

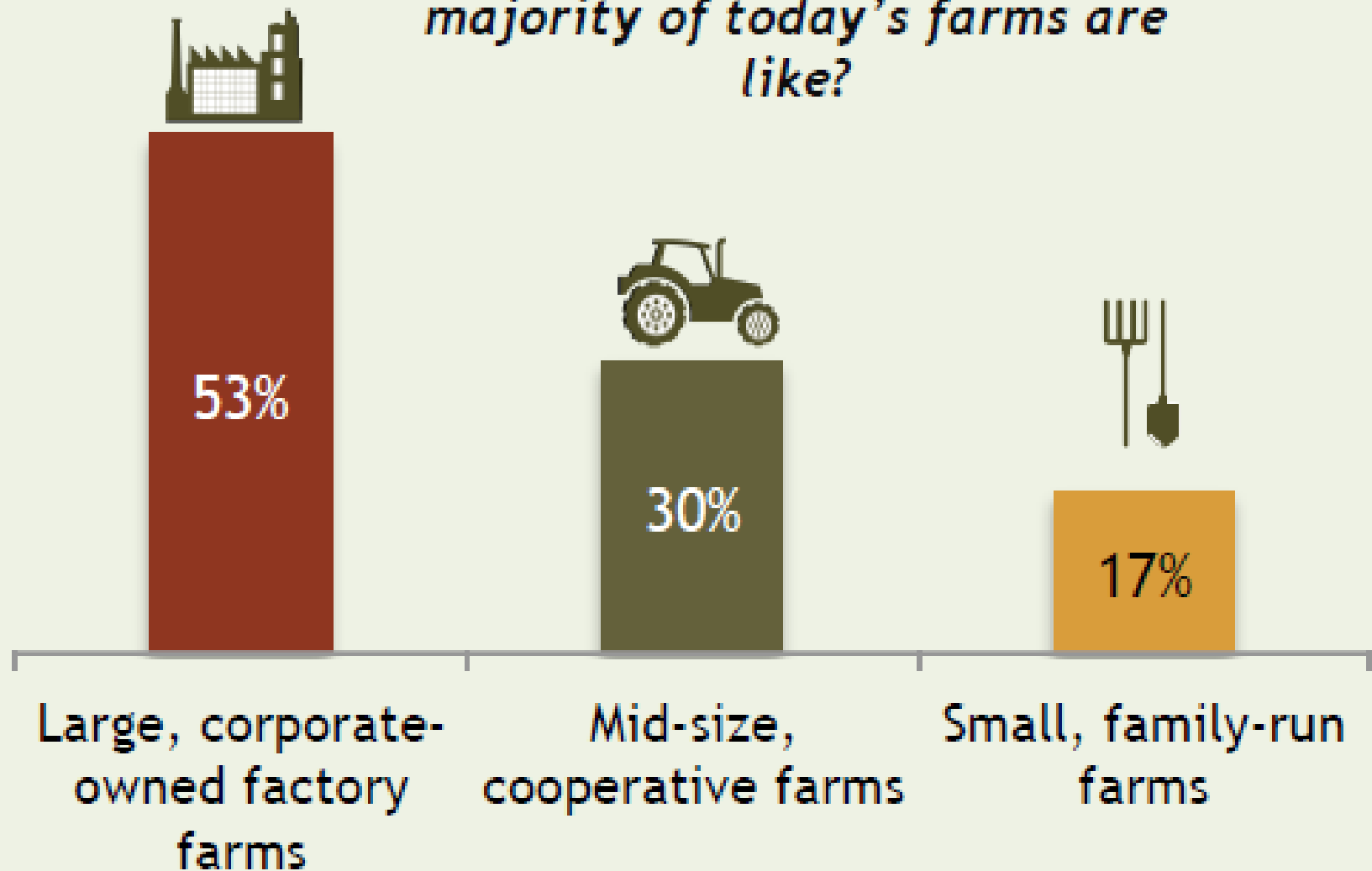
Agriculture Trends

Green County

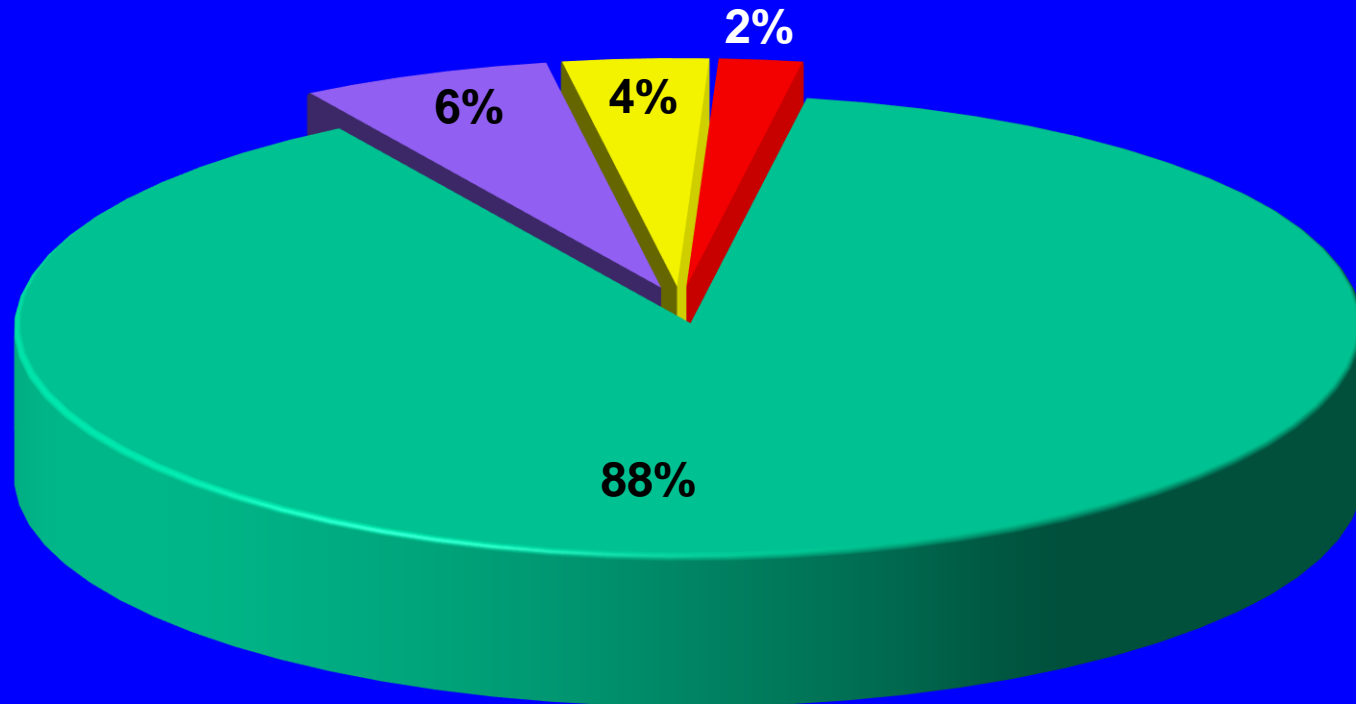
Green County CAFO Study Group

November 14, 2017

Q. What do you believe a majority of today's farms are like?



Green County Farm Ownership



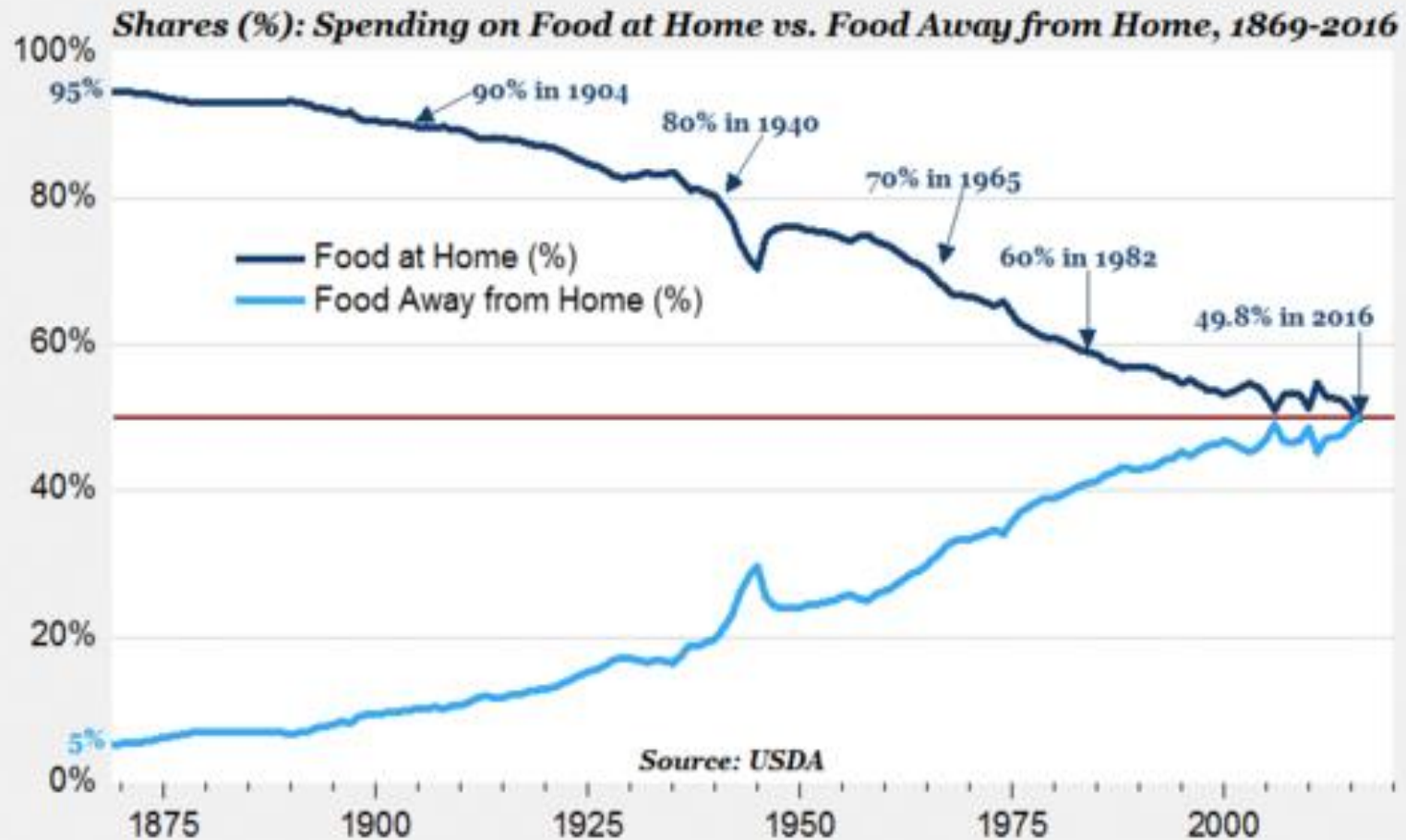
- Family/Individual
- Family Partnership
- Family Corporation
- Non Family Corp./Estate/Trust

Farmer Share of Food Dollar

2015 Food Dollar Marketing Bill (Nominal)



Food Spending Habits



Development of Agriculture

- **Leading Wheat Producing State in U.S.**
 - Production peaked in 1860
 - Demise of Wheat
 - Weather, Disease (rust/smoot) and the Cinch Bug
 - Wheat Farming was done by 1879
- **Many Wheat Farmers moved West**
- **Others switched to Sorghum, Hops, Potatoes Tobacco, Sheep, Pigs and Dairy**



Evolution of our Dairy Industry

- 1868 First Cheese Factory opened in Green County
- By 1910 the County had 200 Cheese Factories
- By early 1920's Wisconsin had become a dairy state with large barns built to house cattle & feed
- 1990's adoption of Freestall Barns and Milking Parlors
- 2000's adoption Automatic Milkers
- Dairies have needed to double herd size for each generation to keep up with inflation







Adoption of Ag Technology

1910: First Gas Powered Tractors came into use

1926: First “Light” Tractor Developed

1930's: Rubber Tired Tractors came into wide Use

1945: 90% of farms had Electricity and the use of Horses declined

1954: Tractors Exceeded the Number of Horses on Farms

1970's: Milk Pipeline and Bulk Coolers Replaced Cans

1980's: Farmers Adopt use of Computers

1990's: Dairies move toward Freestall Housing, Parlors & MIG

2010's: GPS, Auto Steer and Robotic Milking







Milk Production: Meeting the Green Challenge

Requires only:

- 21% of the dairy animals
- 23% of the feed
- 35% of the water
- 10% of the land area
- generates only 24% of the manure

to produce the same amount of milk as 1944



Growth of Ag Productivity

1830-2017

Hours of Labor Needed to Produce 100 Bu.

