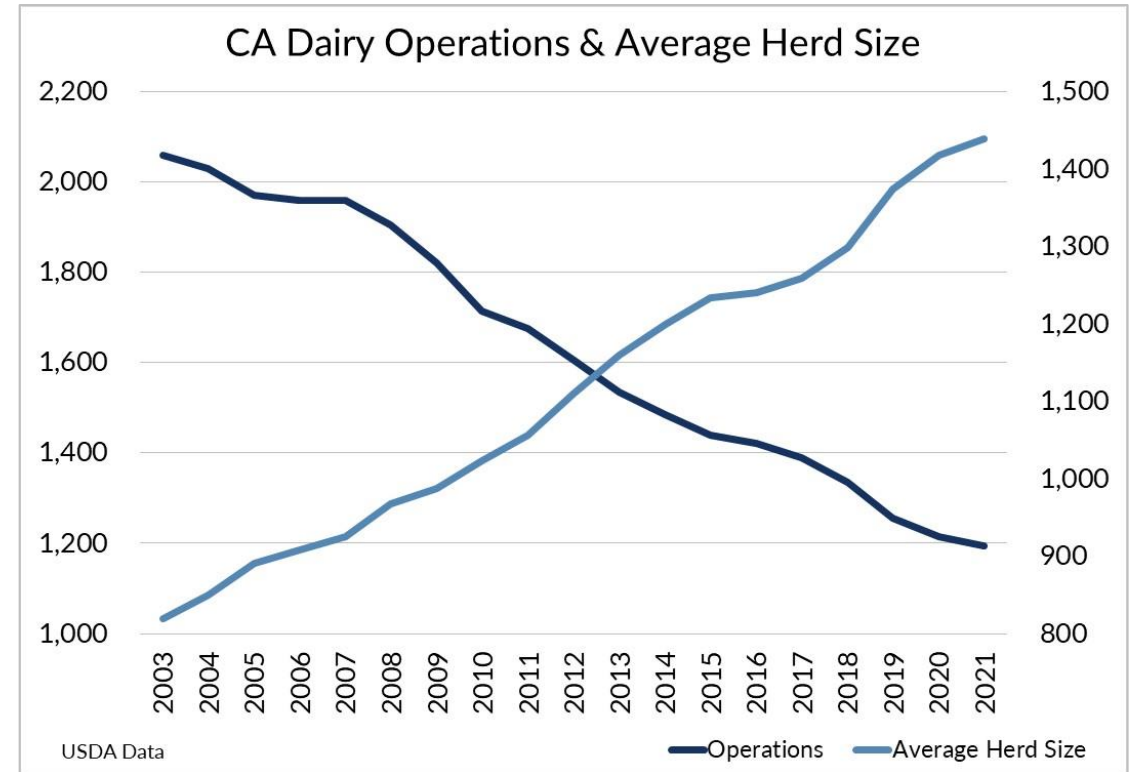
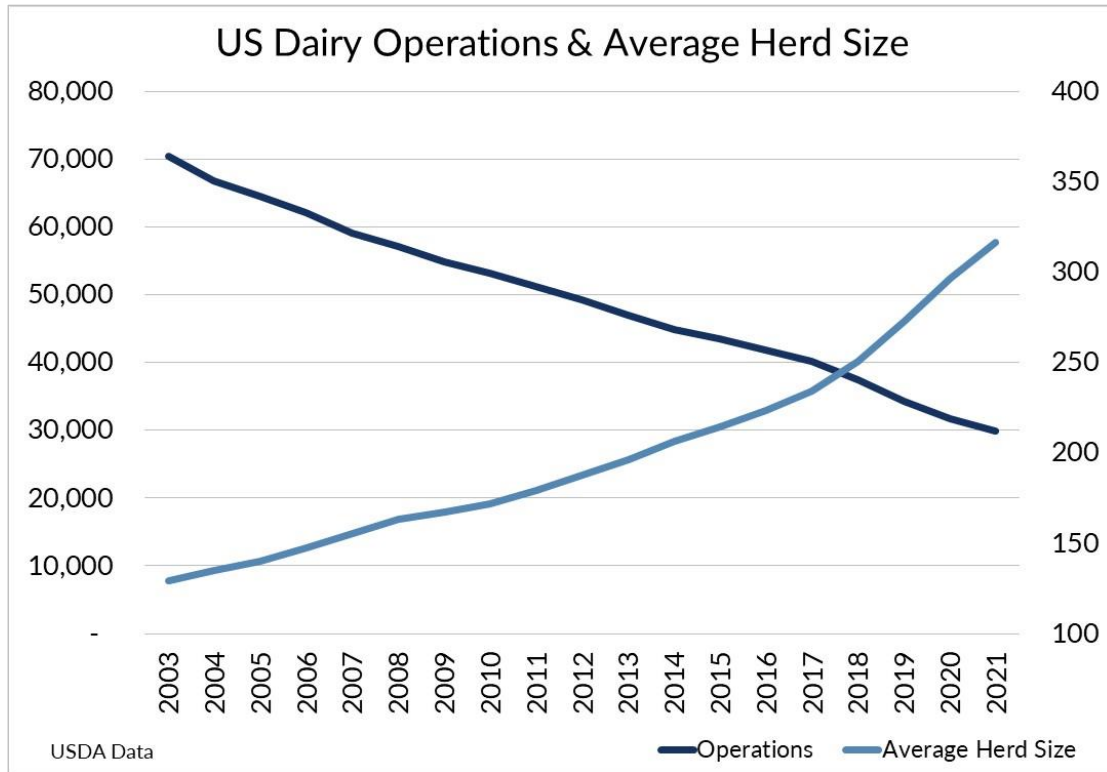


