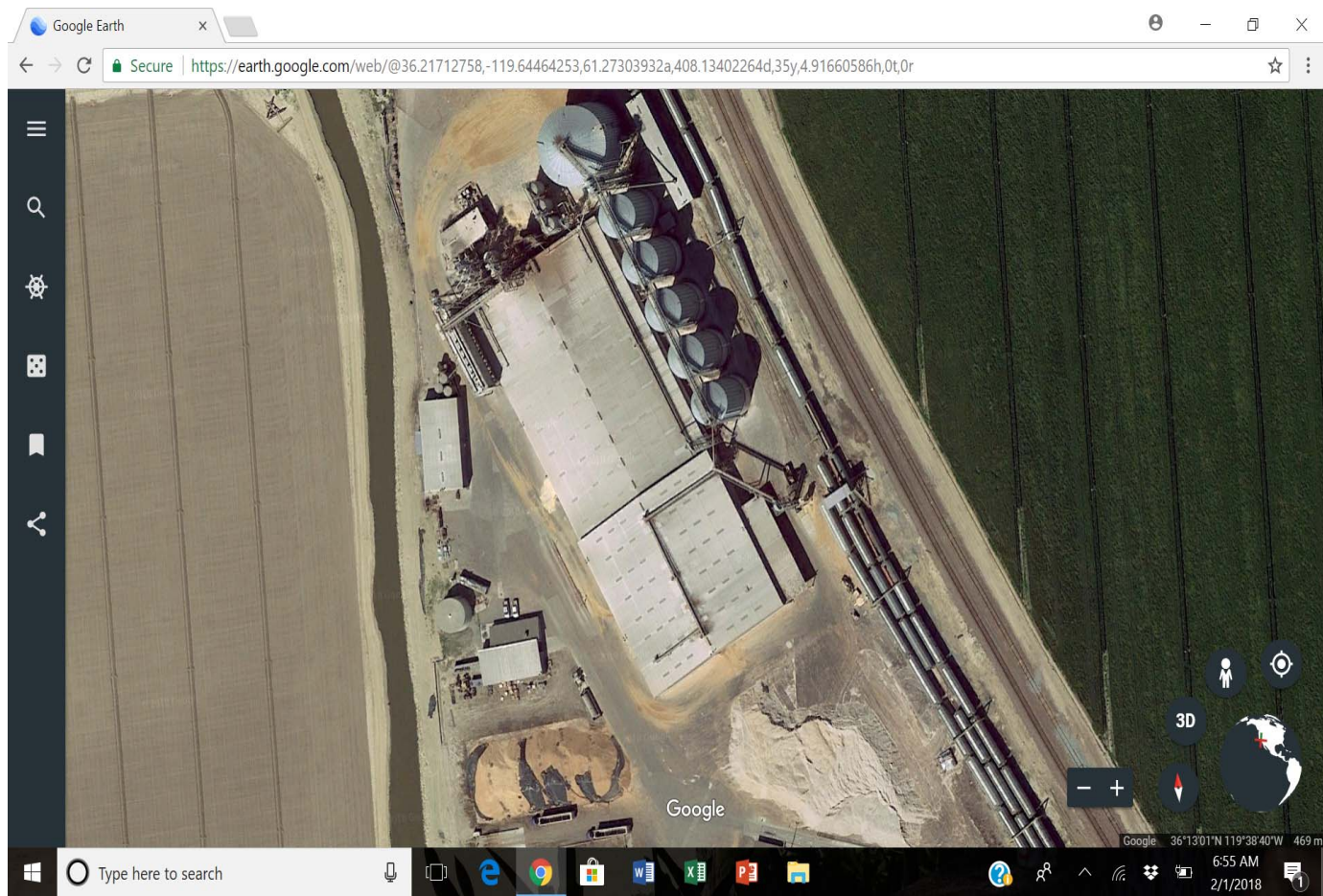
CHICKEN
AMERICA'S FAVORITE
NATIONAL CHICKEN COUNCIL
1015 FIFTEENTH STREET NW, SUITE 930
WASHINGTON, DC 20005-2605



Commercial Feed Key Drivers:

