

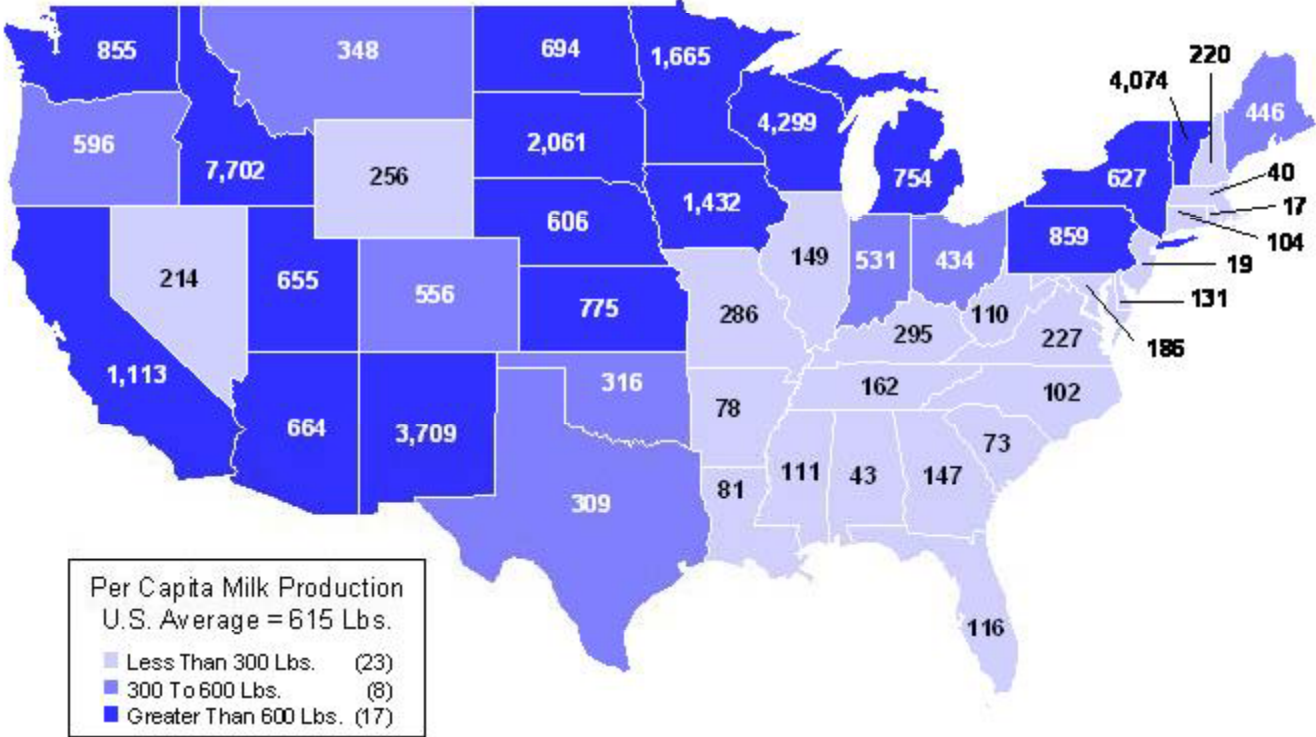
Economics of Pasture-Based Dairies

Joe Horner

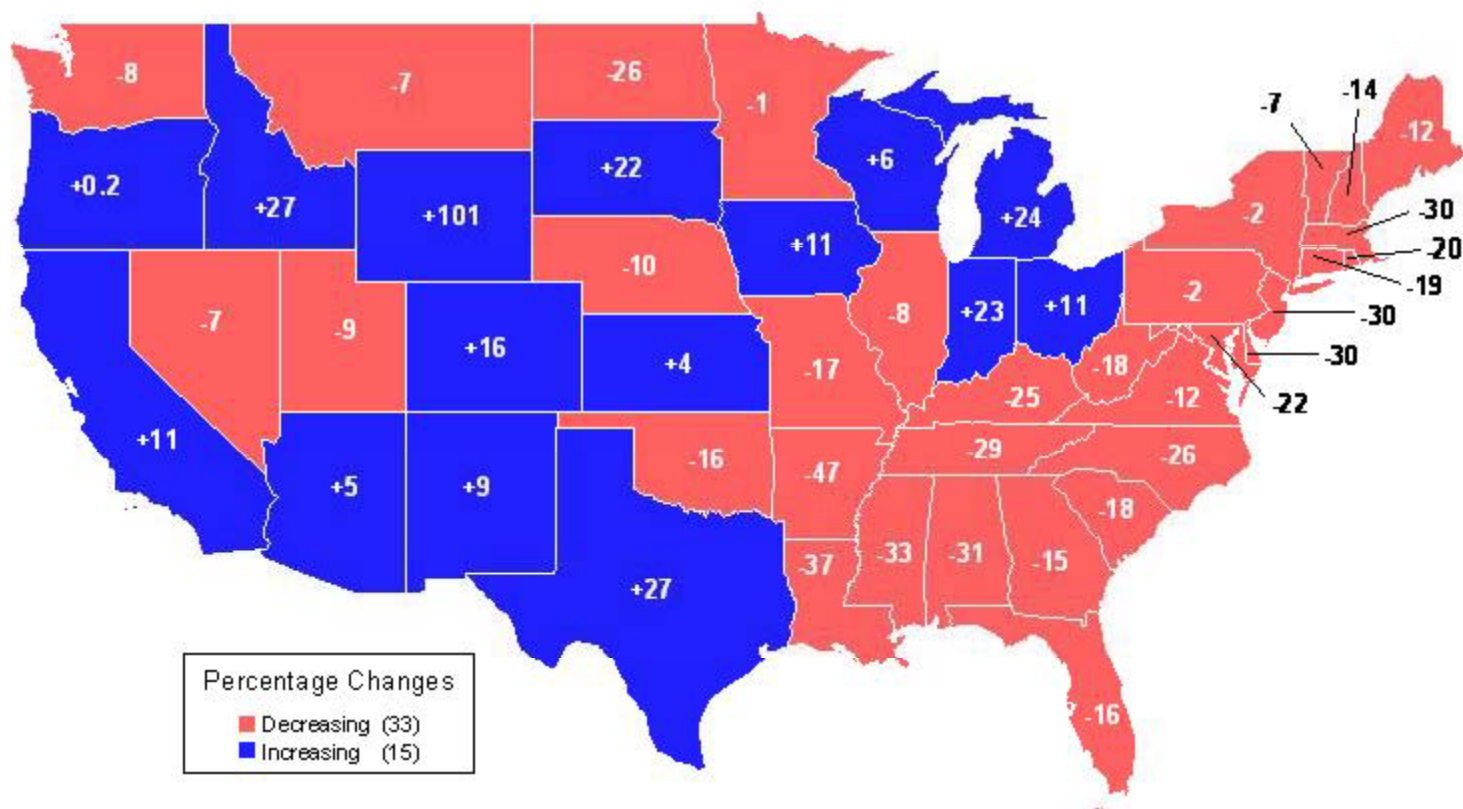