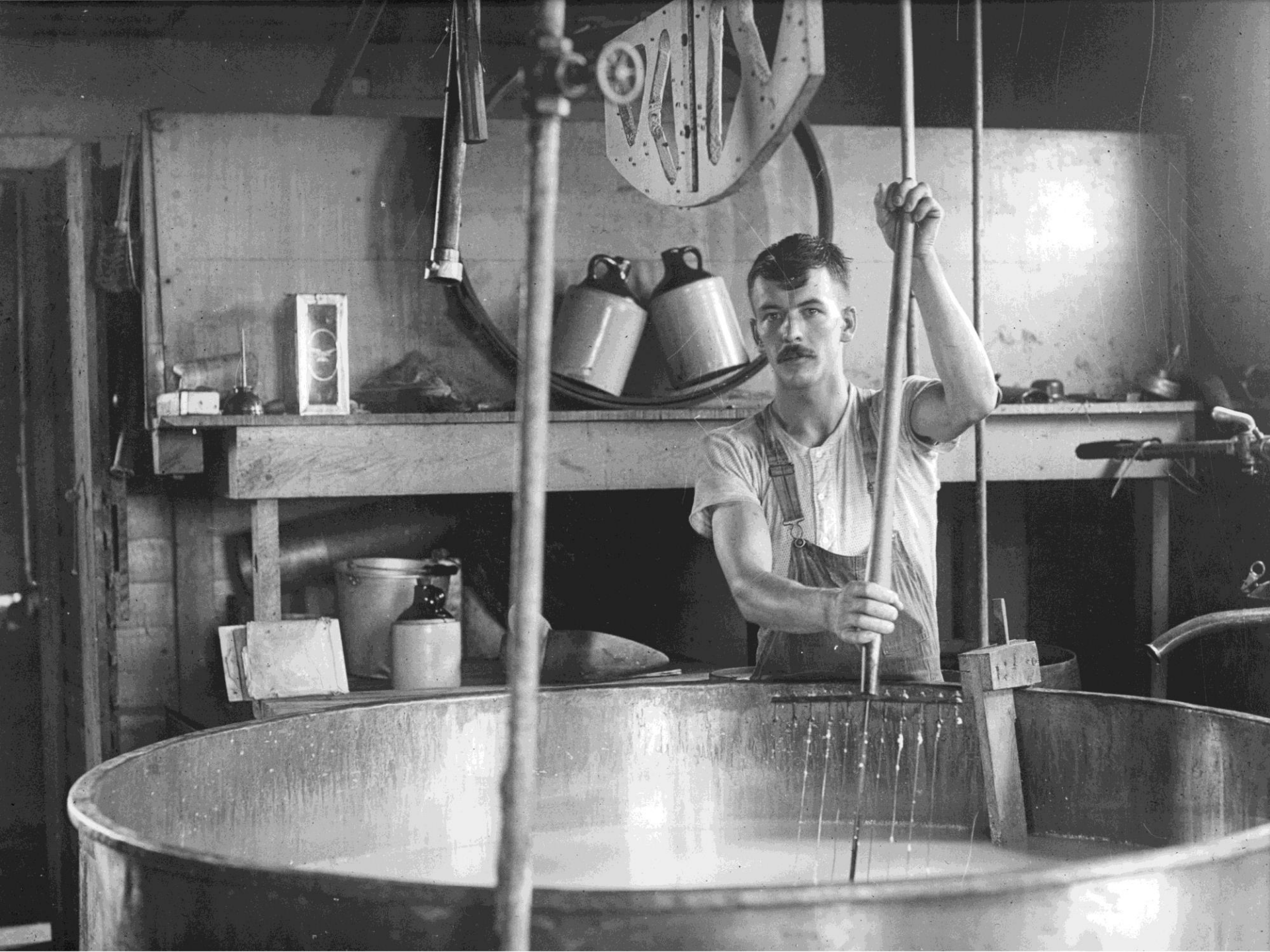
<u>Year</u>	<u>Corn</u>	<u>Wheat</u>	<u># Fed/Farmer</u>
1830	300+	275	---
1850	90	80	---
1890	37	45	5
1930	18	18	10 (tractors replaced horses)
1950	13	12	50
1970	3.5	3.2	76
1990	1.8	1.6	129
2010	1.2	1.2	155
2017	1.1	1.1	165



Evolution of Cheese Production



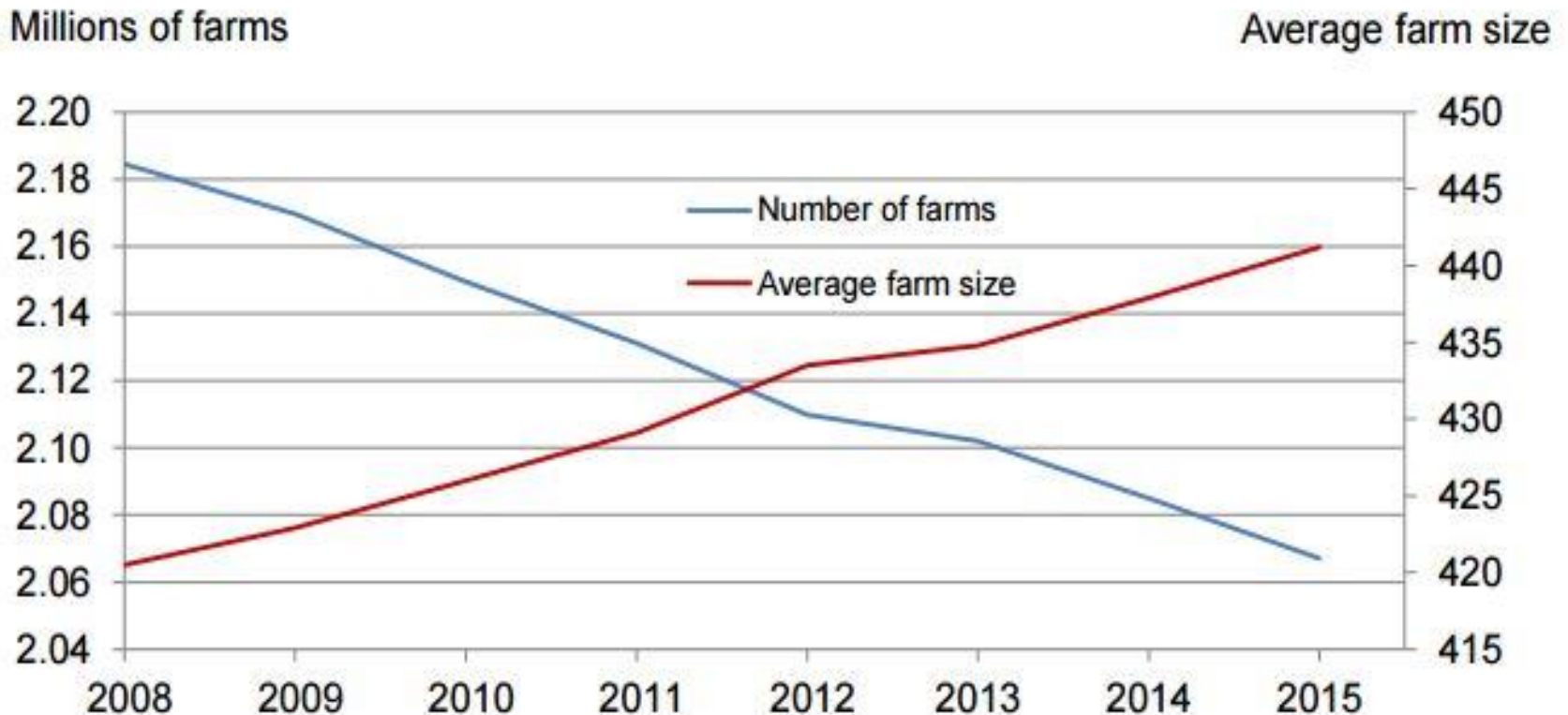
Walnut Grove Cheese Factory
located west of Postville
30 Gallon Cans