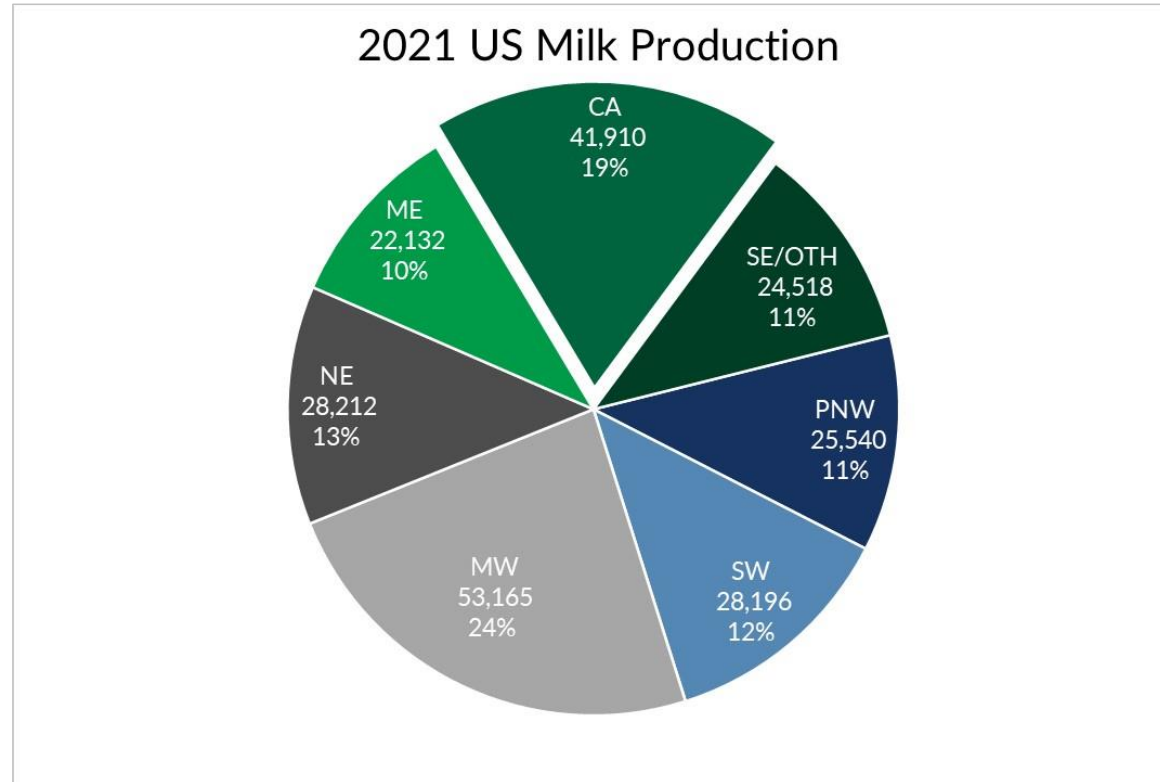
The Future of Dairy in California

Paul Sousa,
