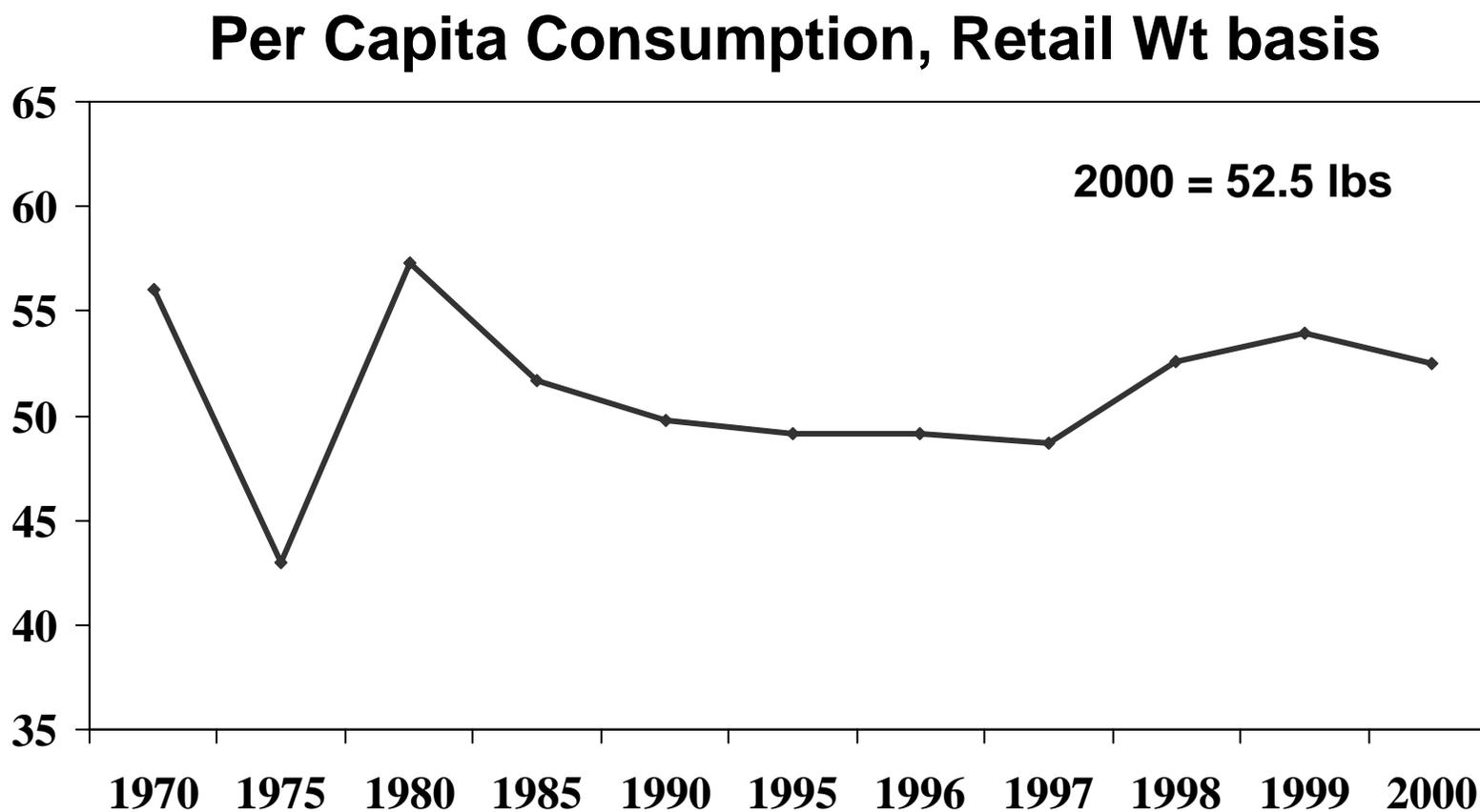


Pigs, Hogs, and Pork

US Swine Production is a 72 billion dollar industry

- Pork is the worlds most widely eaten meat
- US per capita consumption – 52 lbs retail wt
- Inventory of over 6 million sows
- Commercial slaughter 104 million head
- US is worlds third largest producer
- 1 of every 12 hogs is exported