U.S. Farms and Size of Farm

Number of Farms and Average Farm Size – United States: 2008-2015

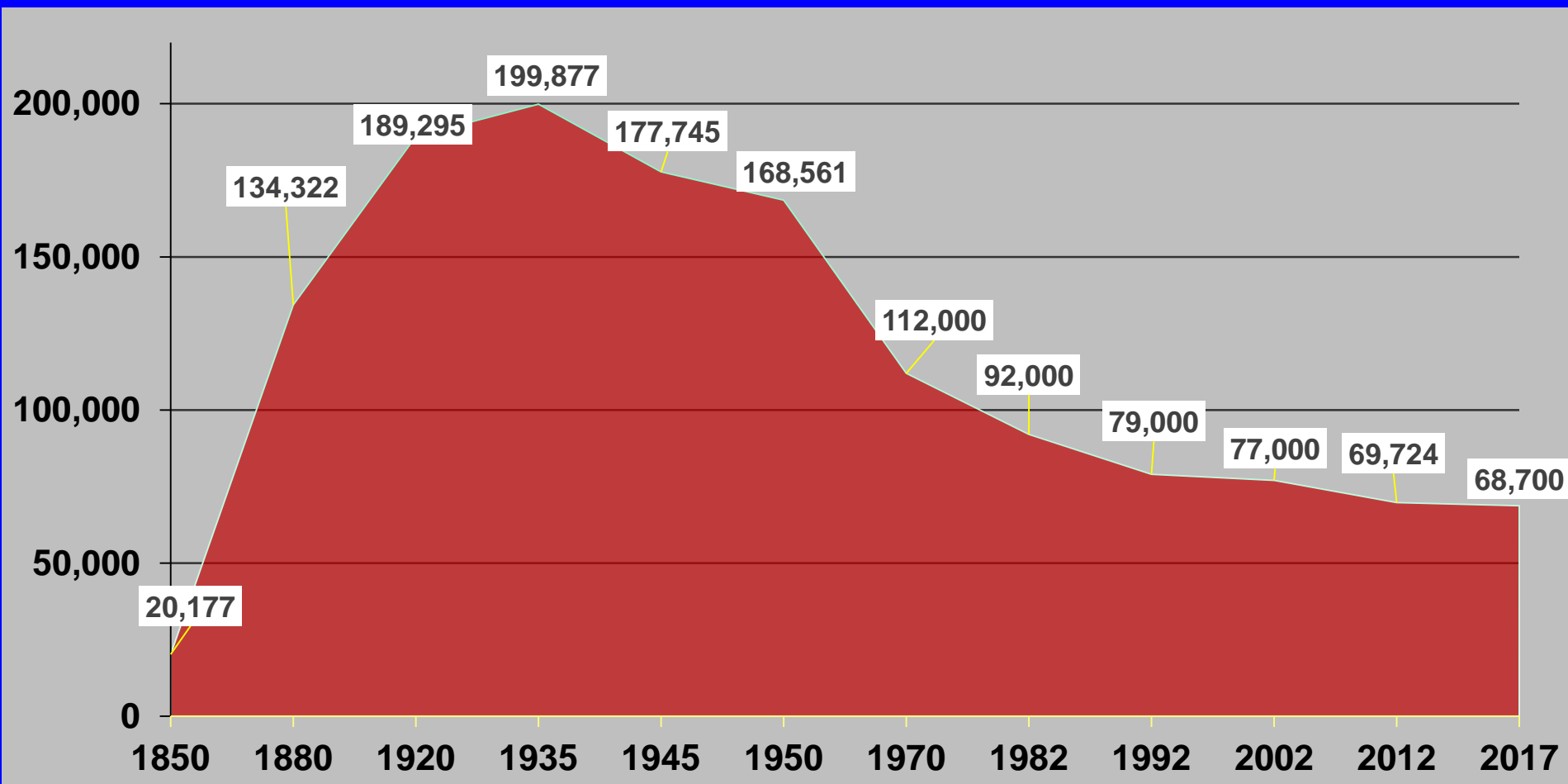


Minimum Criteria for “Farm” Definition

1840 to Present

Year	Acres in Place	Value of Agricultural Products (Produced)	Value of Sales of Agricultural Products	Required some Agricultural Operations
1974 - Present	--	--	\$1,000 or more	--
1959	Less than 10 10 or more	-- --	\$250 or more \$50 or more	-- --
1954	Less than 3 3 or more	-- \$150 or more	\$150 or more --	-- --
1950	Less than 3 3 or more	-- \$150 or more	\$150 or more --	-- --
1935 - 1945	Less than 3 3 or more	\$250 or more --	-- --	-- X
1930	Less than 3 3 or more	\$250 or more --	-- --	-- X
1925	Less than 3 3 or more	\$250 or more --	-- --	-- X
1910 - 1925	Less than 3 3 or more	\$250 or more --	-- --	-- X
1900	Less than 3 3 or more	-- --	-- --	-- X
1870 - 1890	Less than 3 3 or more	-- --	\$500 or more --	-- X
1860	--	--	--	--
1850	--	\$100 or more	--	--