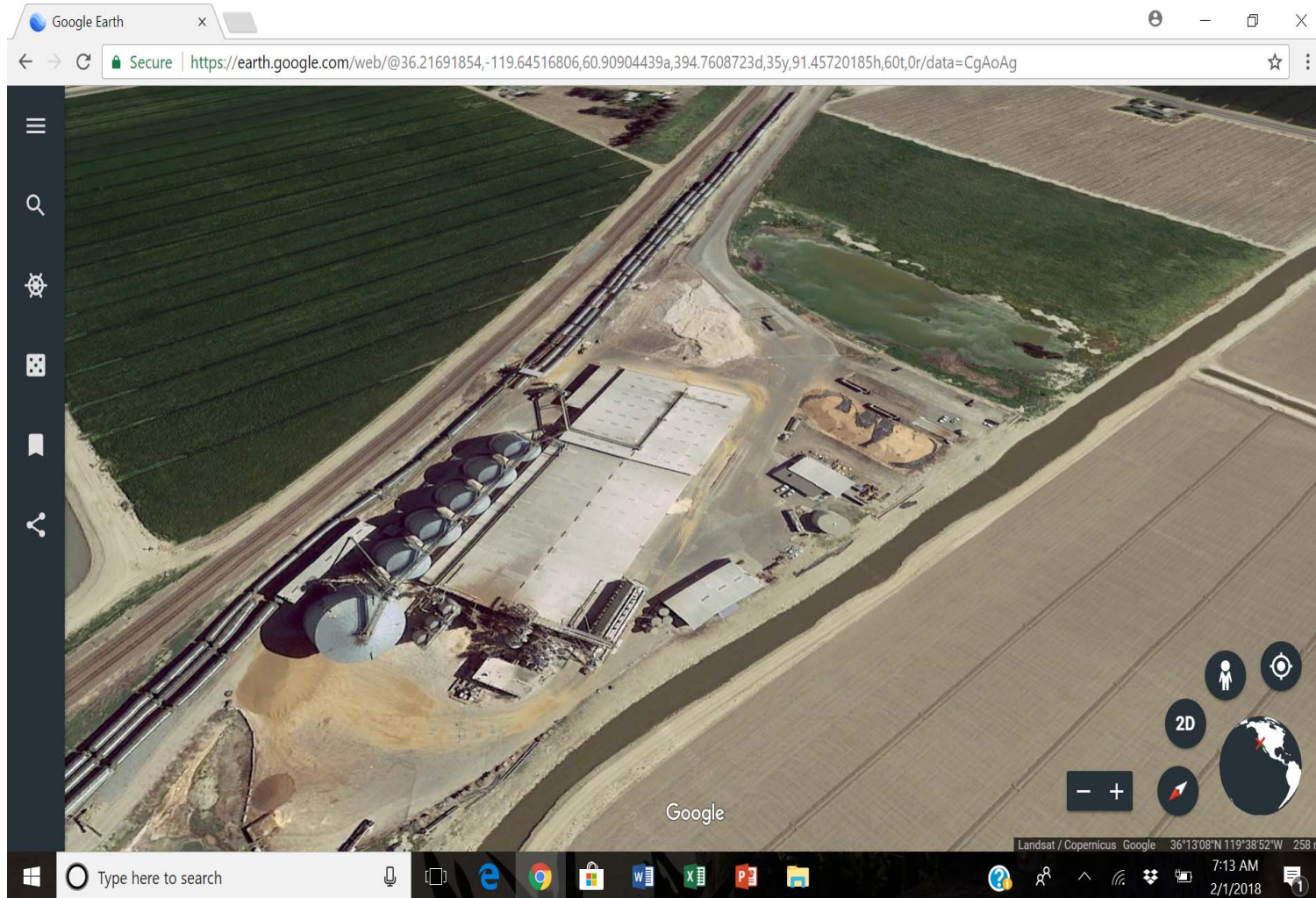
- Large Commercial Dairy Operations
- Independent Nutritionist Influence
 - ☐ Transparency
 - ☐ Bid on formula to manufacture
 - ☐ On Farm Feed Centers
 - ☐ Commodities
 - ☐ Premix – VTM