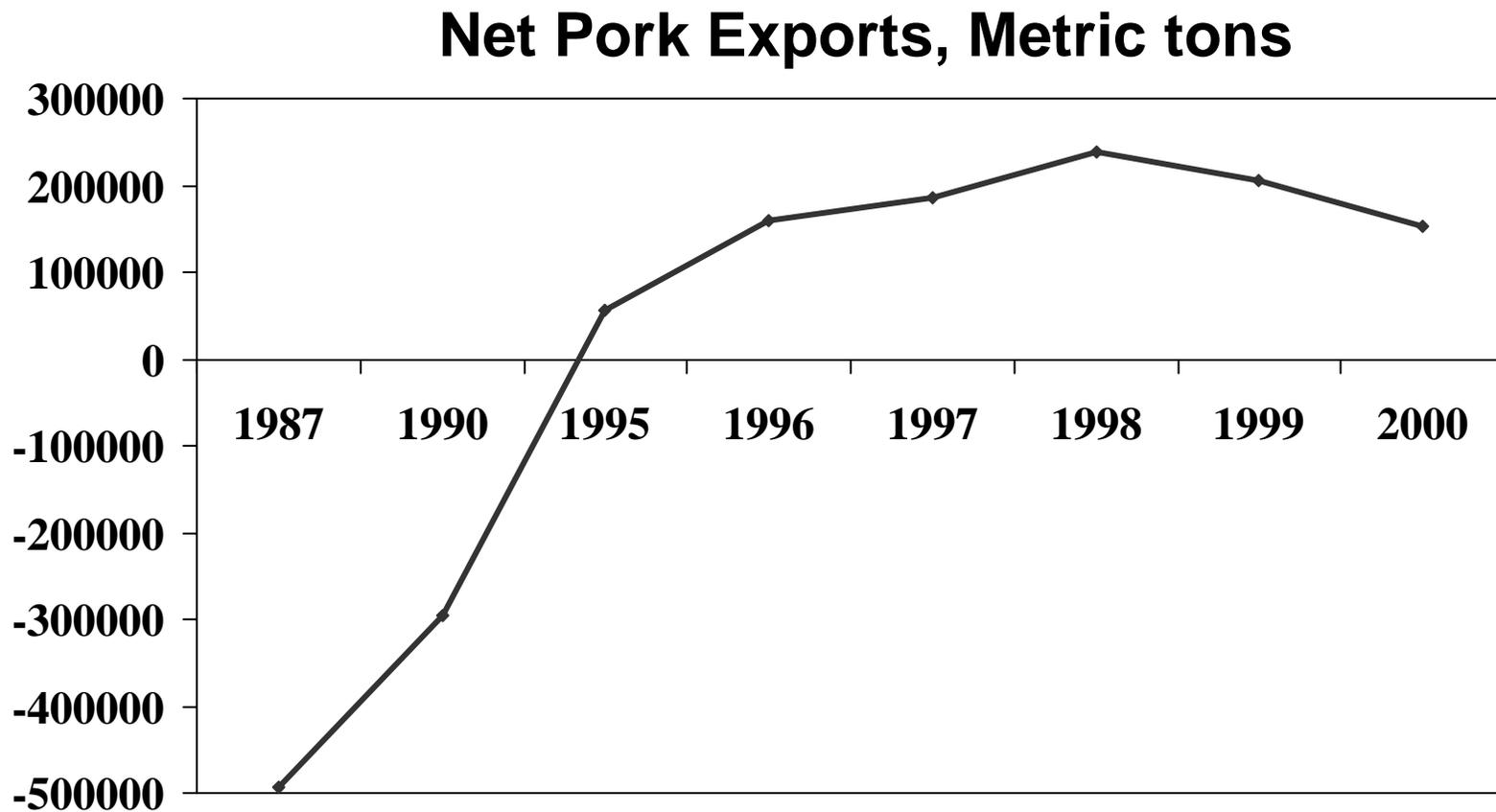
- Demand/Consumption



PorkFacts 2001/2002; USDA

Trends in the Industry

- Exports

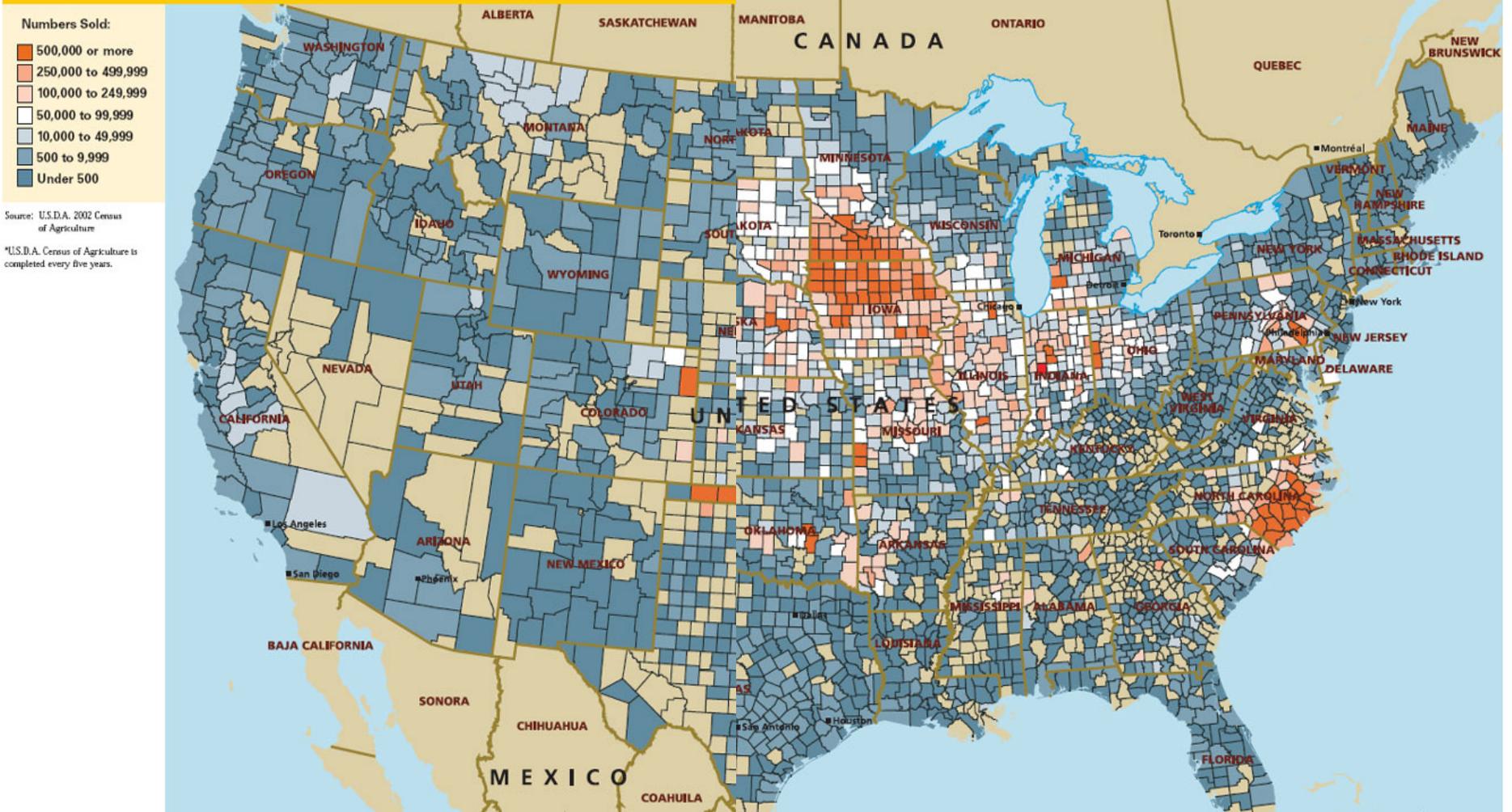


PorkFacts 2001/2002; USDA

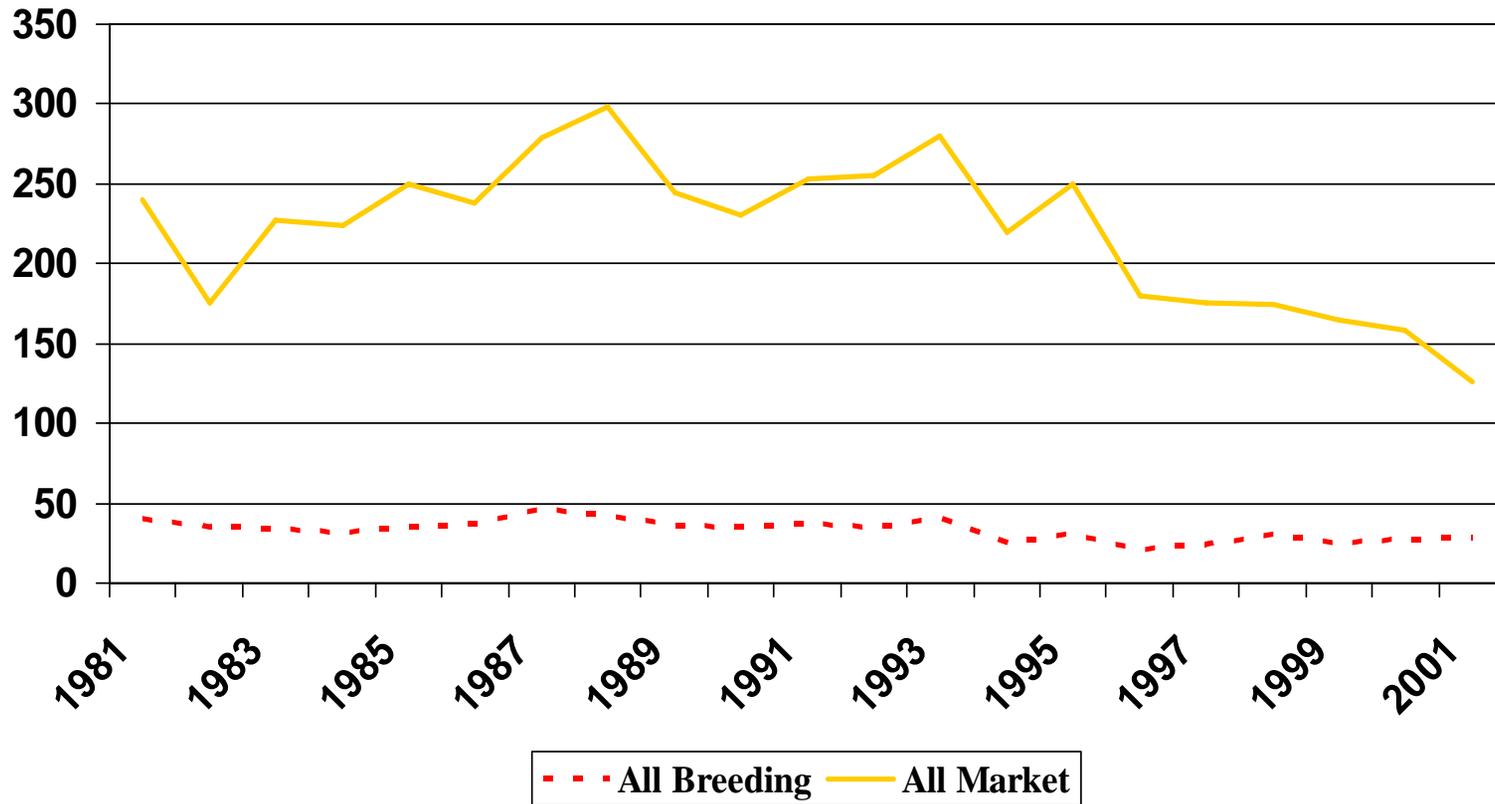
Where are the Pigs??

Rank	State	Breeding	Market	Total
		-----1000 hd	-----	-----
1	IA	1130	14270	15400
2	NC	1000	8800	9800
3	MN	580	5320	5900
4	IL	450	3800	4250
5	IN	330	2820	3150
6	MO	380	2670	3050
7	NE	395	2505	2900
8	OK	320	2100	2420
9	KS	165	1375	1540
10	OH	170	1330	1500
	US	6209	53627	59837