Western United
Dairies

Long Term Trends

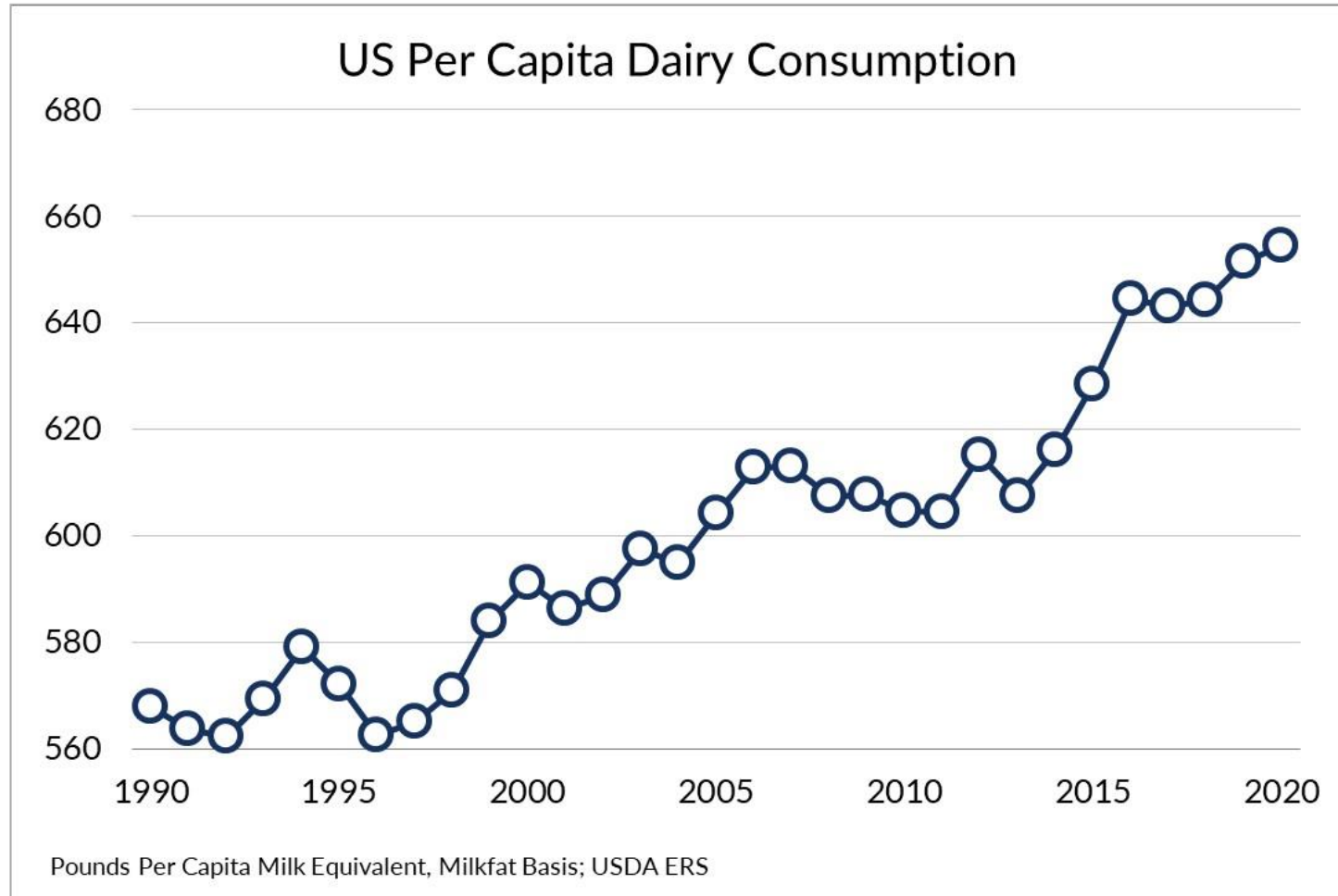


California Is the Leader