Extension Dairy Economist

University of Missouri – Commercial Ag

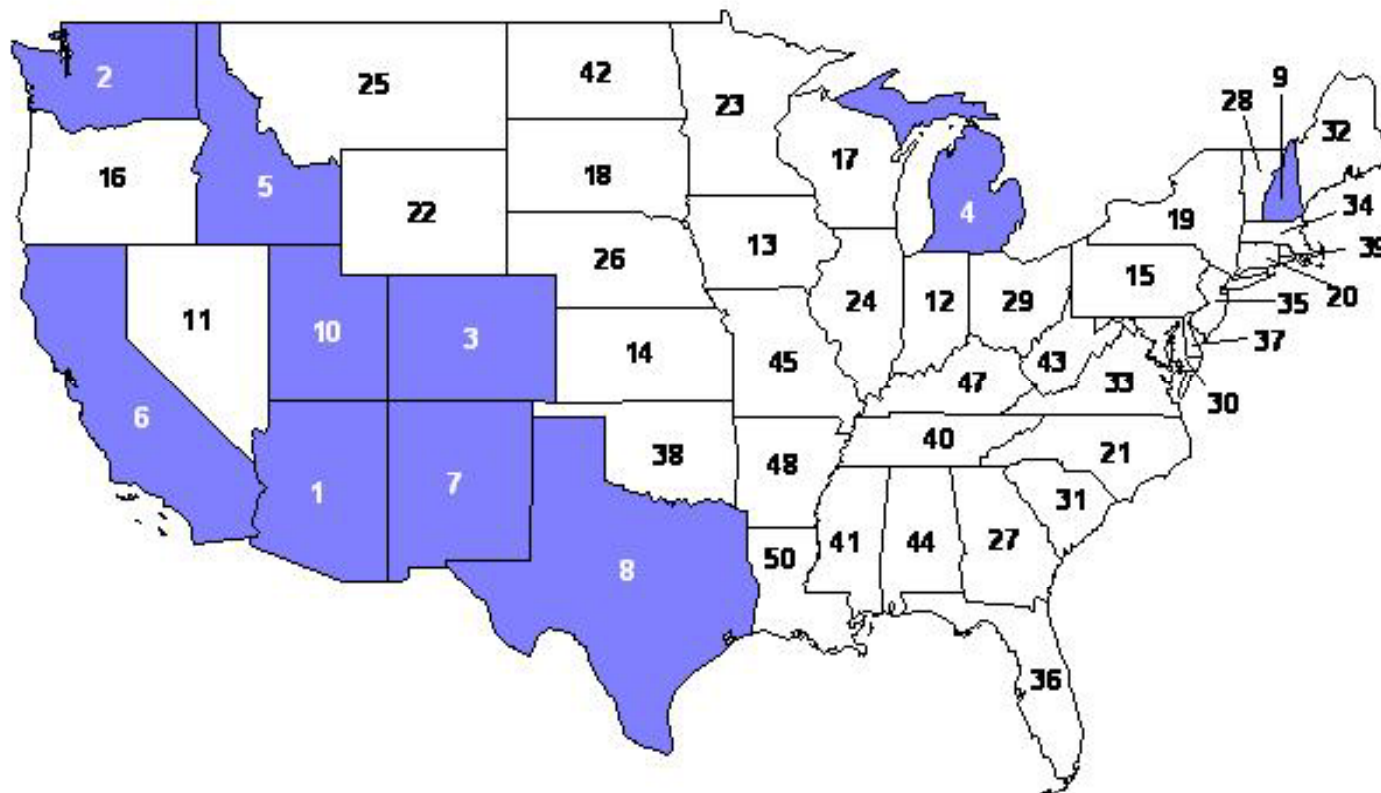