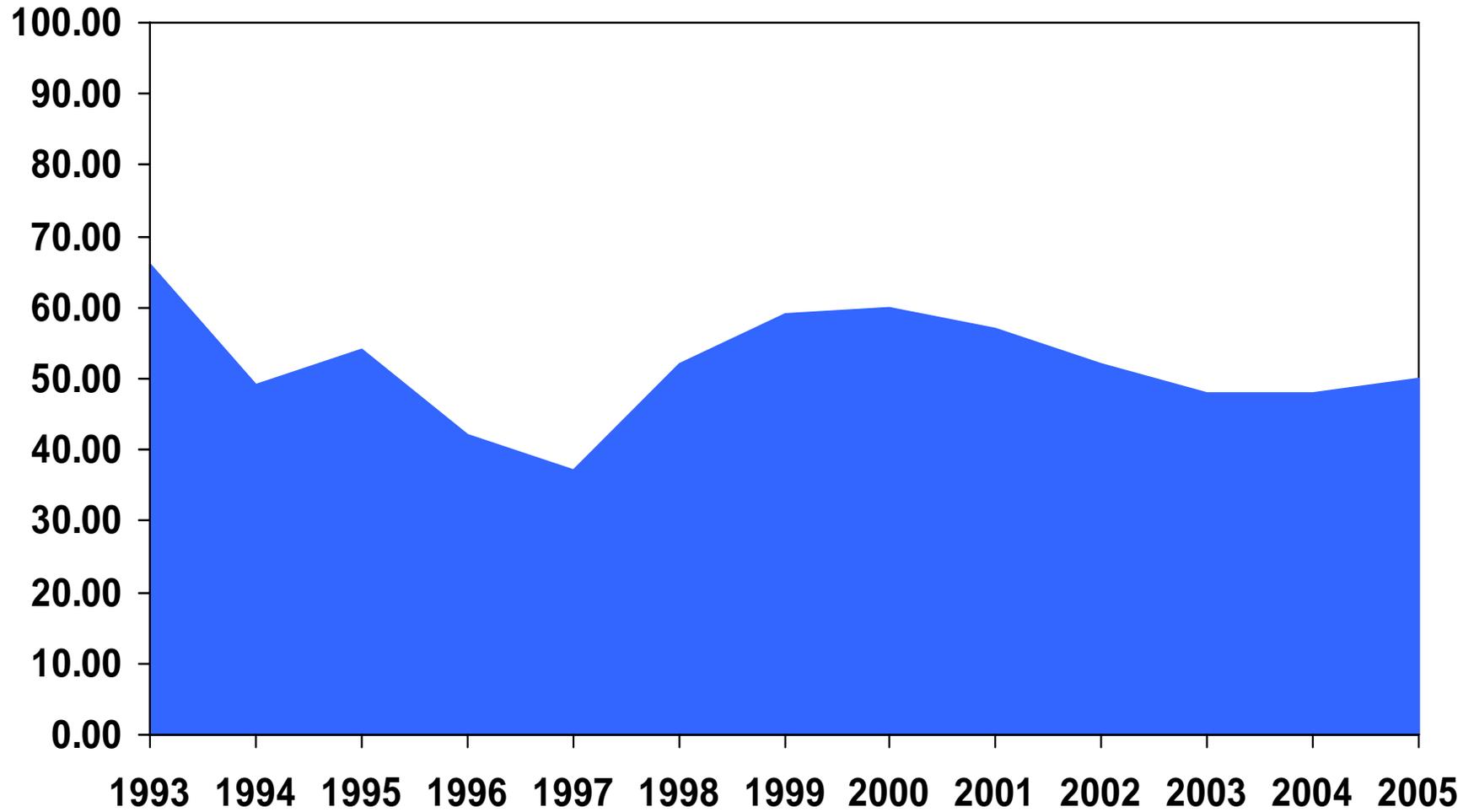
U.S. Pig Production Density, 2002*



ND Hog Inventory



North Dakota Farrowings 1000 head,

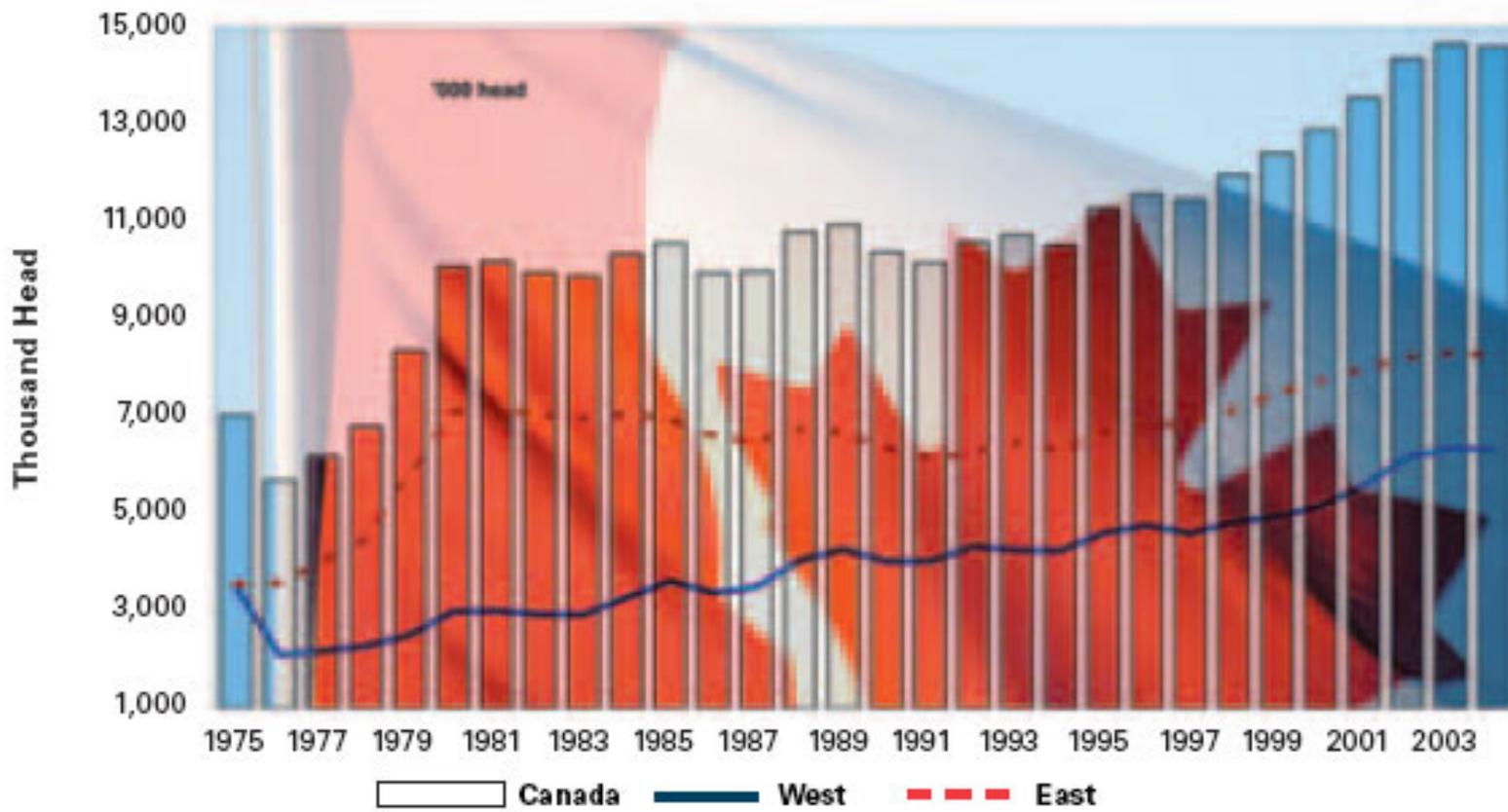


USDA/NASS, June, 2006

Canadian Prairie Hog Growth

Canadian Hog Inventory

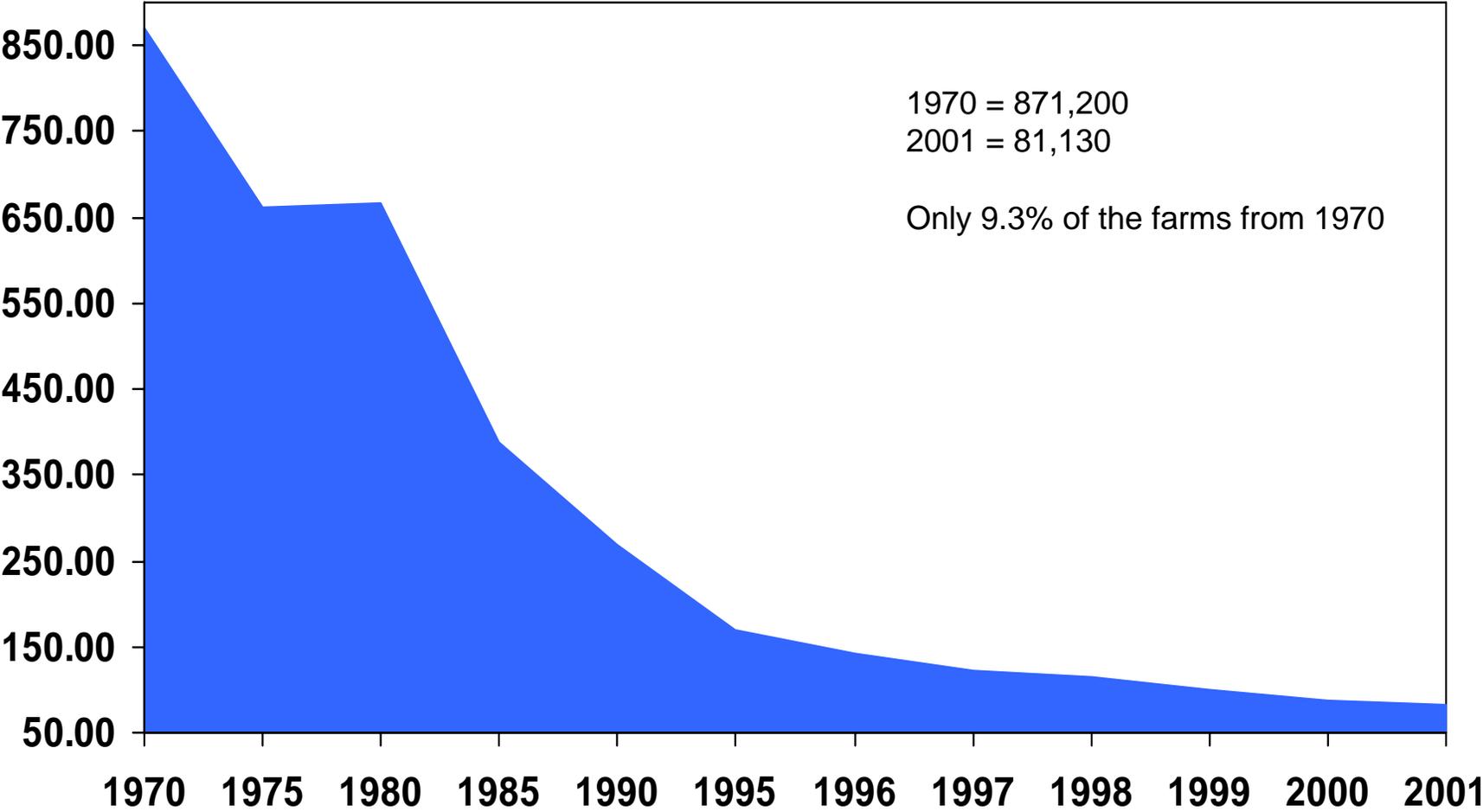
January 1 of each year



Increasing Concentration, Integration, and Specialization

- Loss of 597,000 hog operations since 1980
- Only 10% of hogs spot marketed
- Top 20 “pork powerhouses” have 2.6 million sows and account for over 40% of marketings
- Over 70% of processing capacity by 5 packers
- Multi-site specialized confinement production systems integrating farrow-to-wean with wean-to-finish and market contracting

Total Hog Farms, 1000 farms United States



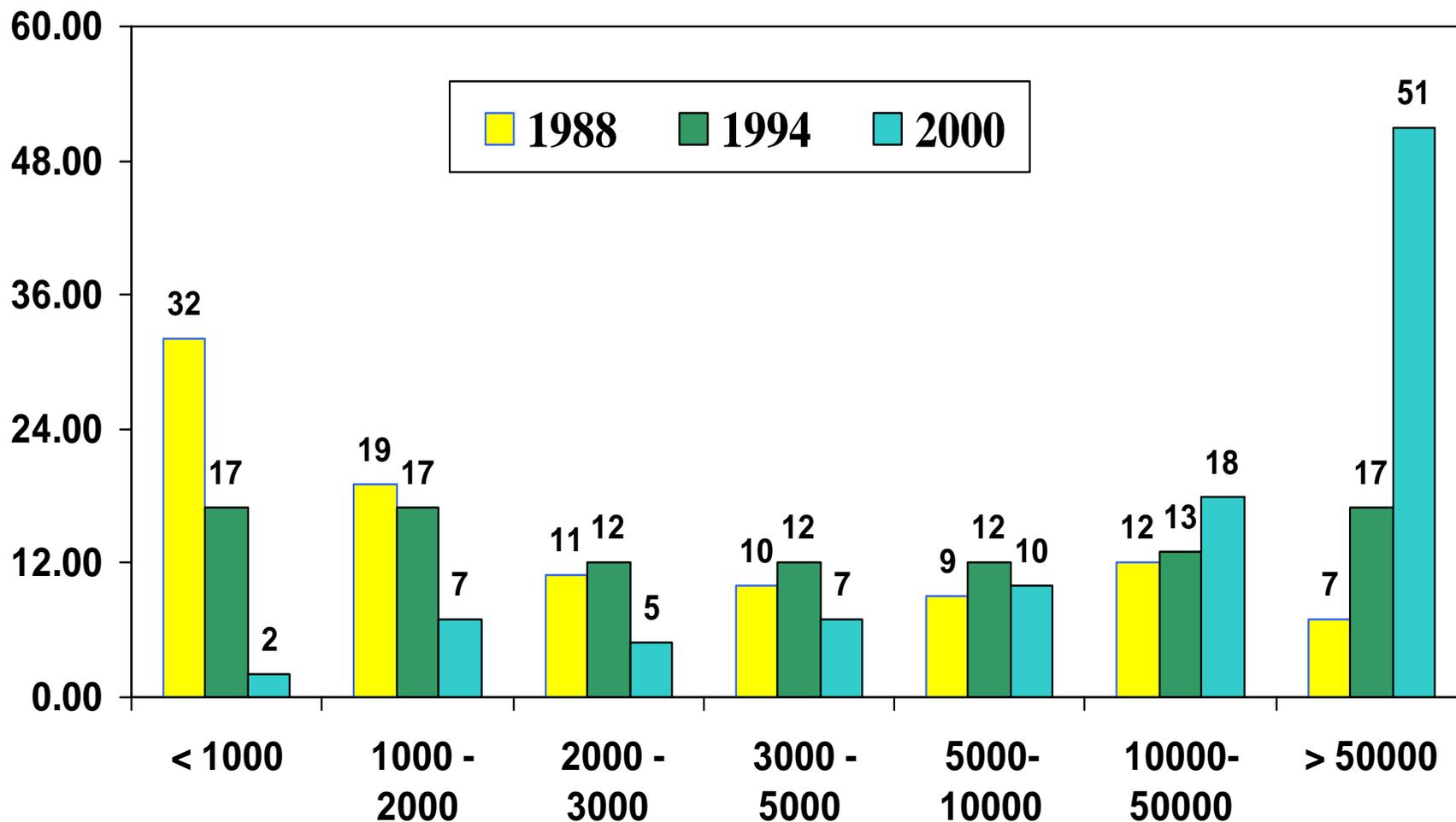
USDA/NASS, June 2002

Number, Percent and Market Share of U.S. Operations by Producer Size, 2003

Number Marketed	Number of Operations	Percent of Operations	Market Share
Under 1,000	59,950	85.48%	1%
1,000 - 2,999	6,630	9.45%	8%
3,000 - 4,999	950	1.35%	4%
5,000 - 9,999	1,526	2.18%	9%
10,000 - 49,999	915	1.30%	19%
50,000-499,999	134	0.19%	19%
500,000+	25	0.04%	40%