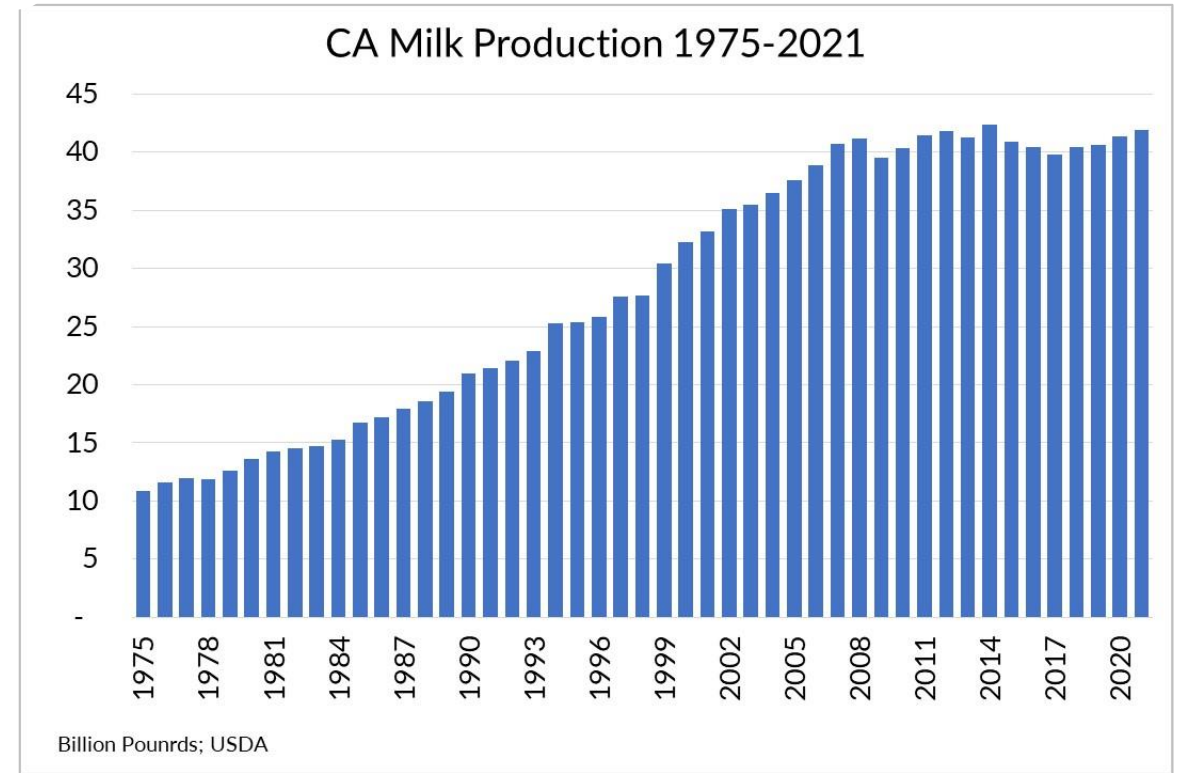
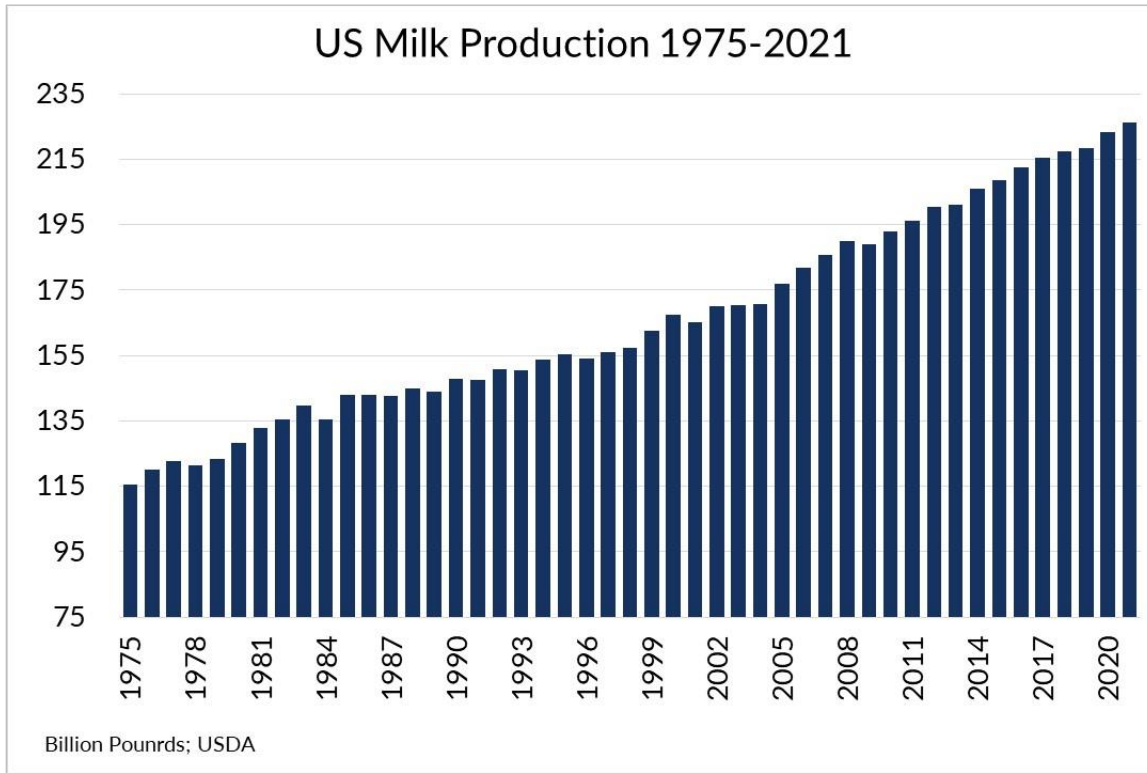