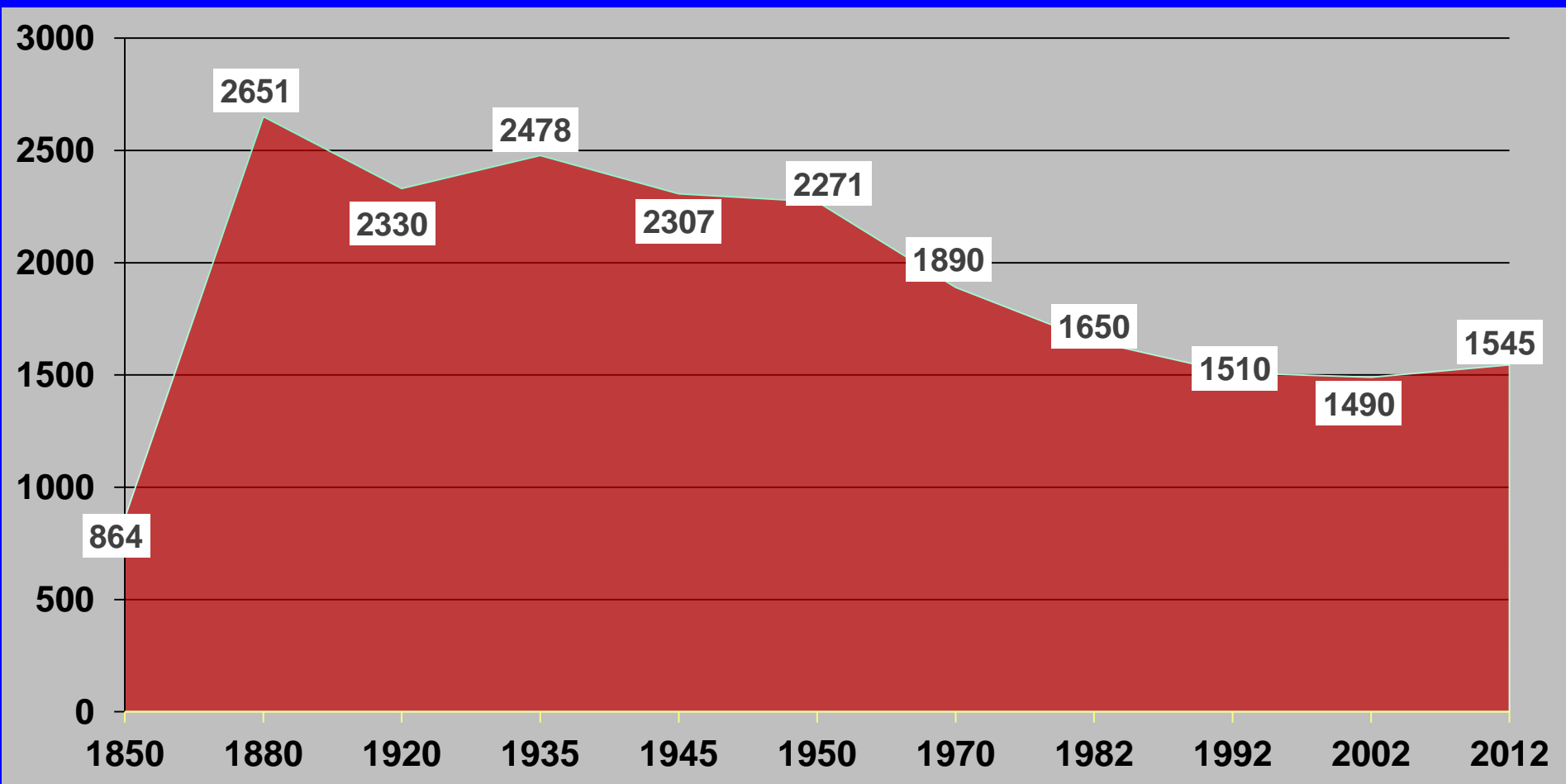
Wisconsin Farm Numbers 1850-2017



Farm = \$1,000 in Sales

Green County Farm Numbers

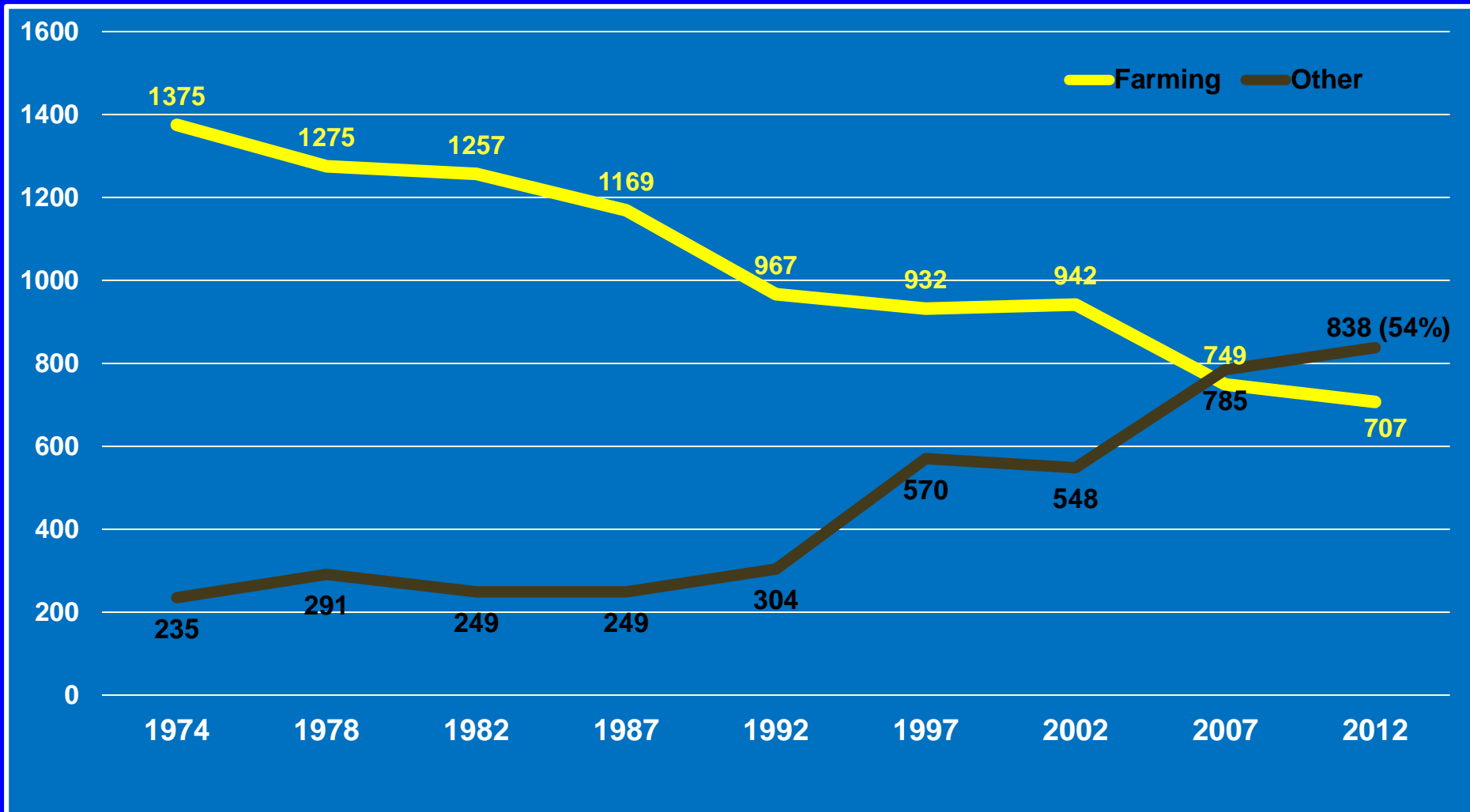
1850-2012



Farm = \$1,000 in Sales

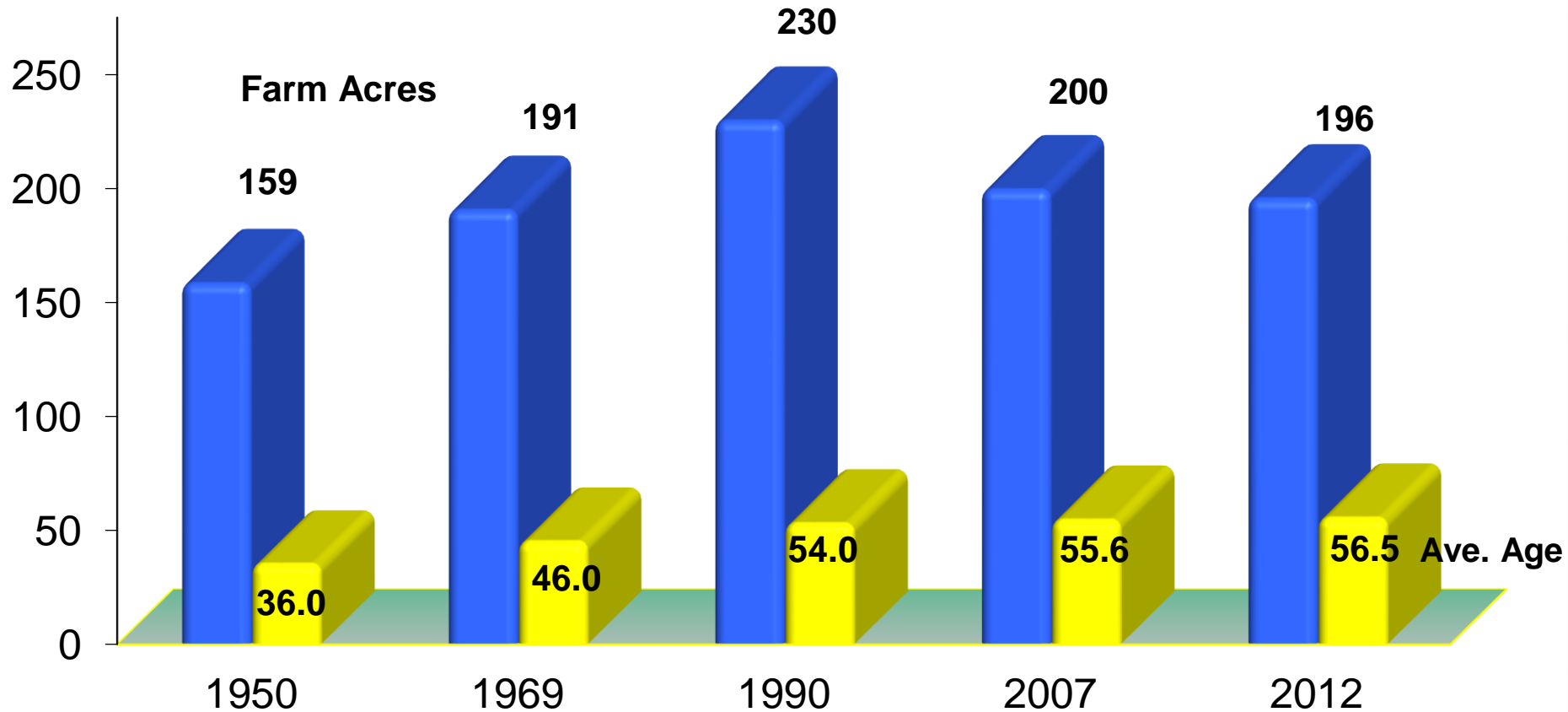
Principal Occupation of Farm Operators In Green County