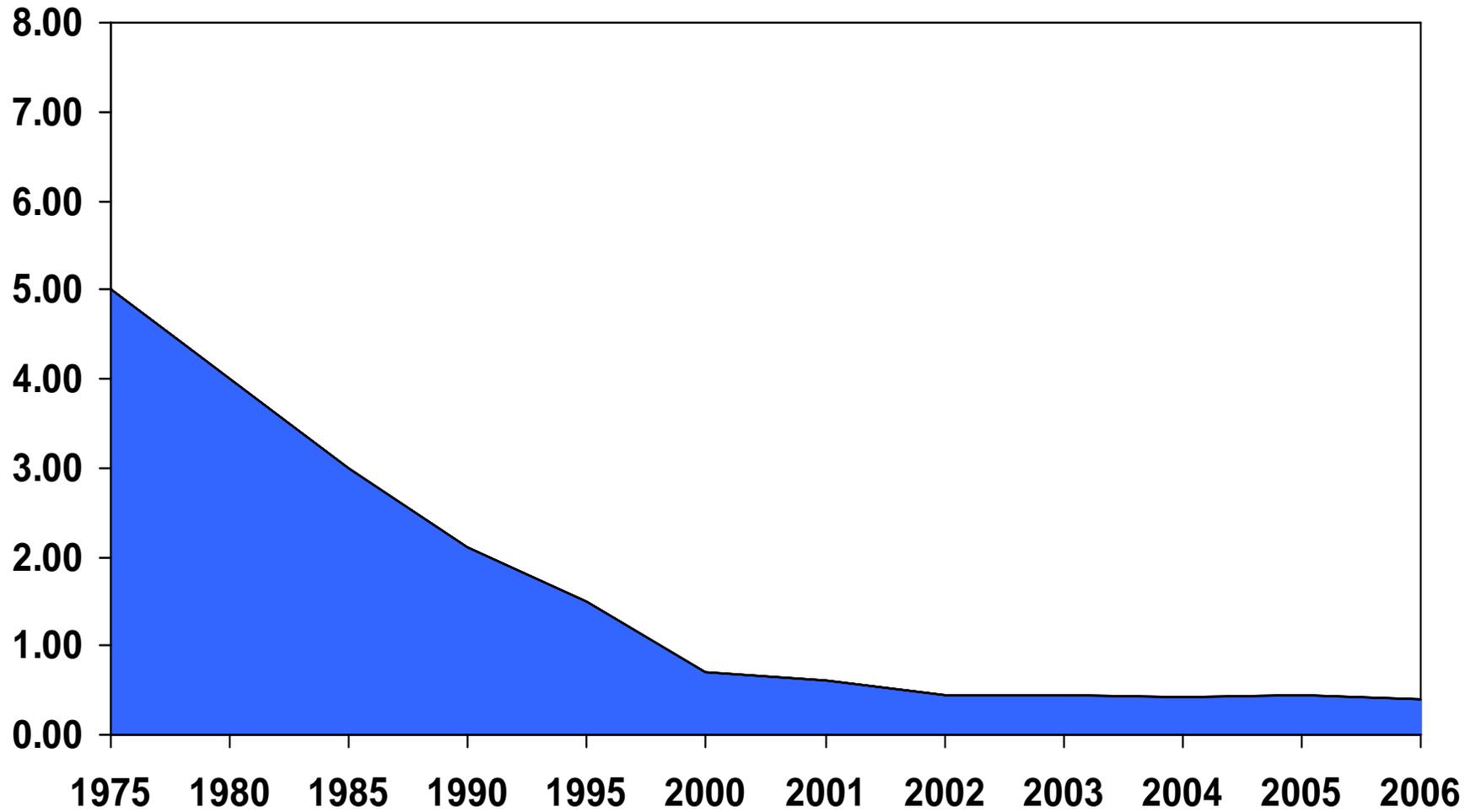
Source: 2004 Pork Industry Study (National Pork Board, PIC, Land O' Lakes, Monsanto Choice Genetics, Univ. of Mo., Iowa State Univ., Pork '98)

Share of Annual Hog Marketings by Size Category, 2000 United States



University of Missouri, 2001

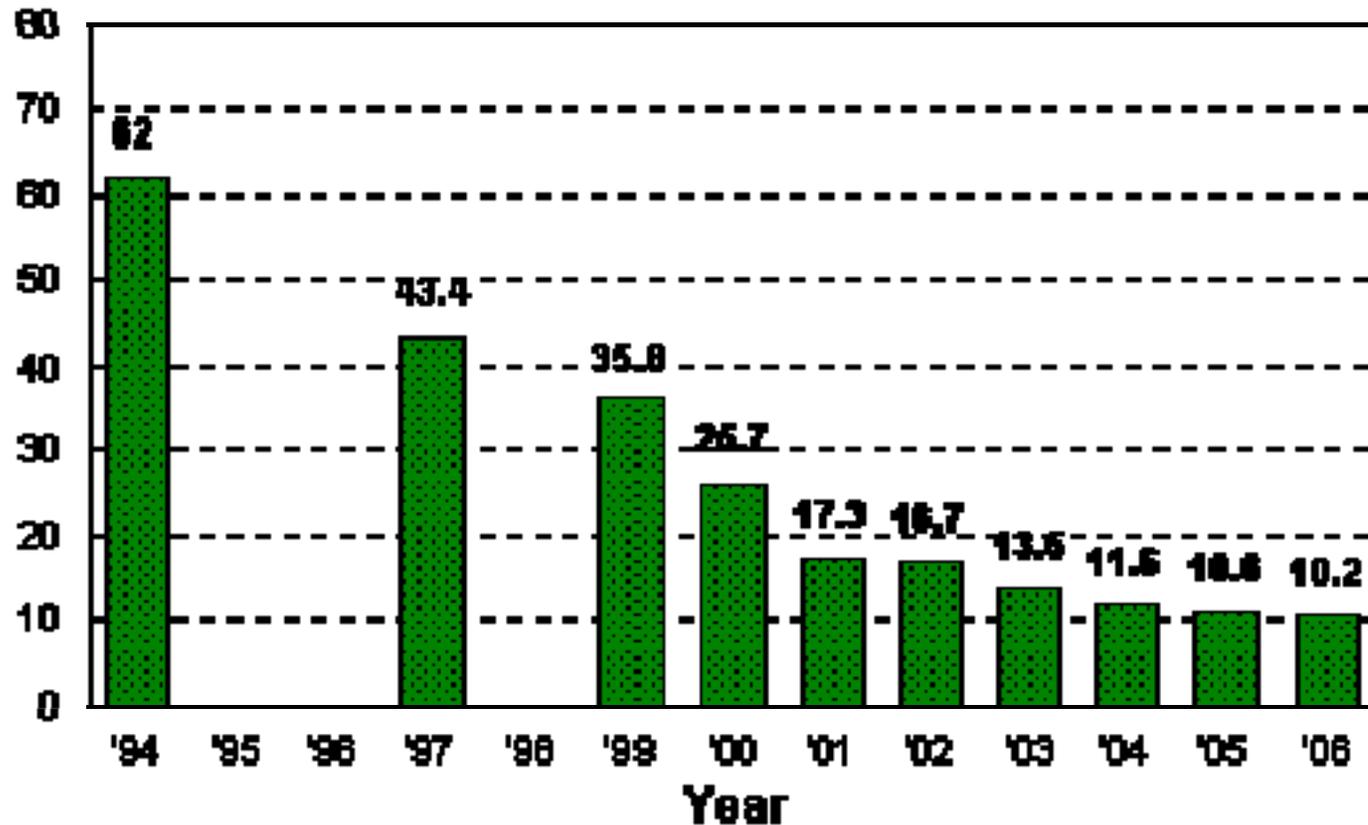
Total Hog Farms in North Dakota, 1000 farms



USDA/NASS, 2006

Hogs sold on spot market

Percent



Source:

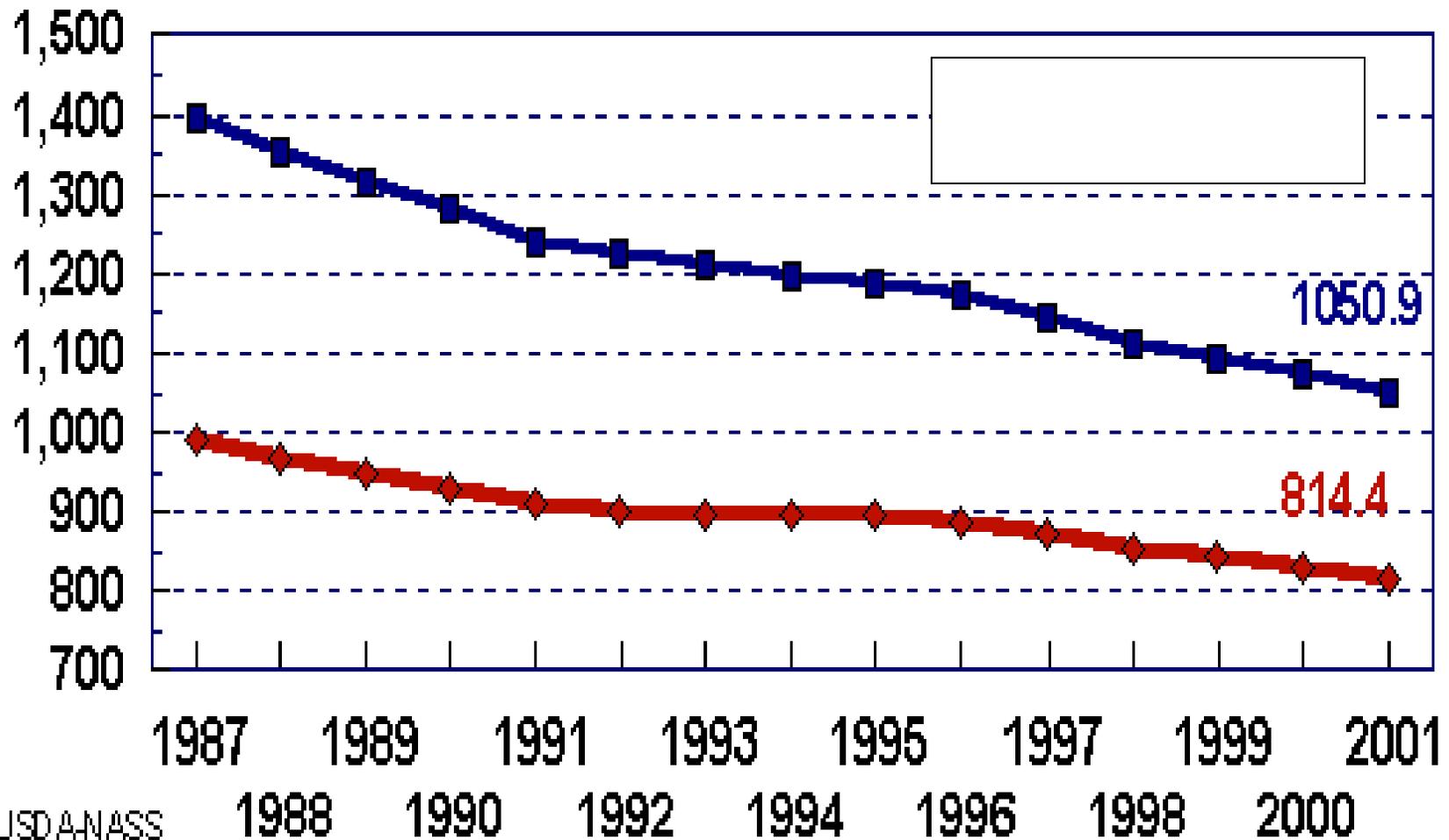
1994 and 1997 studies by University of Missouri, Pork magazine, PIC, DeKalb Choice Genetics, National Pork Producers Council, Land O'Lakes.