- California the top milk producing region in the US supplying nearly 20% of the nation's milk
- Success in achieving California's goals while maintaining a successful California dairy sector is important way to lead

Growing Demand for Dairy

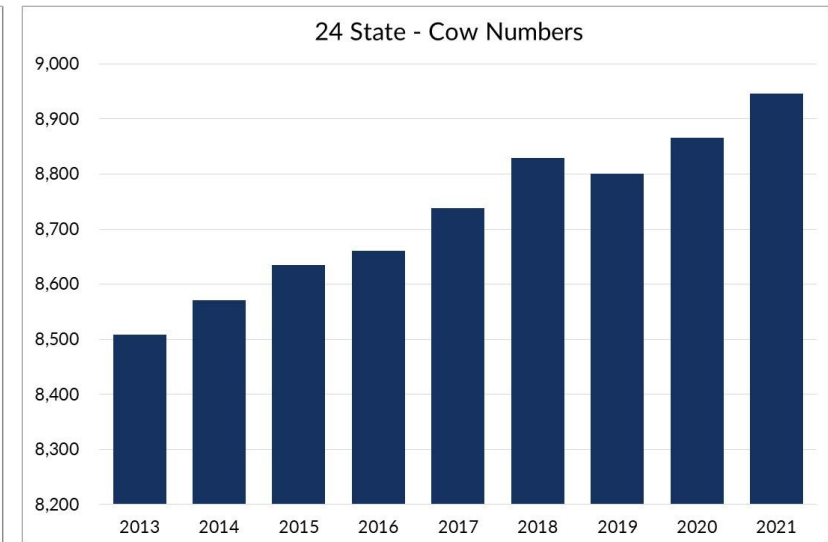
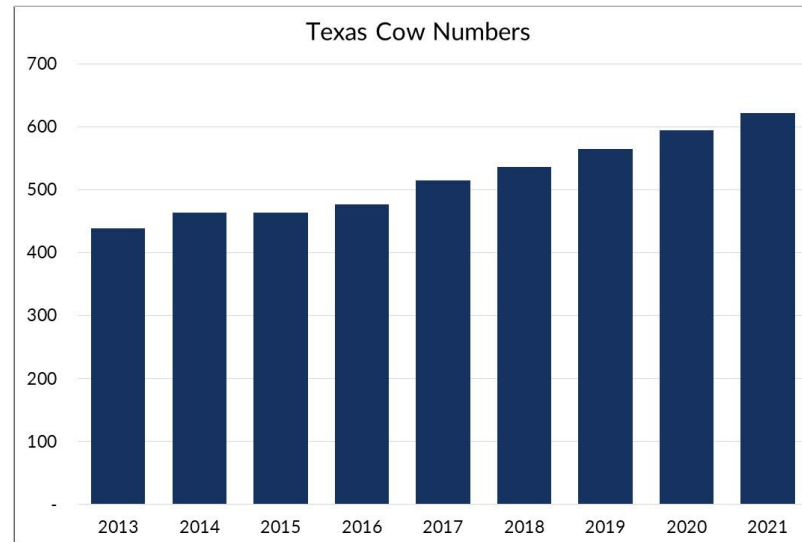
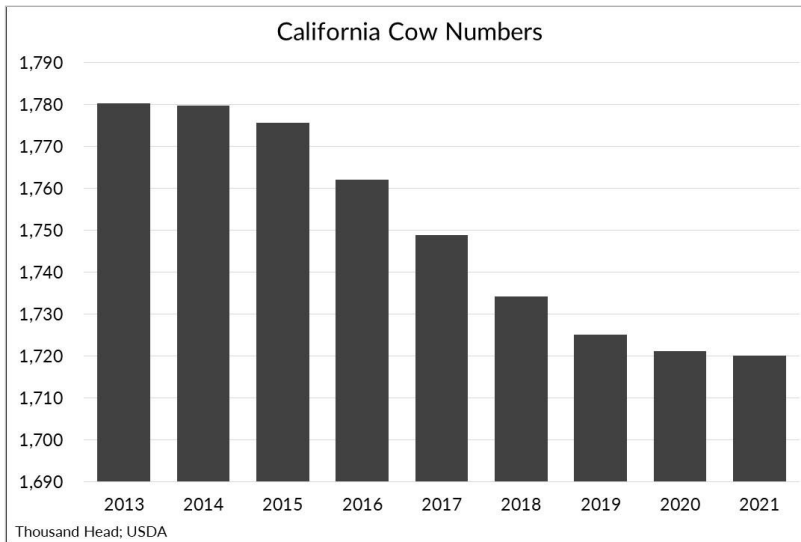


US Output Growing to Meet Demand; CA Lags



- US output on a steady upward trajectory
- California output largely static since 2007

California's Herd Not Growing



- Demand for dairy is growing, however the California dairy herd is not growing to meet that demand.
- Given status quo - we expect more of the same in the next 10-20 years - increased dairy demand being met by growth outside California
- Growth is occurring where GHG legislation does not exist
- California dairy is sensitive to leakage

Dairy Footprint Has Improved Dramatically

- According to recent study in the Journal of Dairy Science California dairy has improved its footprint in GHG, water, and land dramatically over 50 years
- Between 1964 and 2014 California dairy reduced its:
 - Greenhouse Gas (GHG) emissions per unit of milk produced by 45%
 - Through genetic improvements, and better nutrition and animal care
 - Water use intensity by 88%
 - Land requirements for crop production by 89%
 - Through dramatic increases in crop yields

Pasture

- Most pasture-based dairies on the north coast are members of Western United Dairies (WUD)
- WUD works closely with our members on the north coast
- Pasture works well for these dairies as the soils and climate are not well suited for other crops
- Most are organic to offset higher costs
- These dairies satisfy the market for organic milk
- Conversion of all dairies to pasture would require more land and water
 - Increase GHG emissions to maintain current levels of production
 - Would undo decades of production efficiencies that have reduced GHG emission intensity

The Future of Dairy in California

- Trend of fewer-larger dairies likely to continue
- Dairies will comply with tougher air and water quality standards
- Dairies will have significantly lower GHG emissions based on long term and recent trends
- Provide renewable energy to displace fossil fuel use and help California meet its targets
- If goal is to reduce global GHG emissions, then leading by reducing our emissions while maintaining a vibrant California dairy industry is vital to leading other states and countries in successfully achieving their own emissions reductions