1974-2012



Green County Farm Size

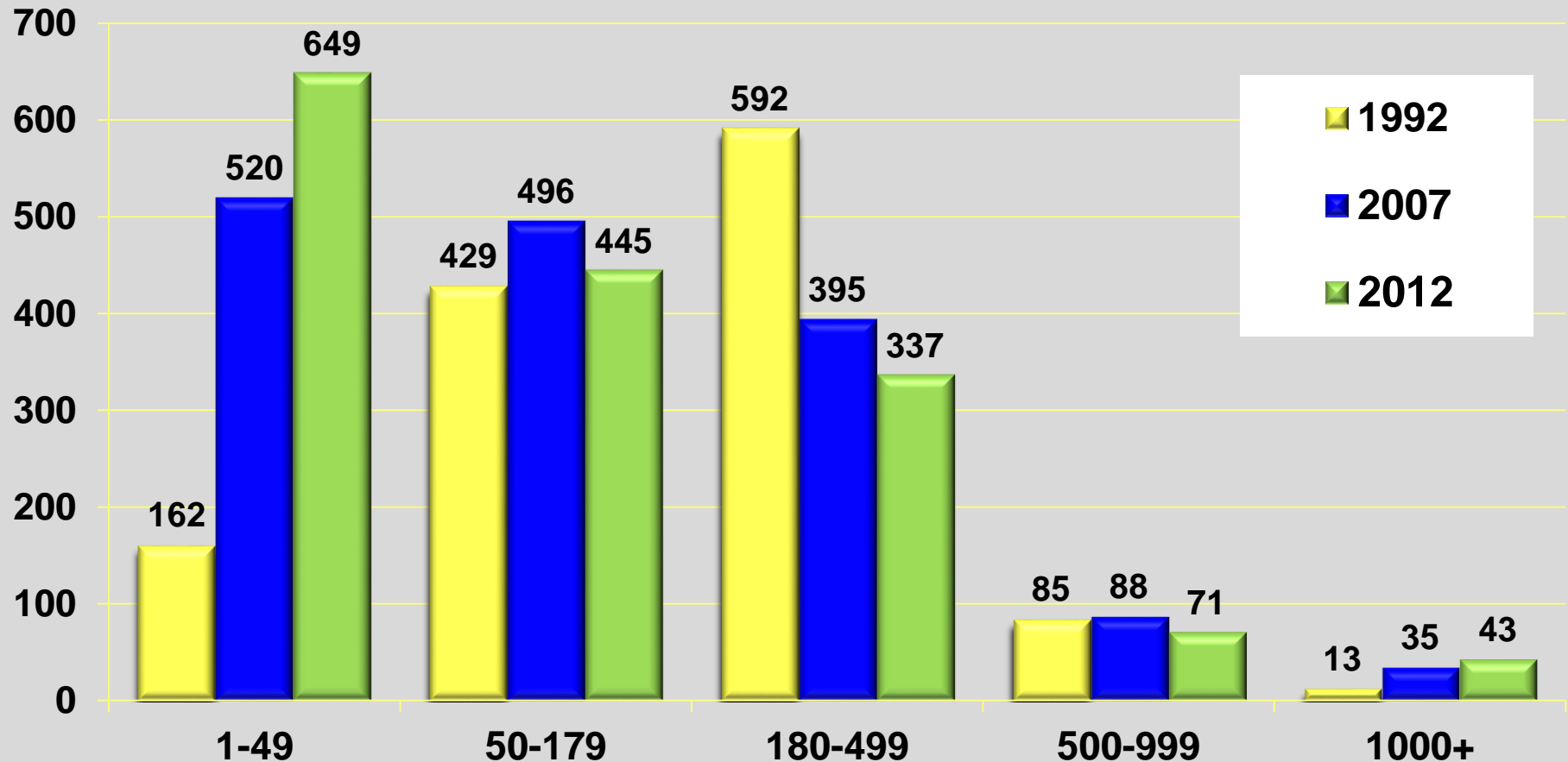
Age of Operator 1950-2012



Size of Green County Farms

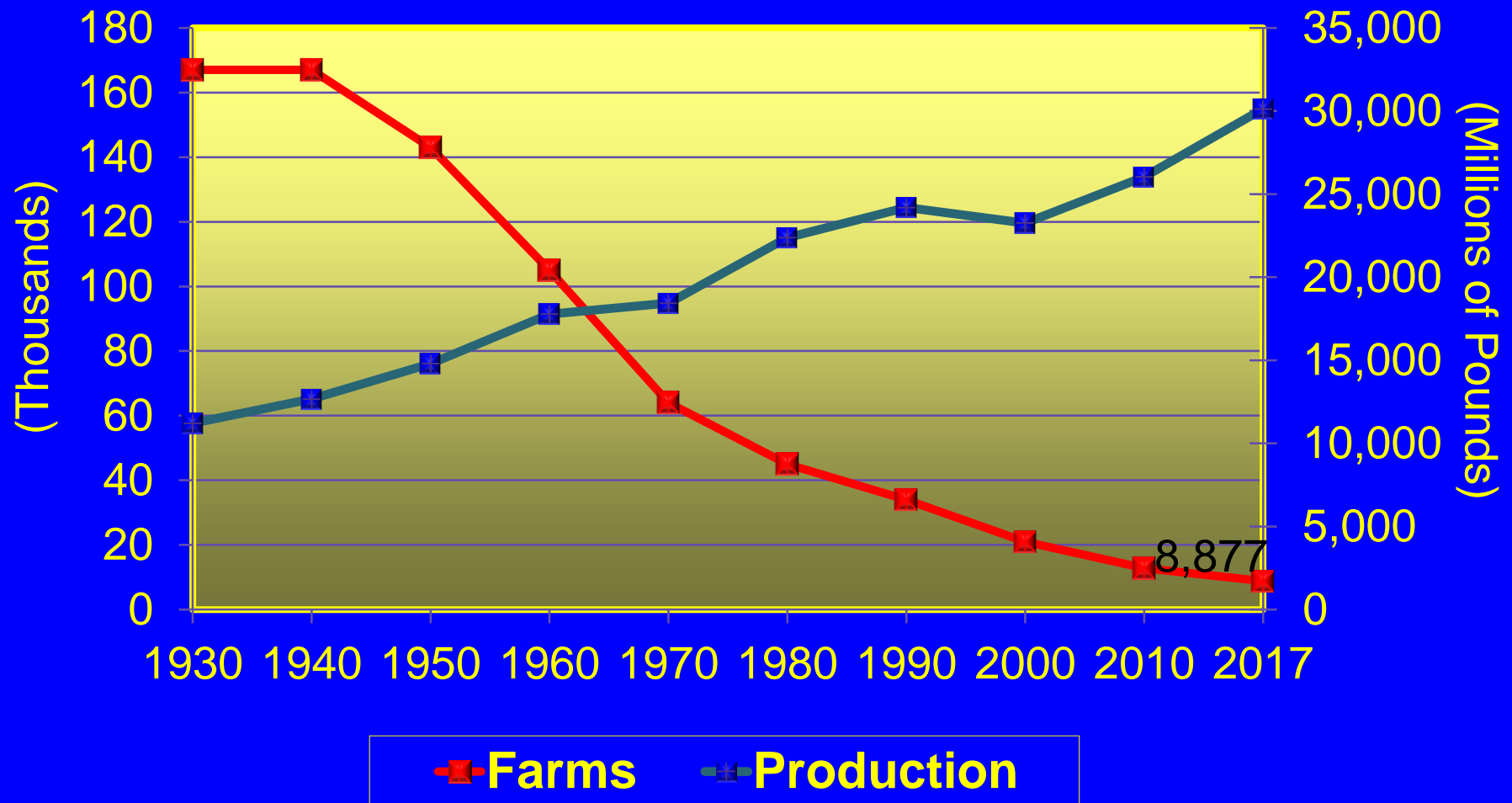
1992, 2002, 2012

Farms



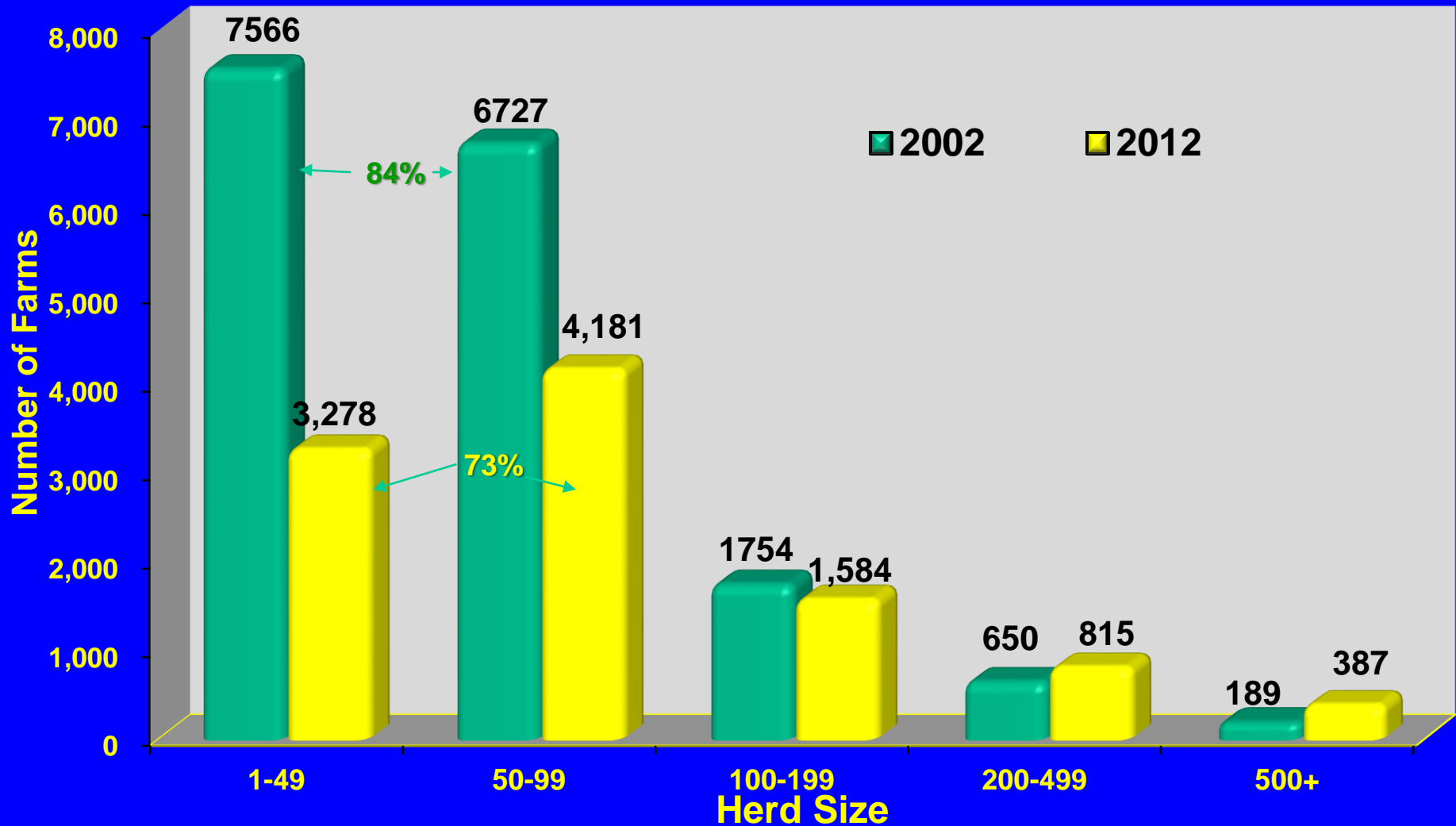
Acres

WI Dairy Farms & Milk Production



WI Dairy Farms by Herd Size

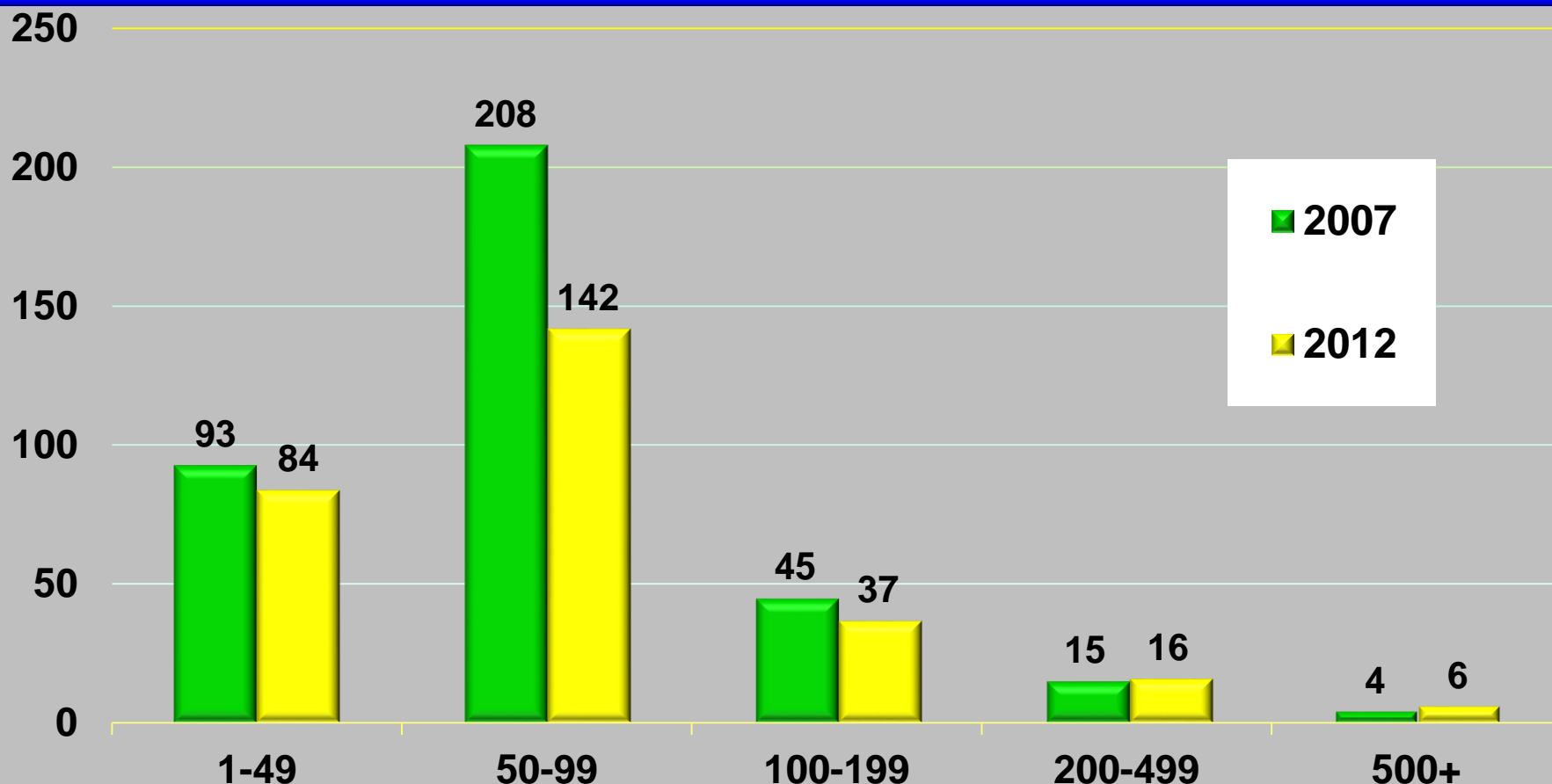
2002 and 2012



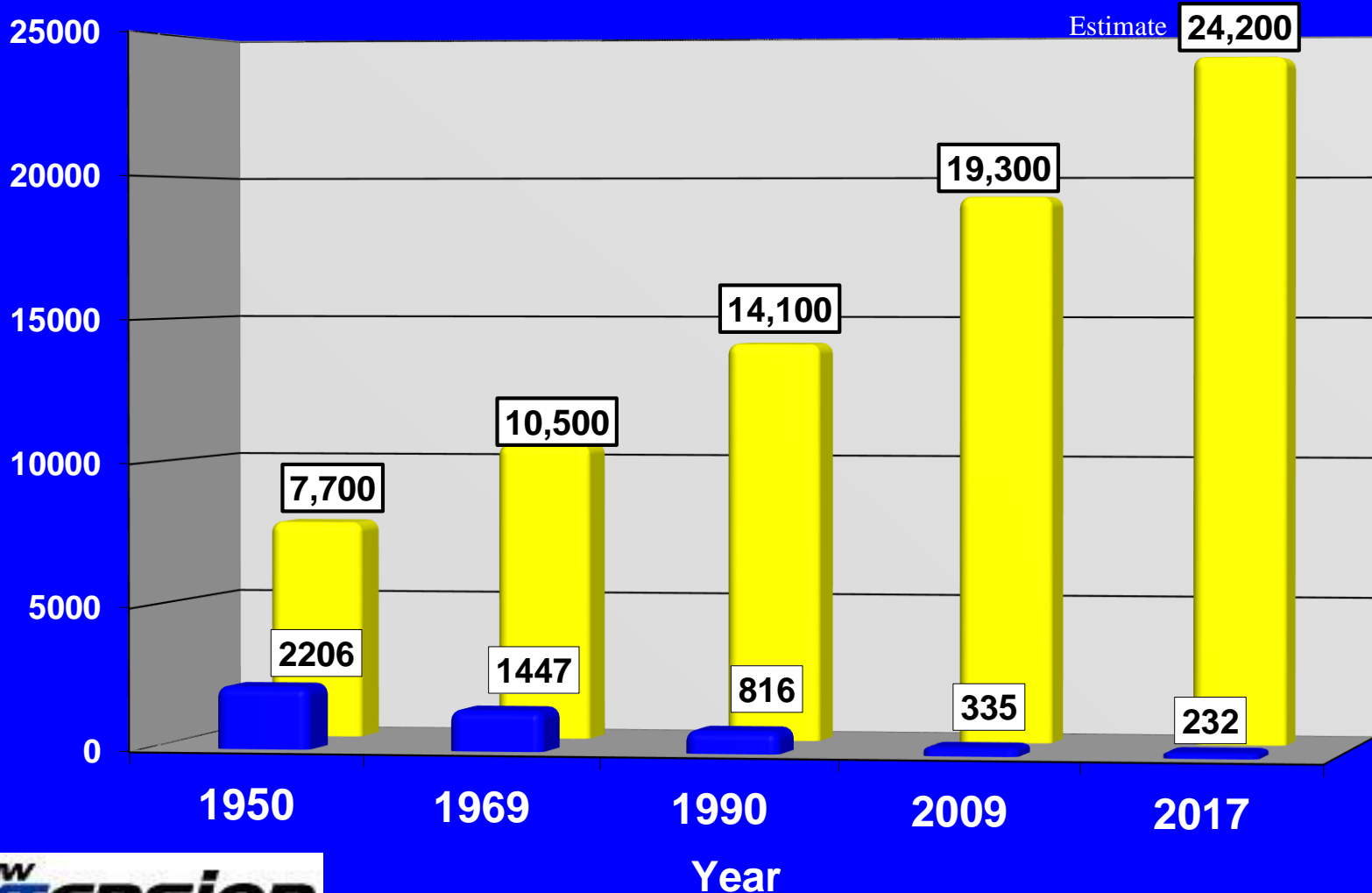
Dairy Herd Size Breakdown

Green County 2007 & 2012

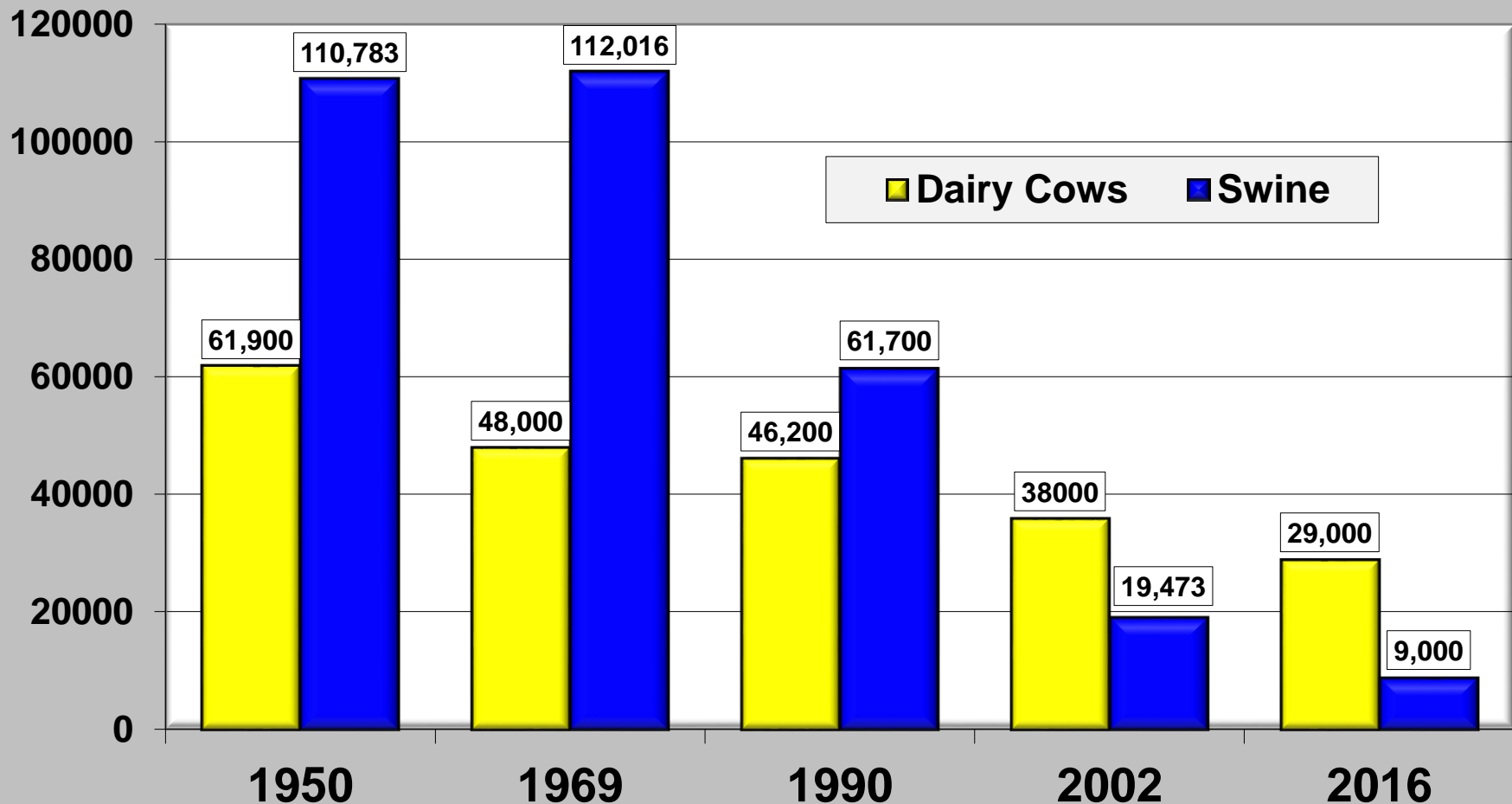
Herds



Green County Dairy Herds and Production Per Cow 1950-2017

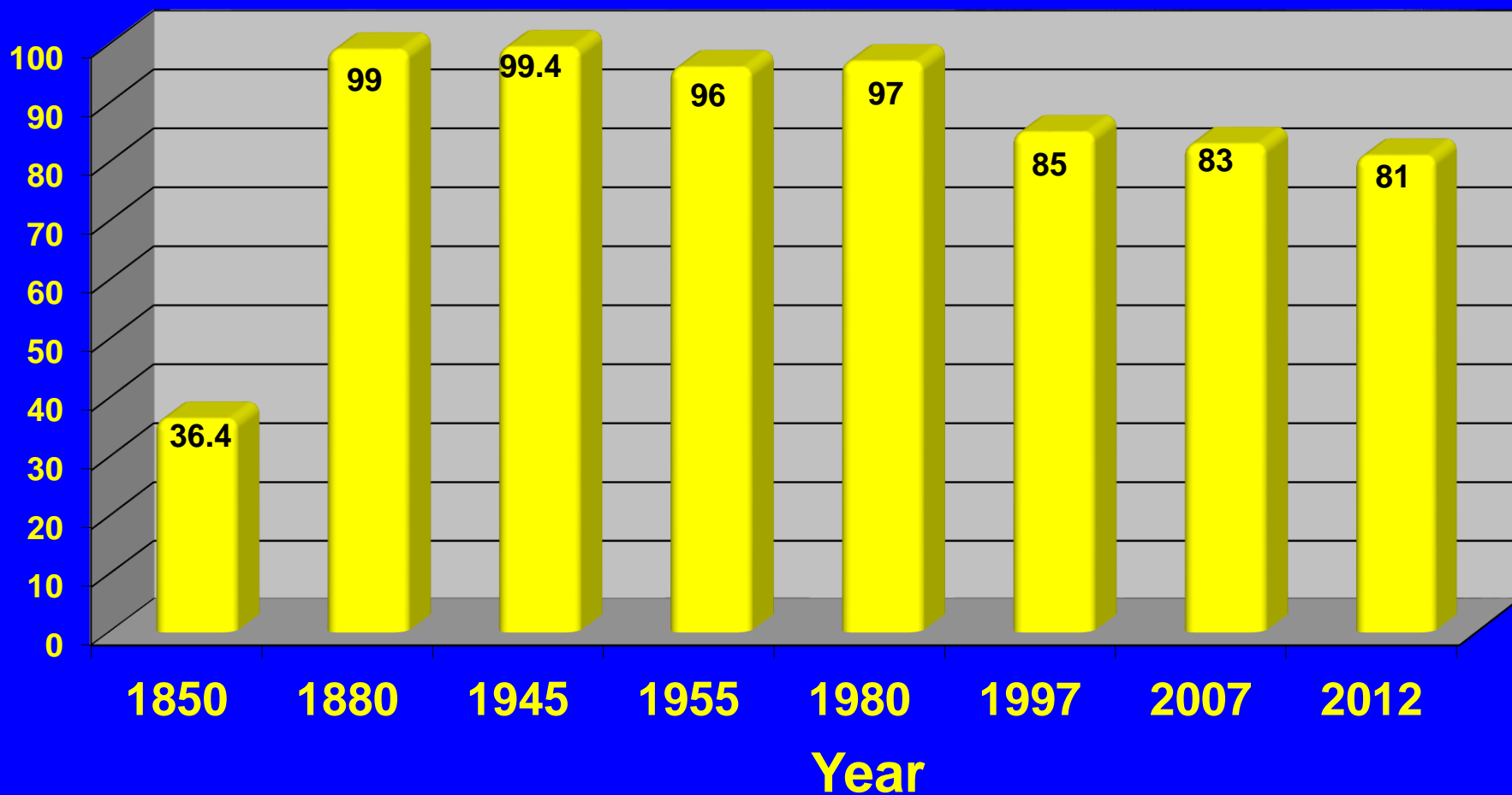


Green County Livestock 1950-2016

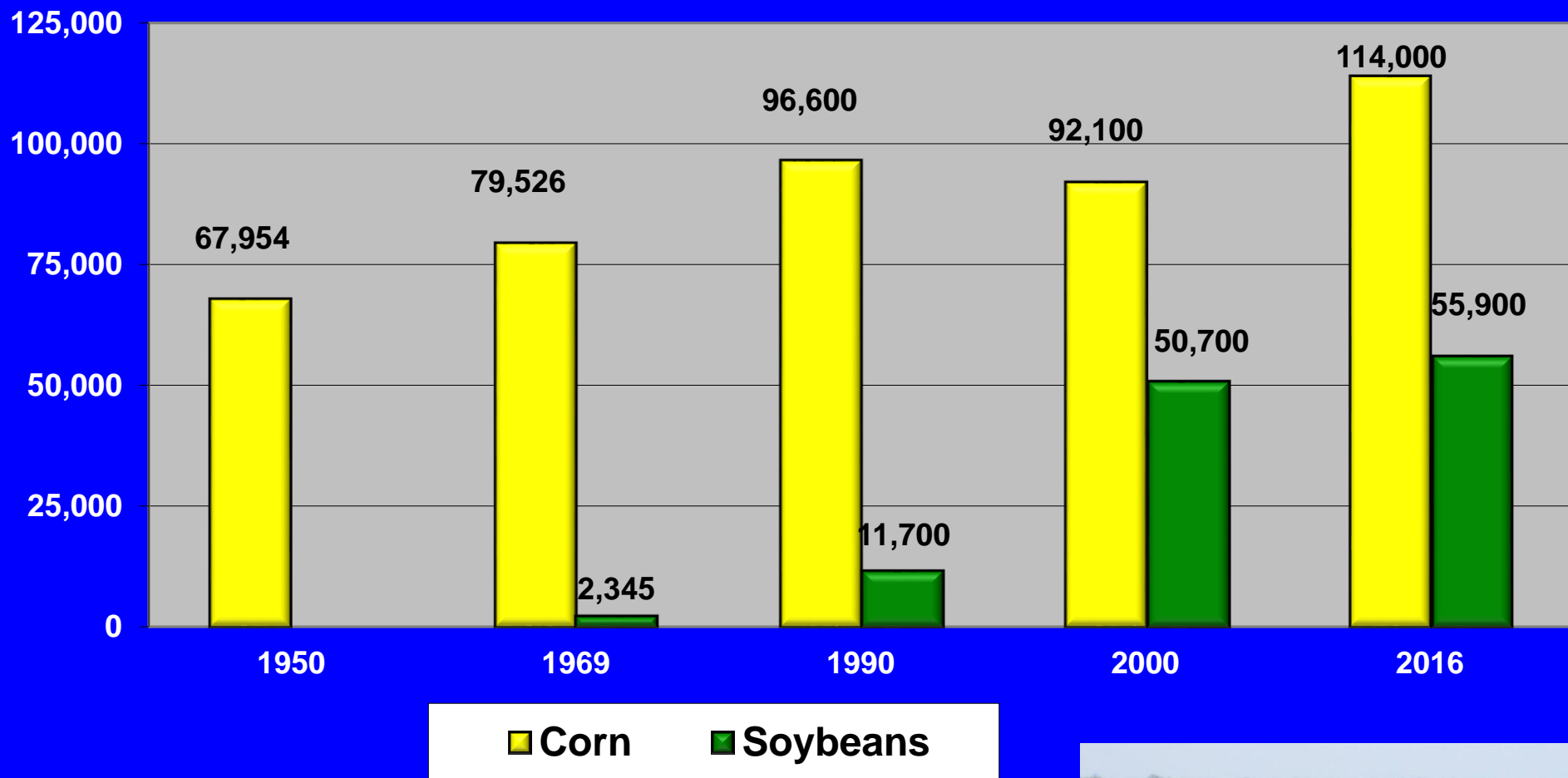


Percent of Land in Farms

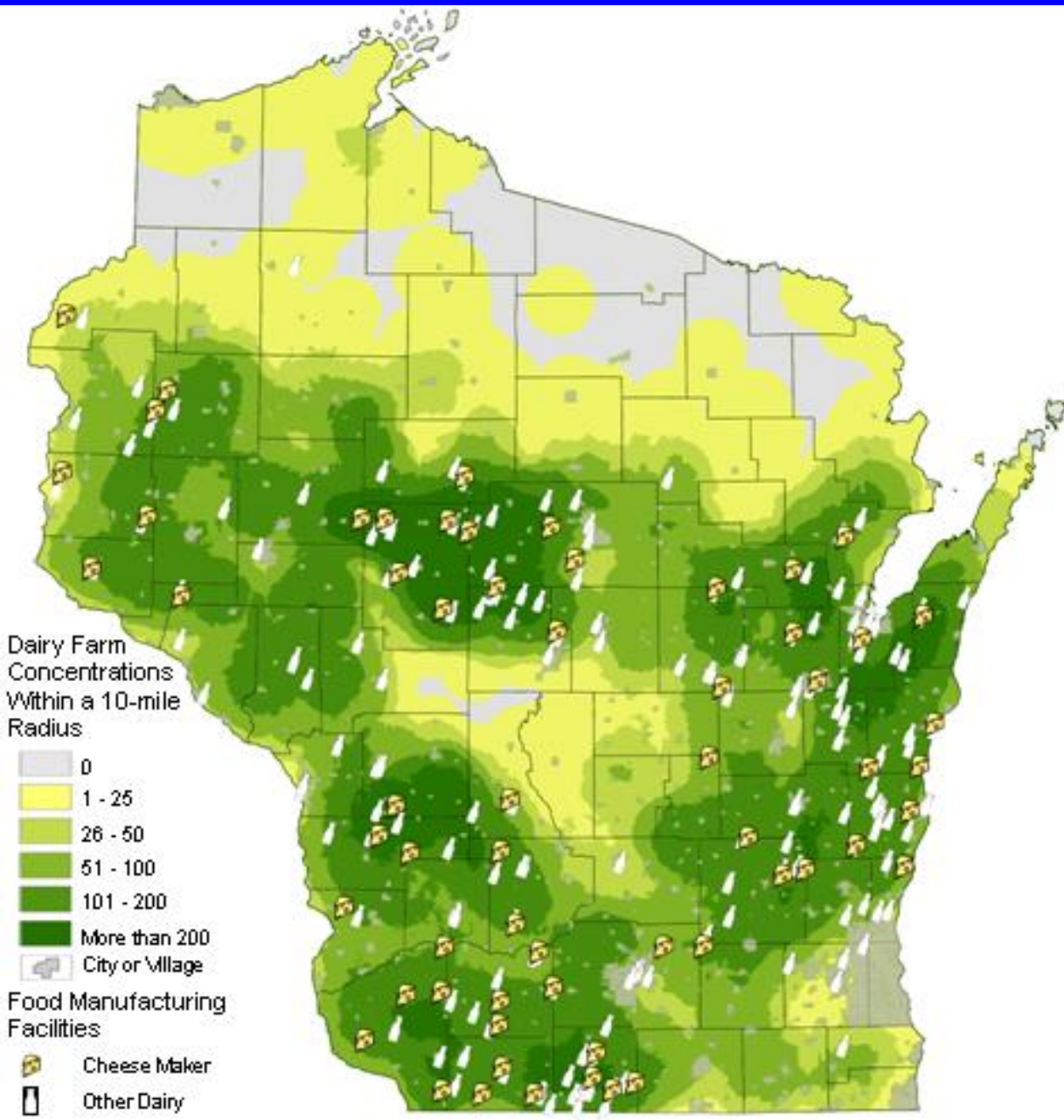
Green County 1850-2012



Green County Crop Acres 1950-2016



Wisconsin Dairy



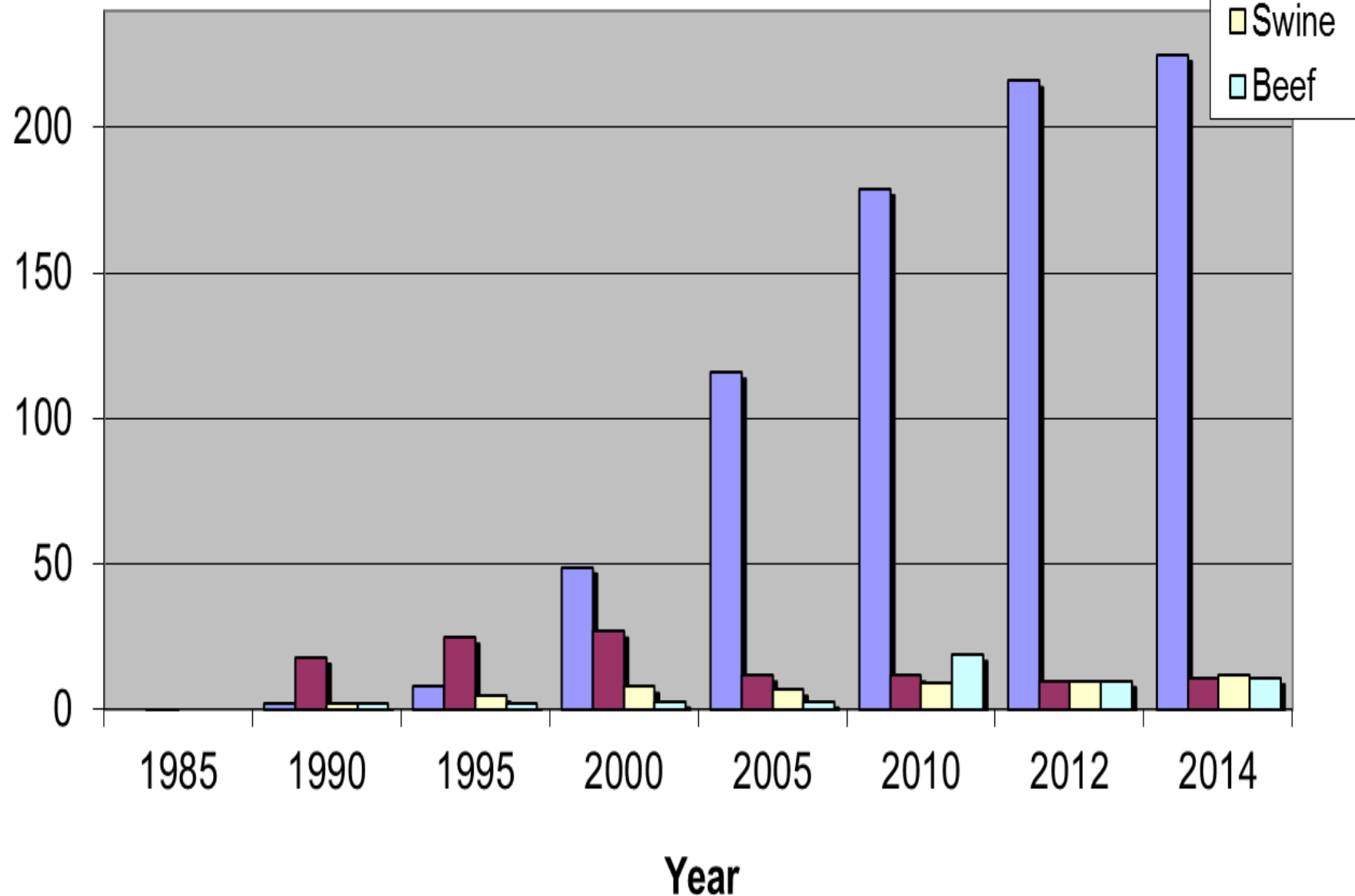
- Despite losing nearly 2/3 of all dairy farms over the last 25 years, dairy remains Wisconsin's largest Ag sector.