1999-2006 studies by University of Missouri, NPPC, National Pork Board.

2002-06 USDA/AMS data.

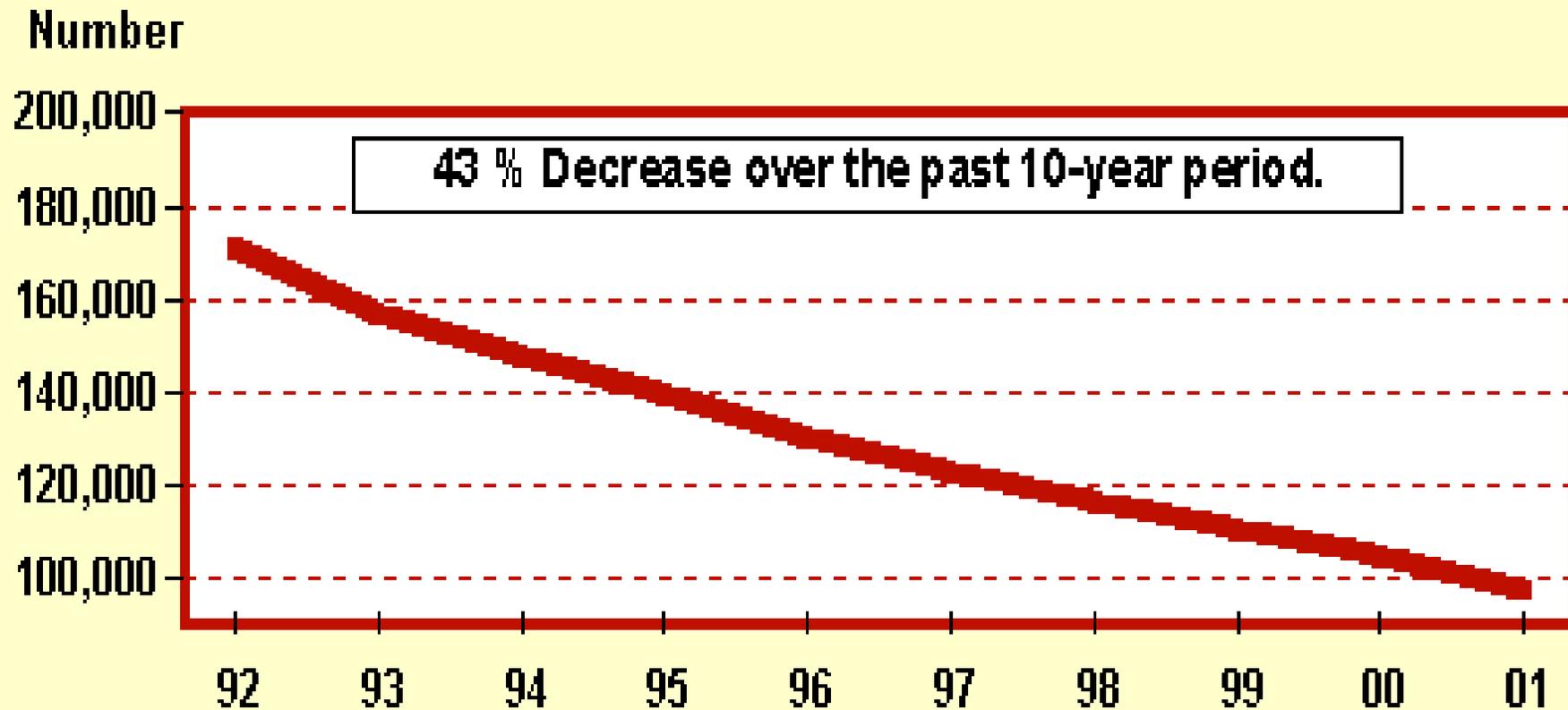
Number of All Cattle and Beef Cow Operations

Thousand Operations



USDANASS
2-01-2002

Milk Cow Operations United States

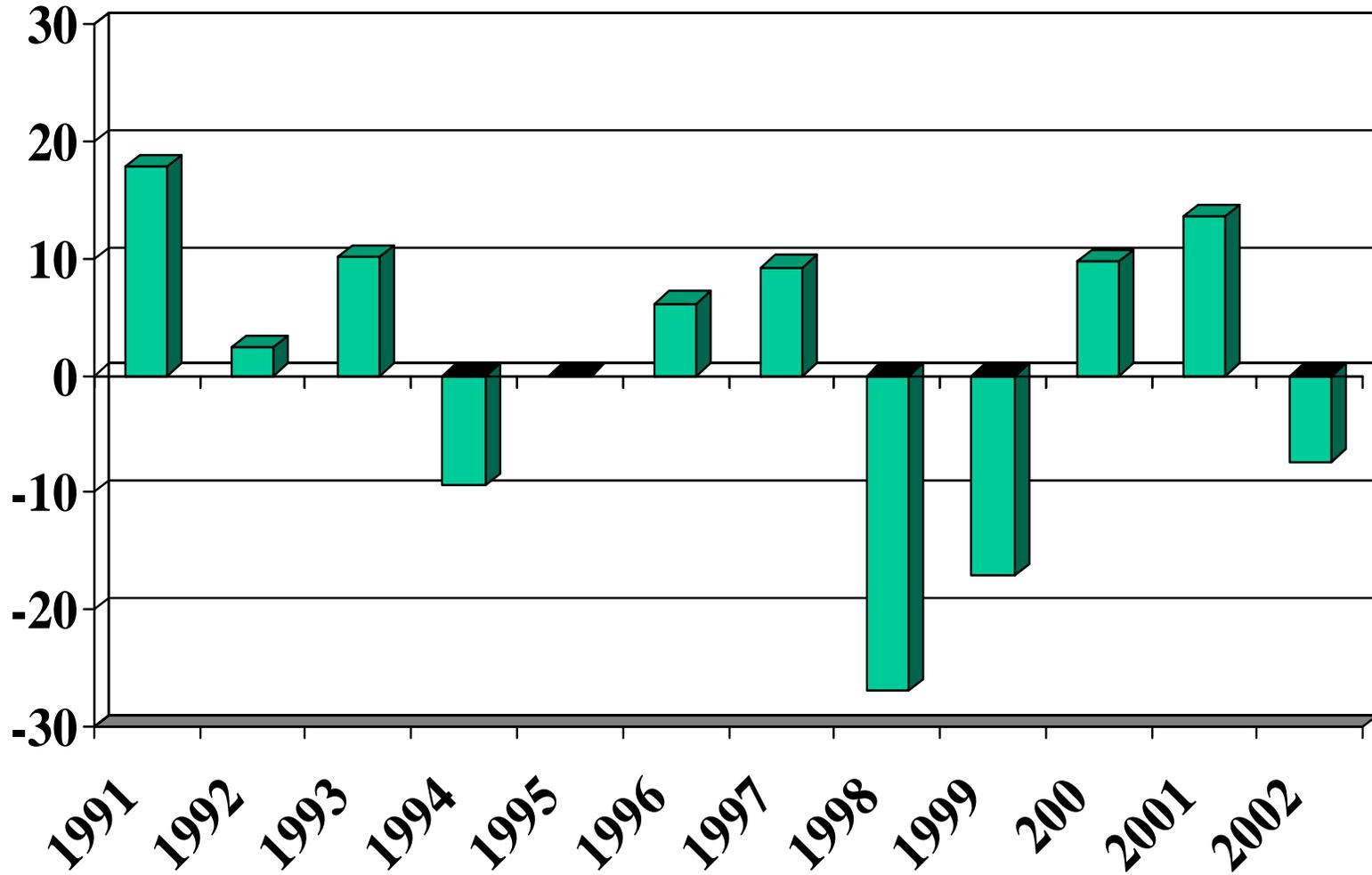


USDA-NASS
2-15-2002

Hog Prices and Production Costs

- Price trends reflect economic forces of supply and demand
- Feed represents 65-70% of the cost of producing pigs (hog to corn ratio)
- Tendency for a 3-4 year “hog cycle”
- Tendency for seasonal fall lows
- Over 70% of hogs sold on carcass merit basis
- Low grain prices and new technologies have contributed to reduced costs
- Rising grain price, and inflation cause for concern