California Feed and Transload Mill





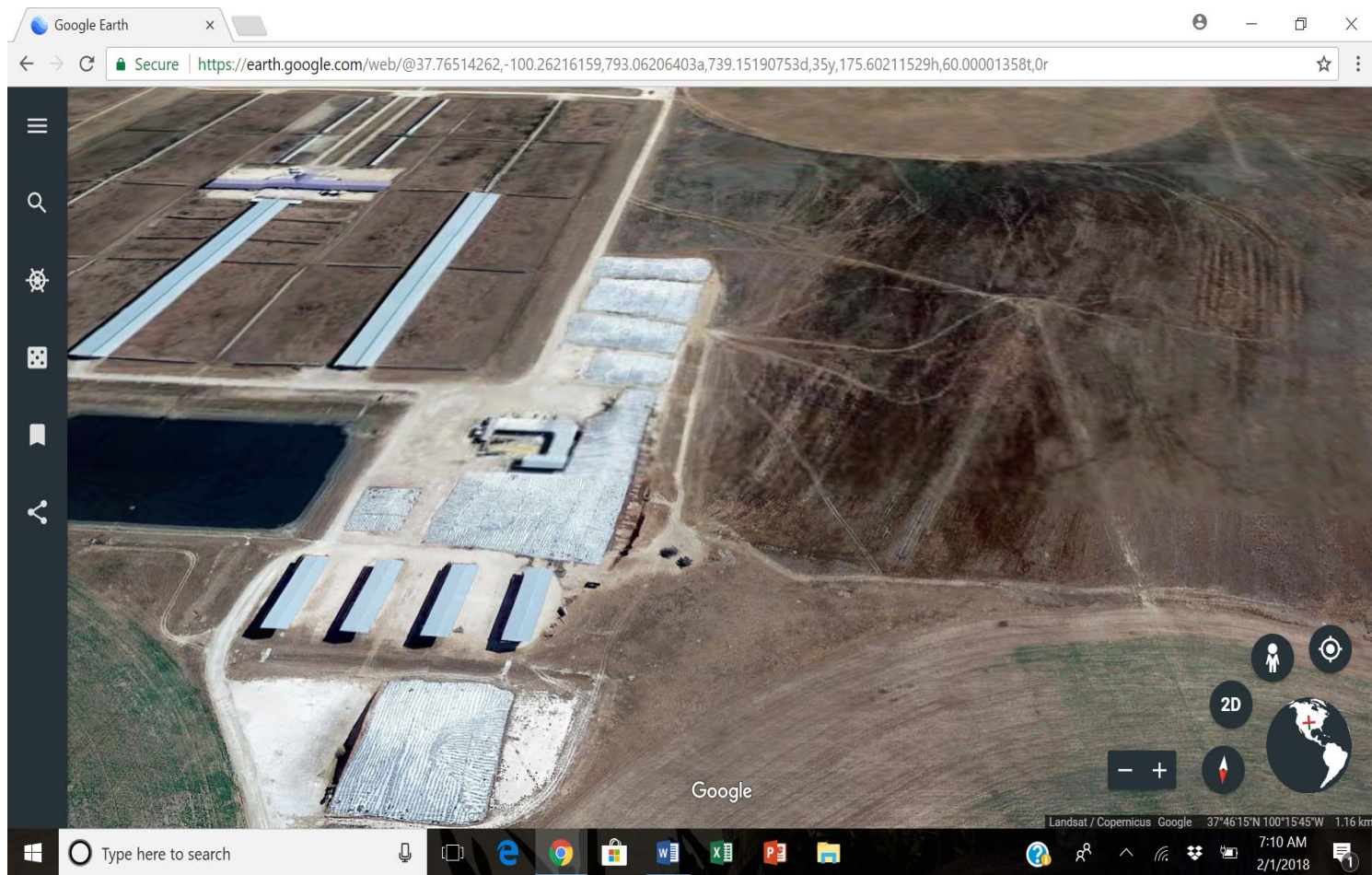
Same facility different look





Western Dairy – 15,000 cows





Same dairy closer look at the feed center



Companion Animals Growing Specialized Feed Potential



Companion Animals



Increased Product Options by Specie



Lifestyle Key Drivers:

Lifestyle Products by Nutrition Need

- Balanced Diet
- Complete Feeds
- Concentrate
- Life Stage
- Ease of Feeding

Consumer Demands

- Companion Animals
- Organic
- Non-GMO
- Non-Medicated
- Non-Ionophore
- Consumer perceives as “Safe”



Feed Industry Future:

Specialization will continue

- Vertical Integration
- Commercial – Commodity Focus
- Smaller Inclusion Rates - Commercial
- Consumer Demand
- Specie Focus
- Life Stage Focus
- Companion Animal Focus
- Smaller Packages - Retail
- Regulation