- Wisconsin ranks first nationally in the production of cheese and dry whey, and second in the production of milk and butter.

**296 Permitted CAFO'S
as of
October 2017**

This map of Wisconsin displays county boundaries and names. Red dots are distributed across most counties, with a high concentration in the southeastern region. Yellow dots are clustered in the western part of the state, specifically in Barron, Polk, and St. Croix counties. The map also shows Lake Superior to the north, Lake Michigan to the east, and the states of Minnesota, Iowa, and Illinois as neighbors. A scale bar at the bottom left indicates distances of 0, 10, 20, and 40 miles.

CAFOs with WPDES Permits

Number of permitted operations



Green County's Ag Ranking

	<u>State</u> (72)	<u>U.S.</u> (3077)
Total Value of Ag Products Sold	28	534 (17%)
Value of Livestock Sold	24	346 (11%)
Value of Milk Sold	16	75 (2.4%)
Value of Grain & Soybeans Sold	20	686 (22%)

Total Numbers/Acres

Cattle and Calves	21	615
Hogs and Pigs	20	878
Sheep and Goats	5	116
Corn	14	402
Alfalfa	10	155
Soybeans	11	634

Economic Impact of Agriculture in Green County

- Provides 32% of the jobs in Green County (6,949)
- Generates Income of \$484 Million (31.7% of the total)
- Accounts for \$2 Billion in Economic Activity (49.3%)
- Each \$1 of Ag Product Sales generates an additional \$.63 of economic activity in other parts of the County
- Ag Business Pays \$23.3 million in taxes in the county

*Source: S. Deller, Department of Ag & Applied Economics UW-Madison
2014 using 2012 Ag Census Data*



More Agriculture Impacts

- The average Green County dairy farm has 115 cows spends over \$300,000/year in the local economy
- Each dollar of milk sales generates another \$6 dollars of economic activity in the local economy
- County dairy milk sales were over \$115.3 million in 2016
- One local business is lost for every 10 farms that discontinue
- 85% of Wisconsin's Ag Products are shipped out of state



Why Keep Our Agriculture Base?