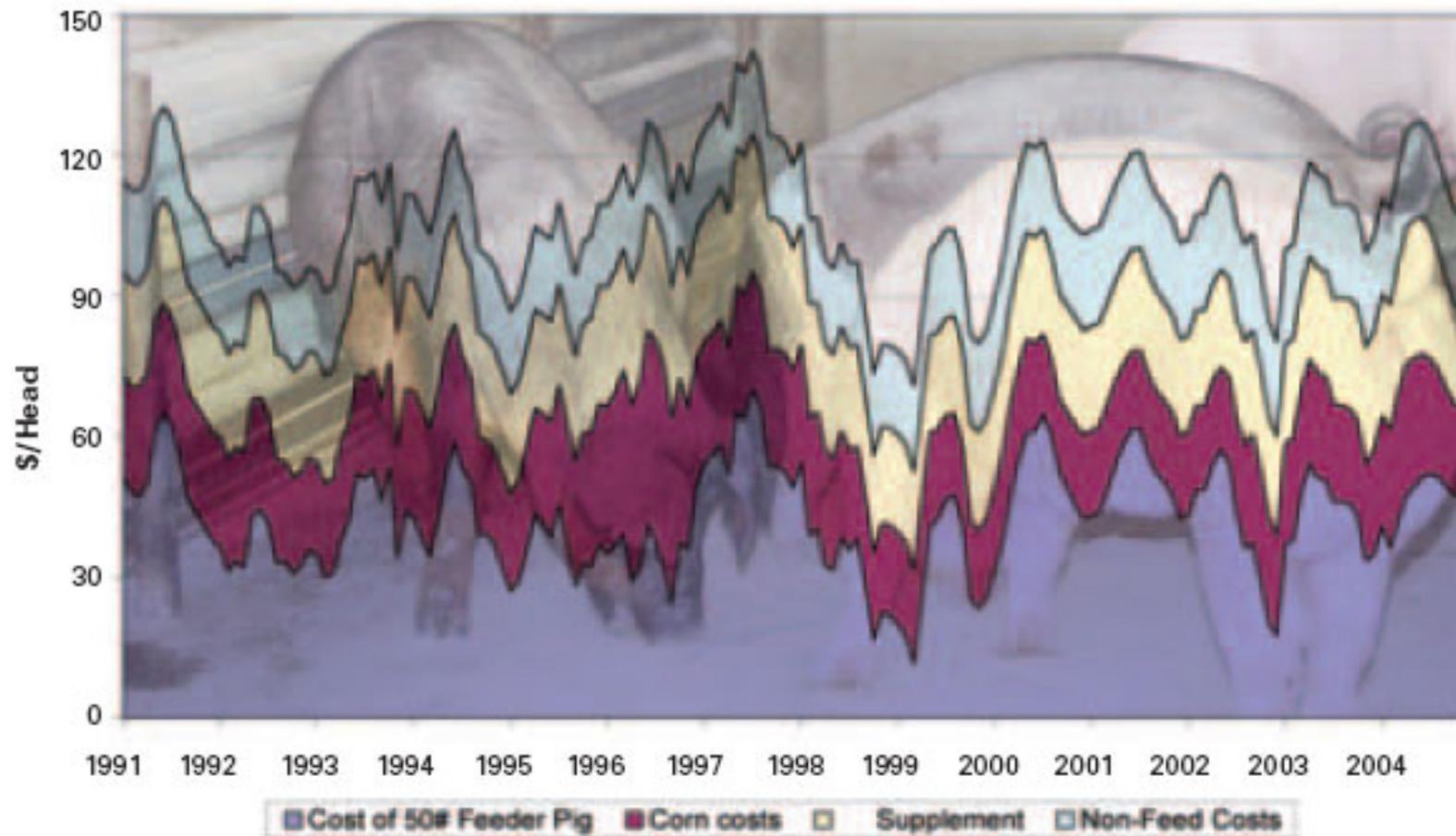
Returns per Head, IA Farrow to Finish



John Lawrence, Iowa State University

Cost to Produce a Market Hog

Monthly January 1991 through December 2004



Source: Iowa State University, Department of Economics, Estimated Livestock Costs and Returns

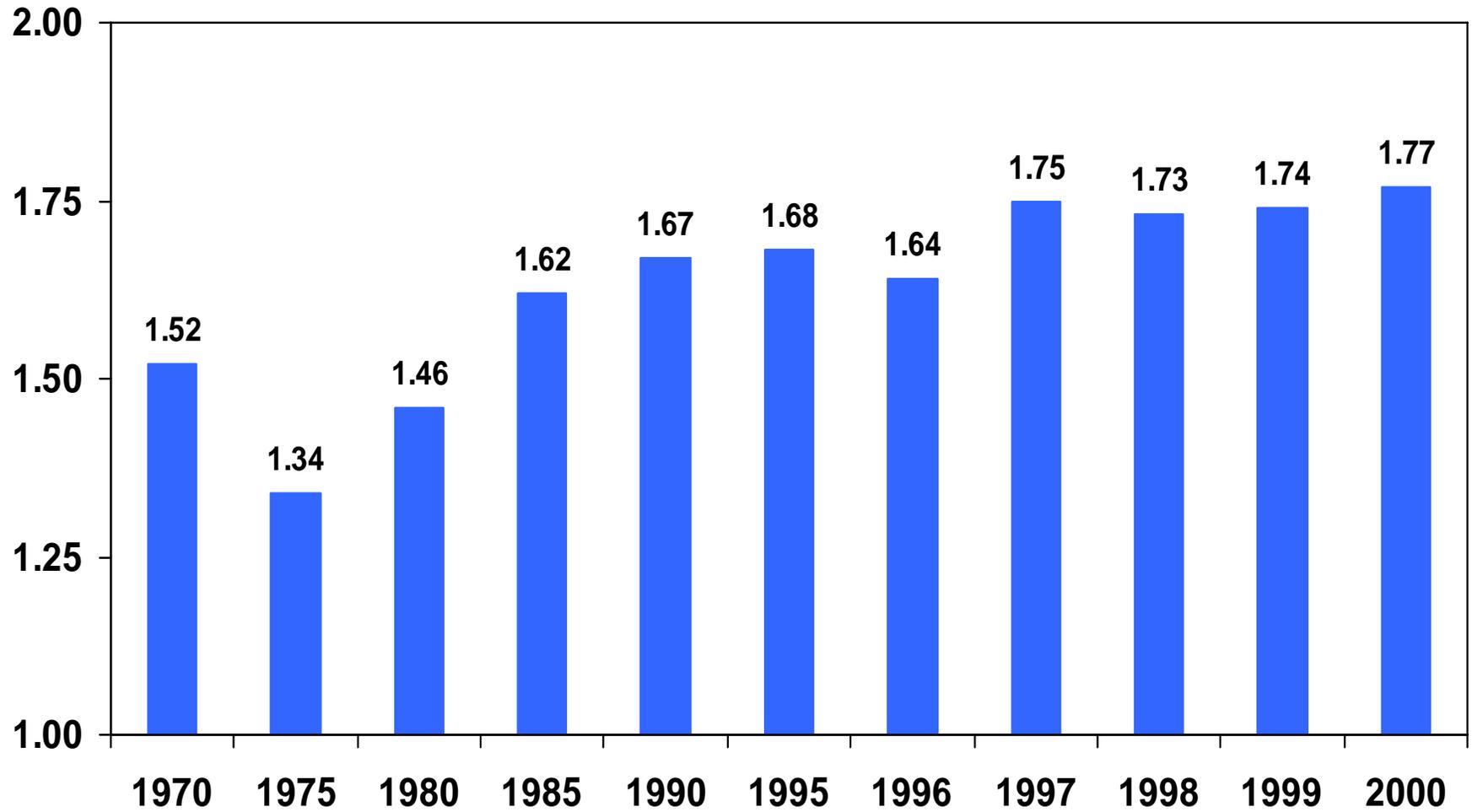
Confinement Farrow to Wean Budget



- 1200 sow unit
- 21 pigs/sold/sow
 - Farrowing building
 - 2500/sow 550,000
 - Farrowing equip
 - 1250/sow 275,000
 - Gestation building
 - 563/sow 630,000
 - Gestation equip
 - 250/sow 280,000
 - Site/office 90,000
 - Breeding stock 288,000
- 2.1 million
- 1760/sow

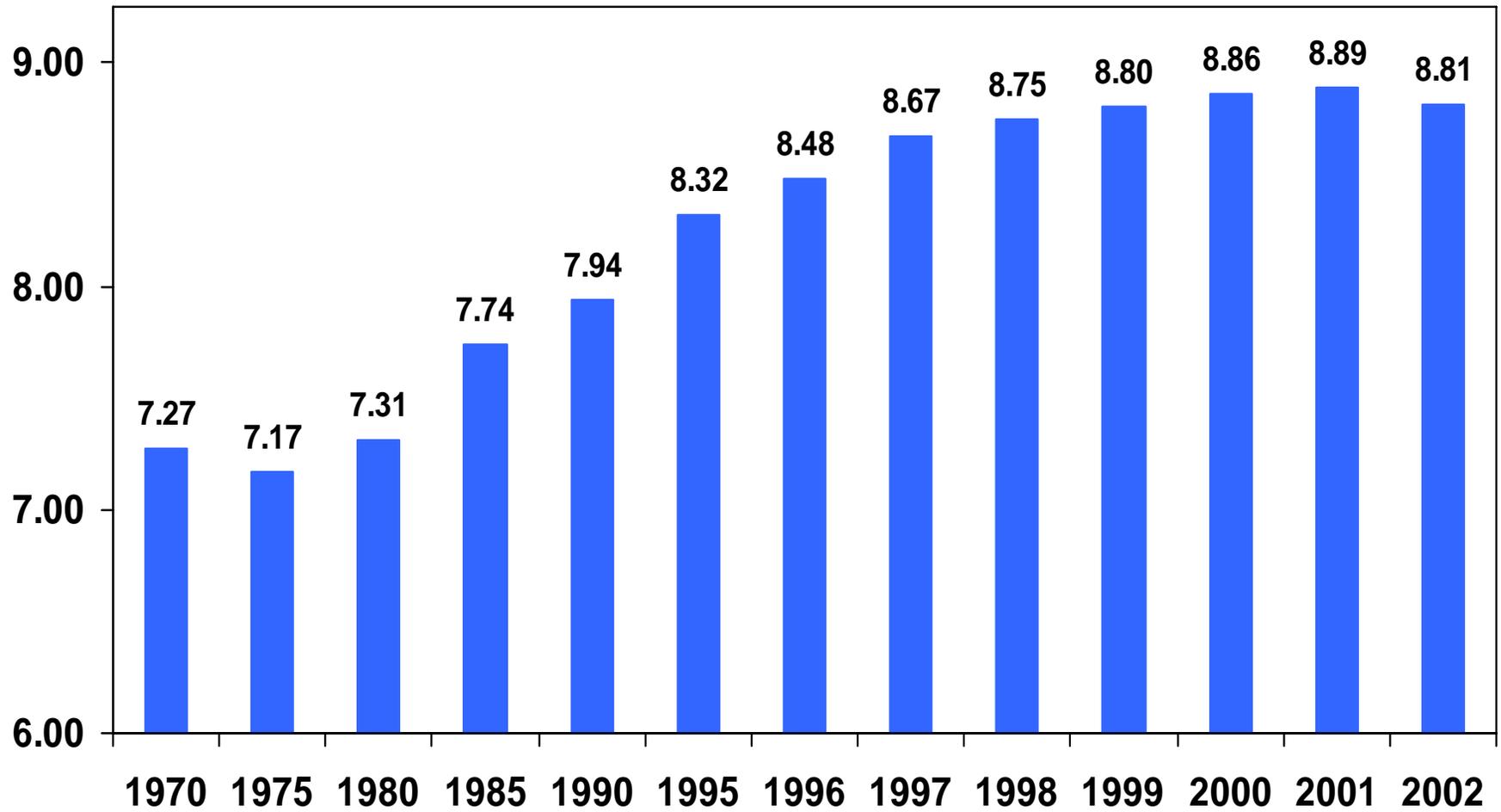
Costs/pig/sold	
feed	7.59
labor	6.94
vet	1.00
building	9.13
Breeding stock	5.13
trucking	1.75
accounting	.48
utilities	1.79
Breakeven	34.18

Litters Per Breeding Animal



PorkFacts 2000/2001; University of Missouri

U.S. Pigs per Litter (Mar-May)



USDA/NASS, 2002

Confinement Swine Finishing Budget



- 1200 pig barn
- 2.9 feed/gain
- 1.71 adg
- 60 to 265 pounds
 - Finishing building
 - 164/pig 196,875
 - equipment
 - 32/pig 37,500
 - Site/office 18,750
- \$253,200
- 211/pig
- \$.41/lb breakeven

Feeder pig	51.08
feed	36.10
labor	2.08
vet	1.80
building	9.35
interest	2.00
trucking	3.50
accounting	.71
utilities	.54
Breakeven	107.55

Hoop Barn Swine Finishing Budget



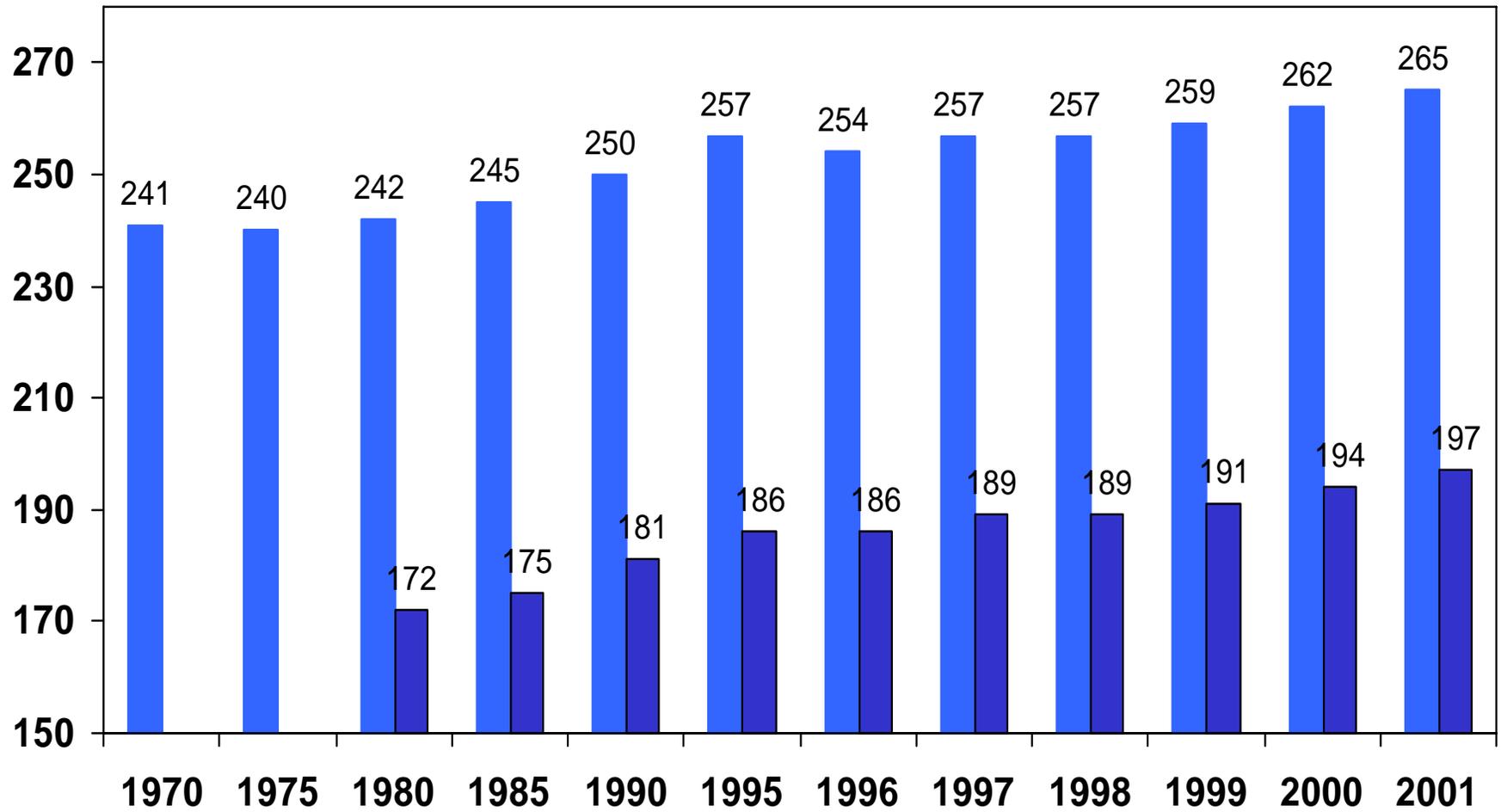
- 180 pig barn
- 3.1 feed/gain
- 1.68 adg
- 60 to 265 pounds
 - Finishing building
 - 55/pig 9,500
 - equipment
 - 17/pig 3,000
 - Site 4,000
- \$16,500
- \$91/pig
- \$.42/lb breakeven

Feeder pig	51.08
feed	39.30
labor	2.70
vet	1.50
building	5.82
interest	1.81
trucking	3.50
bedding	3.25
utilities	1.00
Breakeven	109.96

How much do I gain or lose?

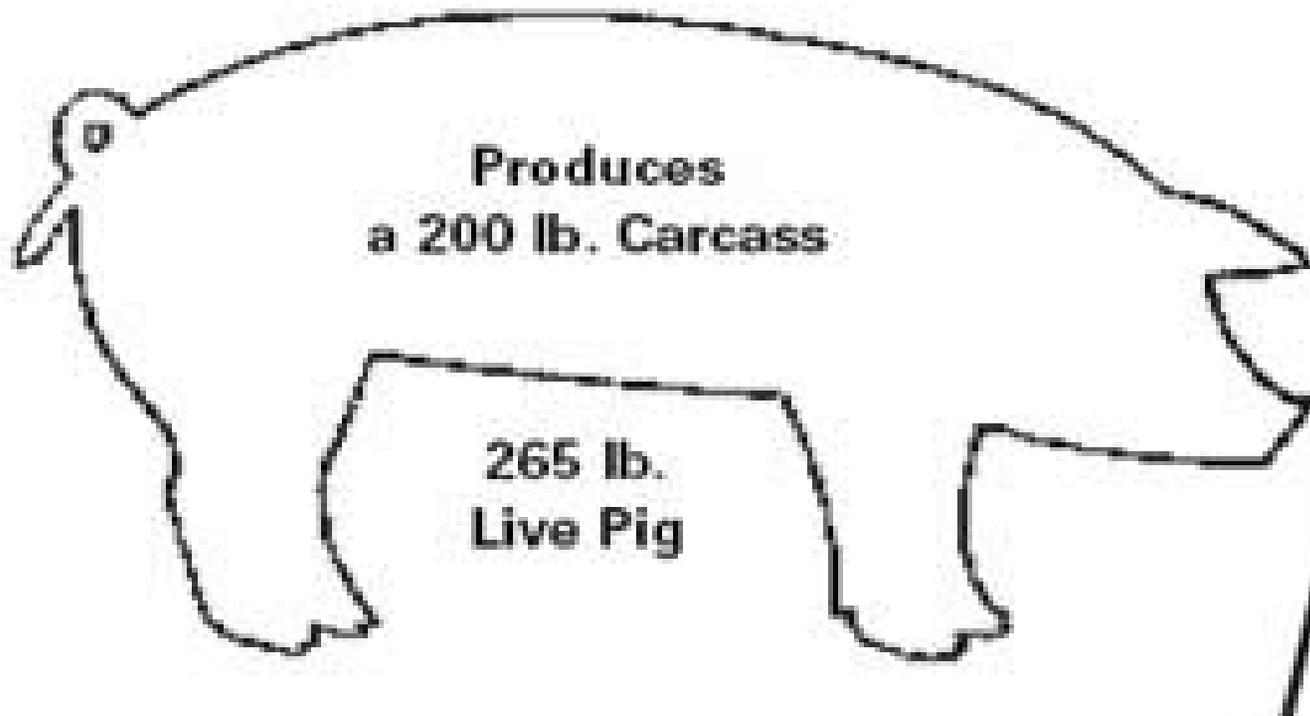
Wean wt, lb	10	Market price	\$ 48.00	94%	Nursery FE	1.80
Transfer wt	50	Slaughter wt	265		G/F FE	3.10
		Pre-market price	\$ 17.00	6%		
Grain, \$/cwt	5.50	Pre-market weight	180			
46% SBM	185.00					
		Head sold/year	500			
SEW	0.45				Income per head	
Trans.	1.23	Interest	4.00		Market pigs	119.57
Phase 2	1.98	Principal	3.00		Pre-slaughter	1.84
Phase 3	4.63	Labor	5.00			
Diet 1	3.82	Ins/Tax	2.00		Total Income	#####
Diet 2	8.91	Utilities	1.00			
Diet 3	8.33	Vet/med	1.50		Net per pig	4.80
Diet 4	11.38	Transport	1.25		Gain:loss/year	2,399
Diet 5	10.08	Weaned pig cost	44.00			
Diet 6	4.03	Feed	54.86		Breakeven price	45.82
Feed total	54.86	Total expense	#####			