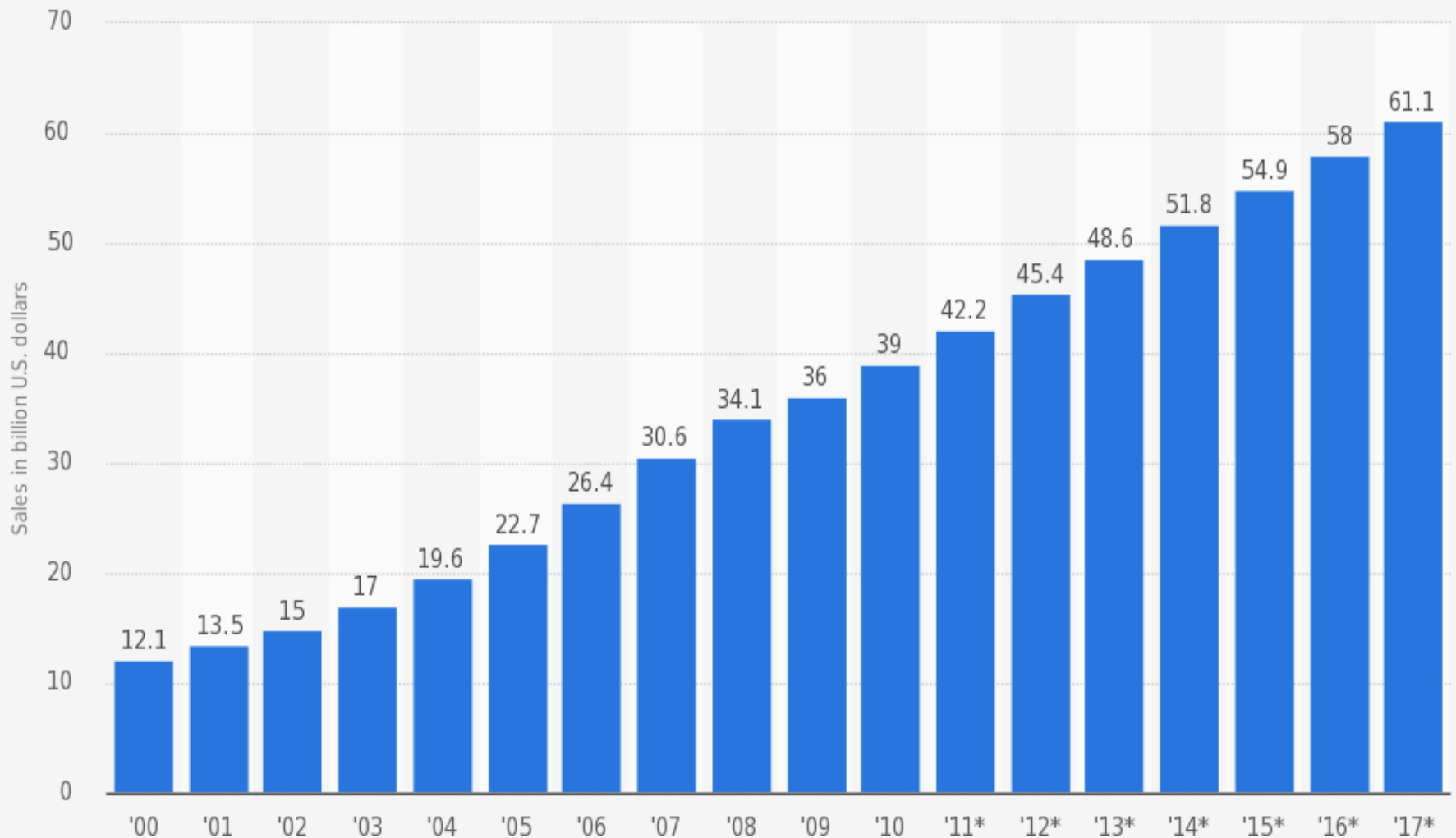
- ✓ Provides 32% of the jobs in Green County & 12% in Wisconsin
- ✓ Agriculture products are one of only a few U.S. export commodities that have a positive trade balance.
- ✓ Farms provide much desired “Green Space”
- ✓ Without agriculture our local tourism sector would suffer
- ✓ 2 Billion more people to feed by 2050
 - ✓ Net Gain of One Person every 12 seconds



Green County's Industrial Park



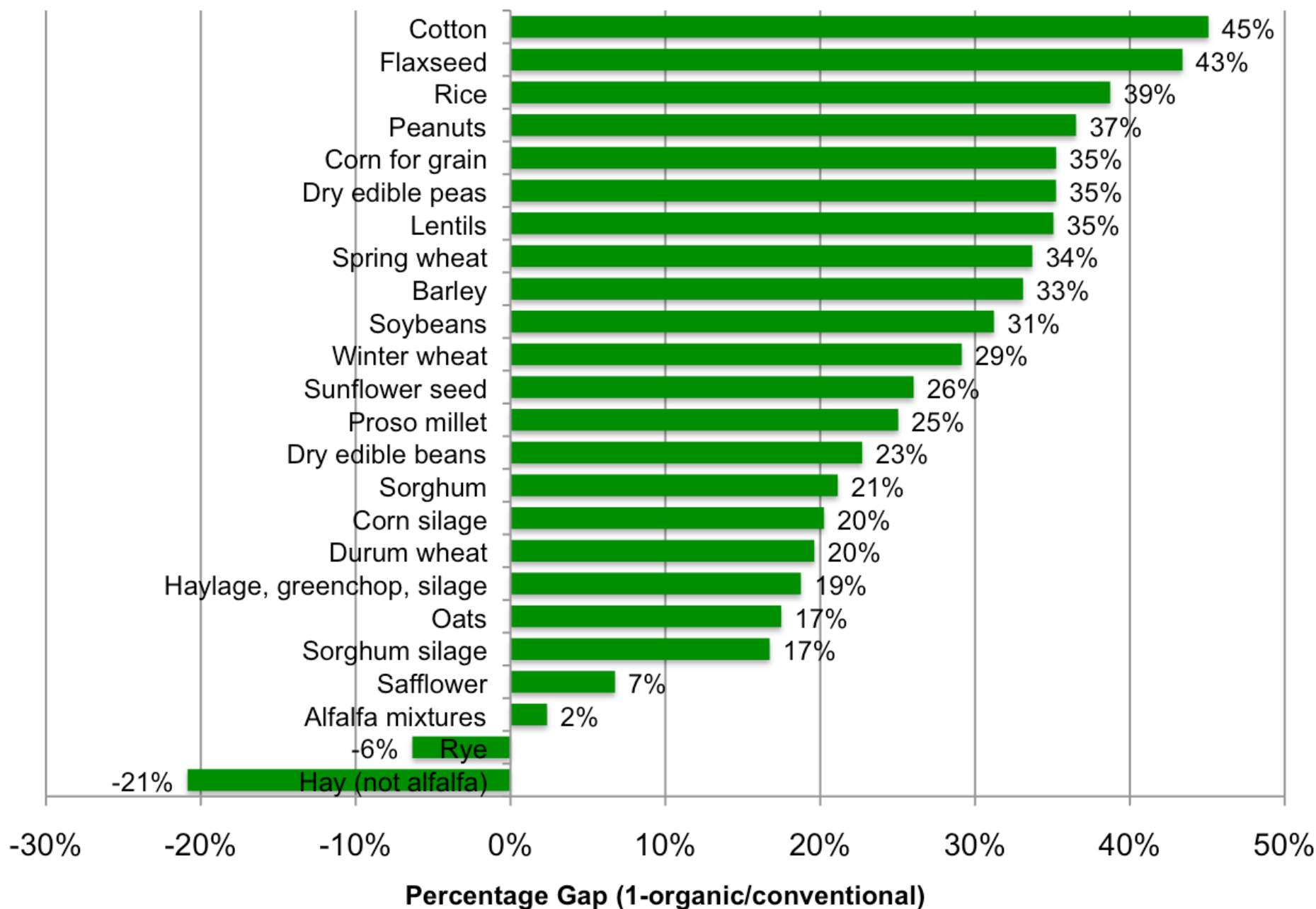
Retail sales of natural and organic food in the U.S. from 2000 to 2017 (in billion U.S. dollars)



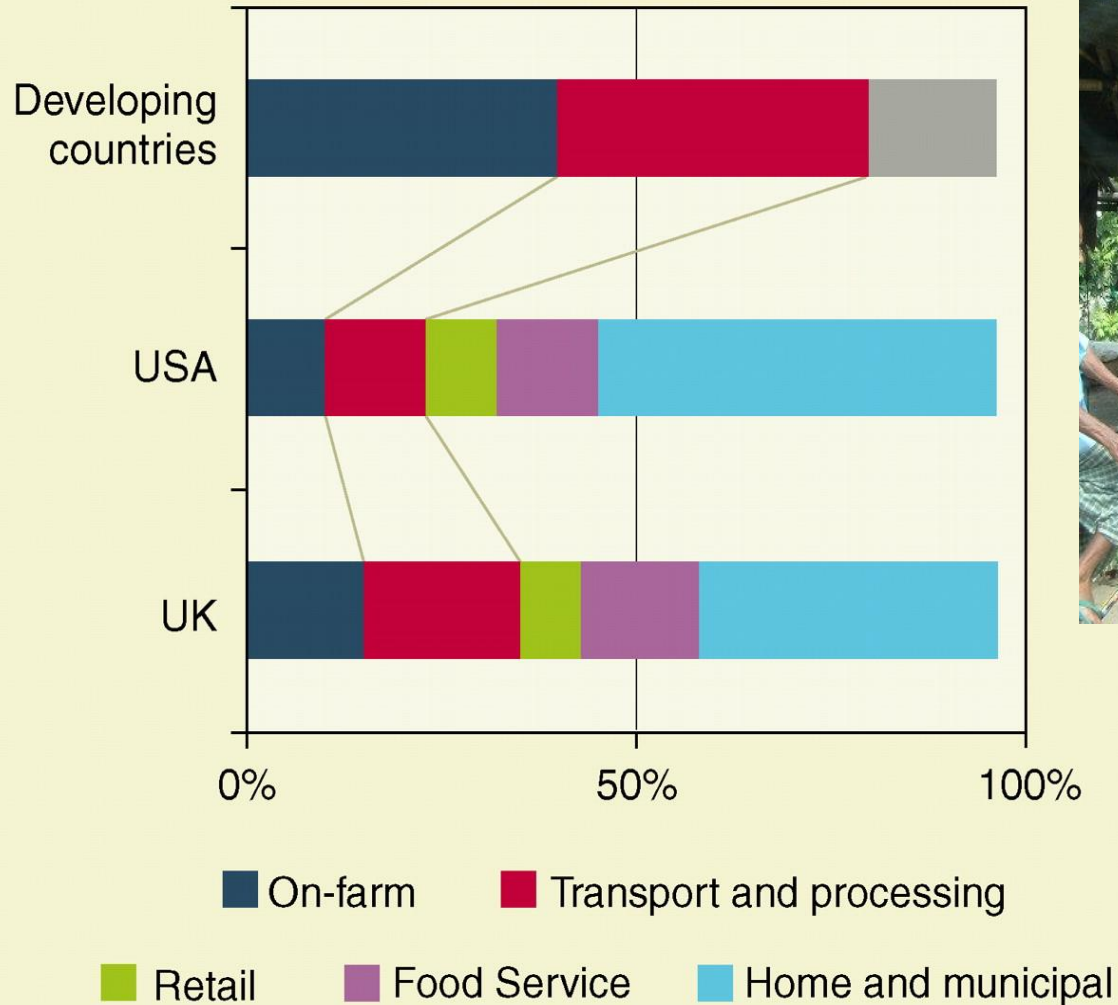
Source:
Baird
© Statista 2015

Additional Information:
United States; 2000 to 2017*

Organic Yield Gaps For US Row Crops 2014



Total Food Waste in Developed and Developing Countries



**H. C. J. Godfray et al., Science
327, 812-818 (2010)**

Published by AAAS

Future of WI Agriculture

Positives

Infrastructure

Climate

Topography

Water Supply

Educational System

Land Quality

Challenges

Profitability

Labor Availability & Cost

Capital Startup Costs

Urban Development

Regulations

Loss of Markets

Opportunities

Direct Marketing of Ag Products

Bio-Fuels/Alternative Fuels

M.I.G. & Grass Fed Products

Organic Foods