Live and Dressed Wt of Market Pigs

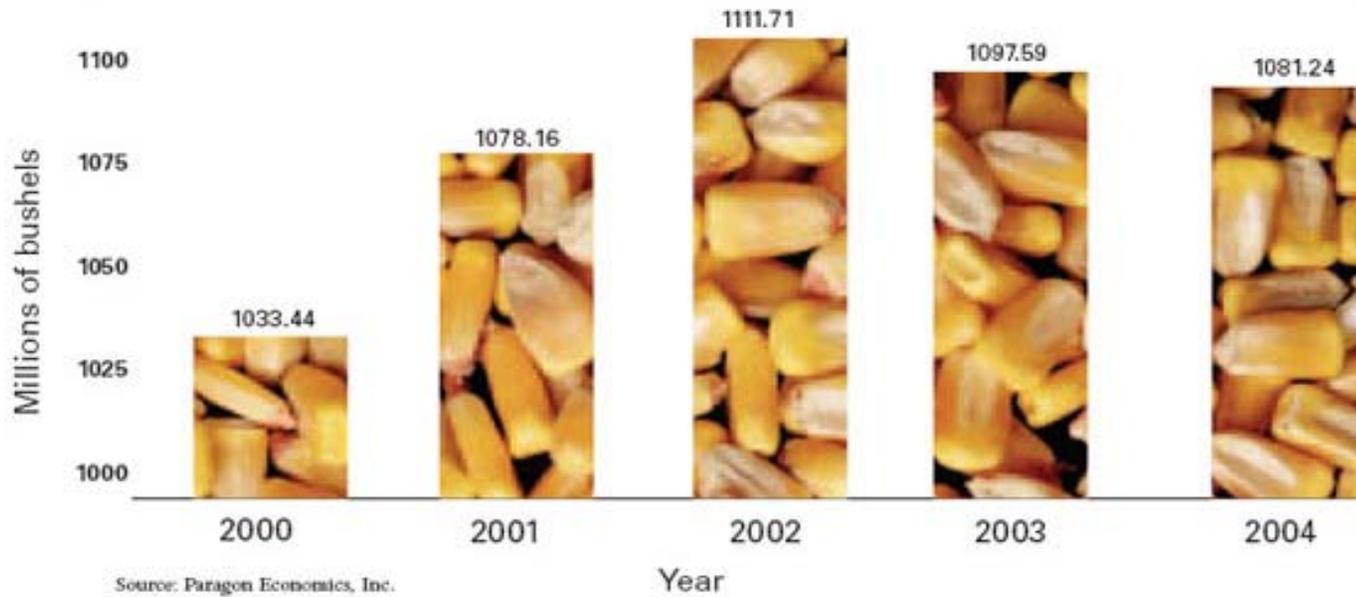


USDA/NASS, 2002

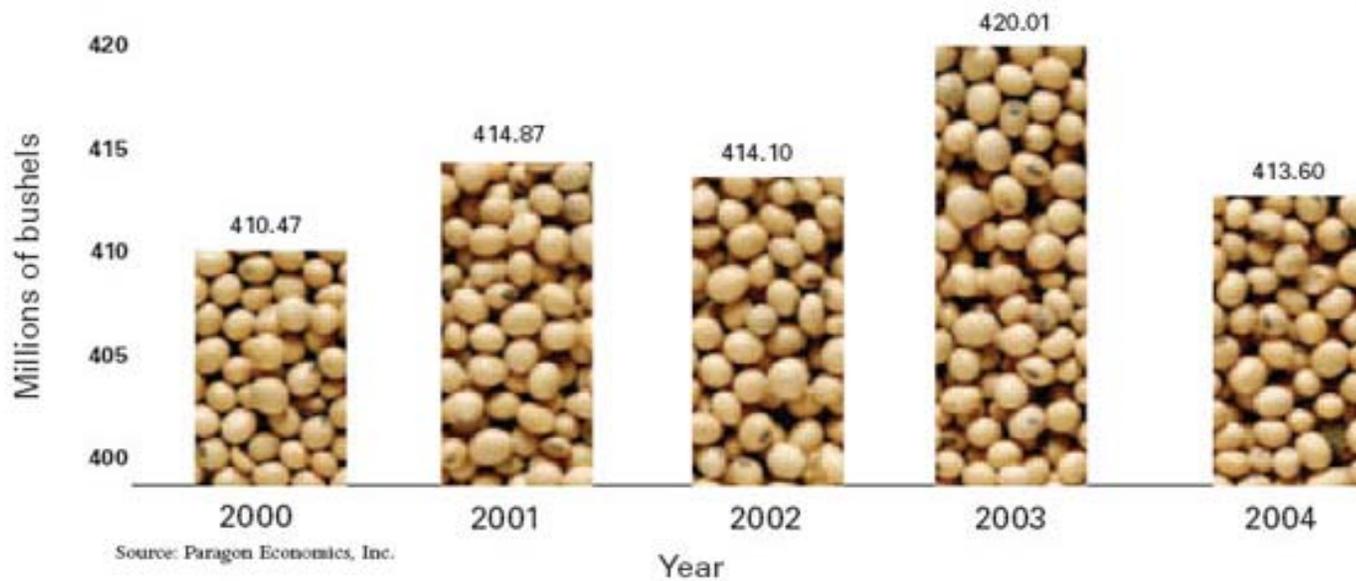
Live weight (pounds)	265
Carcass weight (pounds)	200
Backfat, 10th rib (inches)	0.7
Loin-eye area (square inches)	6.6
Fat-Free Lean (pct.)	54
Pounds of lean meat	108



Total Corn Fed to Hogs from 2000 - 2004



Total Soybeans Fed to Hogs from 2000 - 2004

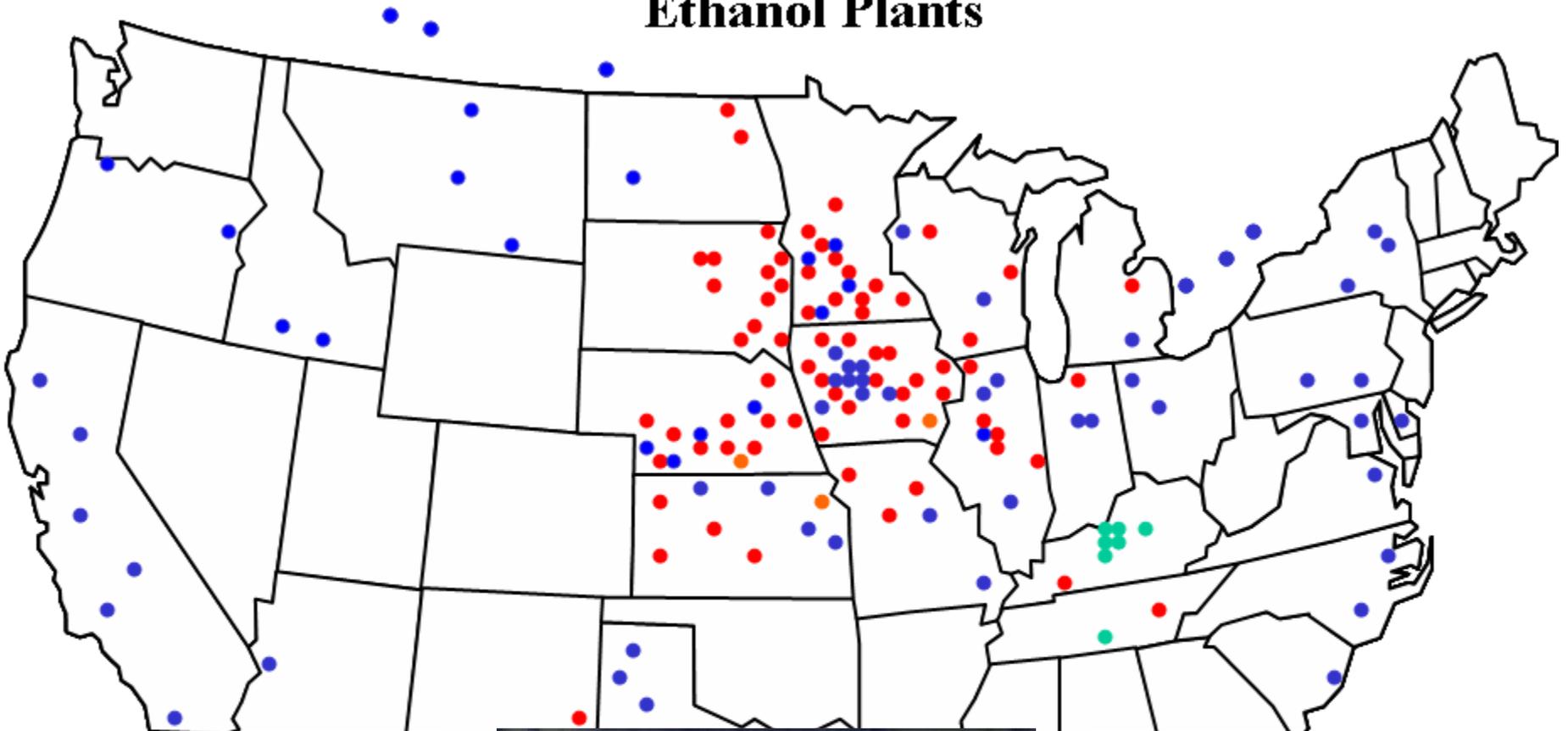


Corn 5,000 bushels: Mar 07 CBOT Plotted To: 10/19/06

Produced by Bohl and Associates: Copyright 1997...2000



Ethanol Plants



Green Pl
Red Pl
Blue Pl

DDGS in Swine Diets

- Characteristics

– DM	87-93
– CP	23-29
– Fat	3-12
– Lysine	.59-.89
– Dig P	.71
– Ca	.05
– Fiber	8
– ME	1283-1633

- Inclusion Rates

	Start	Max
– Nursery	5	25
– Grow-finish	10	20
– Gest sow	20	50
– Lact sow	5	20
– Boars	20	50

Using SBM 46.5 and Dical 21

DDGS Value per Ton

Corn Price, \$/Ton		\$101.00	\$102.80	\$104.60	\$106.40	\$108.20	\$110.00	\$111.80
Corn Price, \$/Bushel		\$2.83	\$2.88	\$2.93	\$2.98	\$3.03	\$3.08	\$3.13
SBM 46.5 Price \$/Ton	\$180.00	\$114.60	\$116.16	\$117.73	\$119.30	\$120.86	\$122.43	\$123.99
	\$185.00	\$115.09	\$116.65	\$118.22	\$119.79	\$121.35	\$122.92	\$124.48
	\$190.00	\$115.58	\$117.14	\$118.71	\$120.28	\$121.84	\$123.41	\$124.97
	\$195.00	\$116.07	\$117.63	\$119.20	\$120.77	\$122.33	\$123.90	\$125.46
	\$200.00	\$116.56	\$118.12	\$119.69	\$121.26	\$122.82	\$124.39	\$125.95
	\$205.00	\$117.05	\$118.61	\$120.18	\$121.75	\$123.31	\$124.88	\$126.44
	\$210.00	\$117.54	\$119.10	\$120.67	\$122.24	\$123.80	\$125.37	\$126.93
	\$215.00	\$118.03	\$119.59	\$121.16	\$122.73	\$124.29	\$125.86	\$127.42
	\$220.00	\$118.52	\$120.08	\$121.65	\$123.22	\$124.78	\$126.35	\$127.91
	\$225.00	\$119.01	\$120.57	\$122.14	\$123.71	\$125.27	\$126.84	\$128.40
\$230.00	\$119.50	\$121.06	\$122.63	\$124.20	\$125.76	\$127.33	\$128.89	
\$235.00	\$119.99	\$121.55	\$123.12	\$124.69	\$126.25	\$127.82	\$129.38	
\$240.00	\$120.48	\$122.04	\$123.61	\$125.18	\$126.74	\$128.31	\$129.87	

Industry Issues

- Animal Care and welfare
- Antibiotic is in animal production
- Environmental stewardship
- Bio-security



Protecting air and water

- Animal feeding operations regulated by ND Dept of Health under permit to operate
- State and local zoning and setbacks
- Site selection and engineering for facilities and waste containment
- Odor regulations
- Manure management plans

Realizing the Resource - organic fertilizer and soil amendment

- Typical manure production/composition

	ton/gal	N(lb)	P(lb)	\$(.25)
• Solid				
– Sow	3.4	31	21	13
– Feeder	1.1	17	9	6.5
• Pit				
– Sow	1850	32	28	15
– Feeder	530	17	14	7.75
• Lagoon				
– Sow	3000	10	7	4.25
– Feeder	950	5	3	2



Good and Good For You!

- Excellent Source of Protein and B Vitamins
- Pork Chop
 - 170 calories
 - 6.5 g total fat



World Pork Production

- 765,000,000 pigs
- 181,000,000,000 lbs of pork produced
 - Most consumed meat in the world
- Over ½ of pork produced in China, US is 2nd
- Exports: Canada – 1st; U.S – 2nd; Denmark – 3rd
- Imports: Japan – 1st; US – 2nd
- Per capita consumption
 - Denmark = 168 lbs per person per year
 - US = 68 lbs per person per year (carcass wt basis)
 - Japan = 38 lbs per person per year.

Slaughter, Million head