2007 Per Capita Milk Production



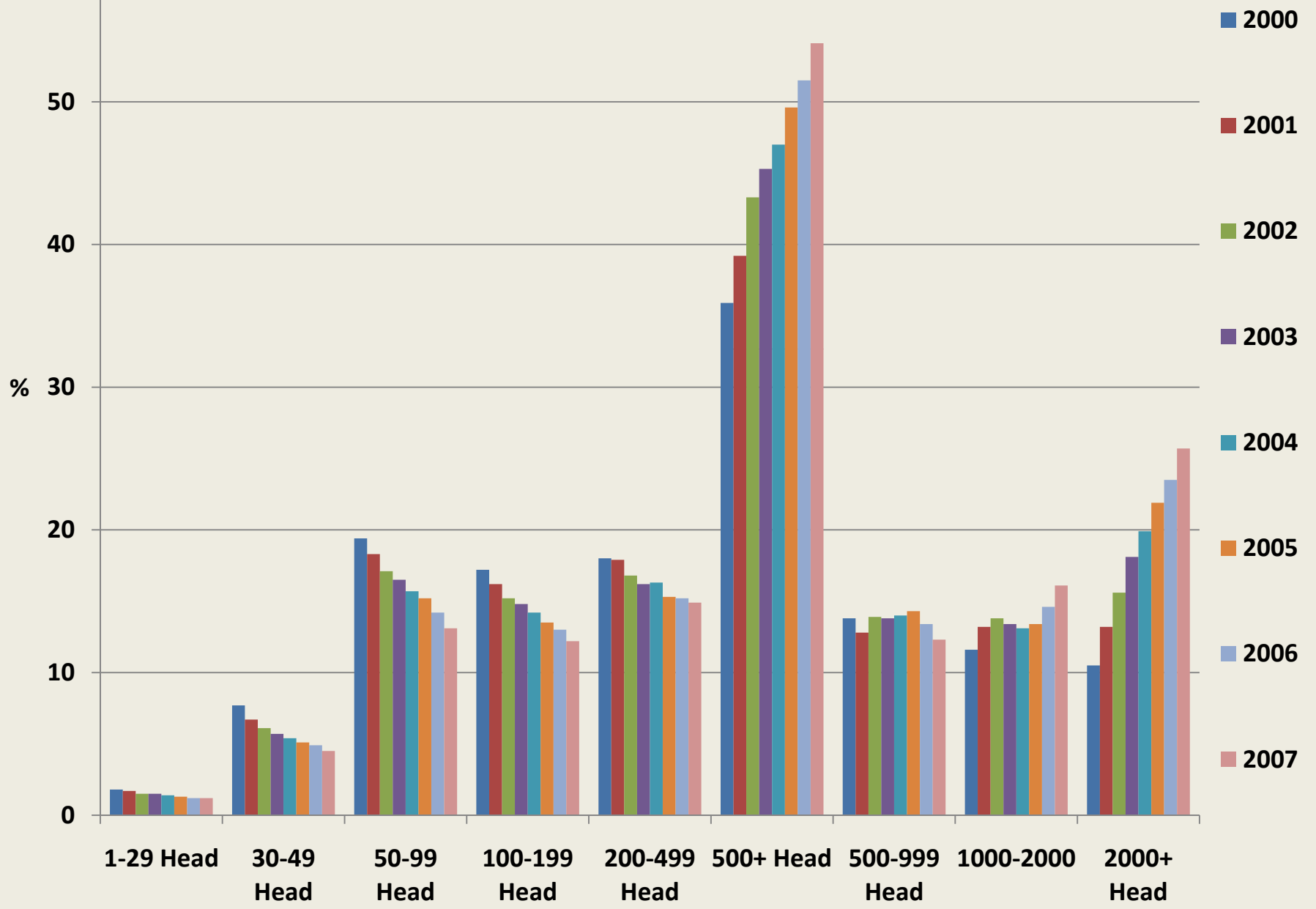
Percent Change In Per Capita Milk Production 2007 vs 2002



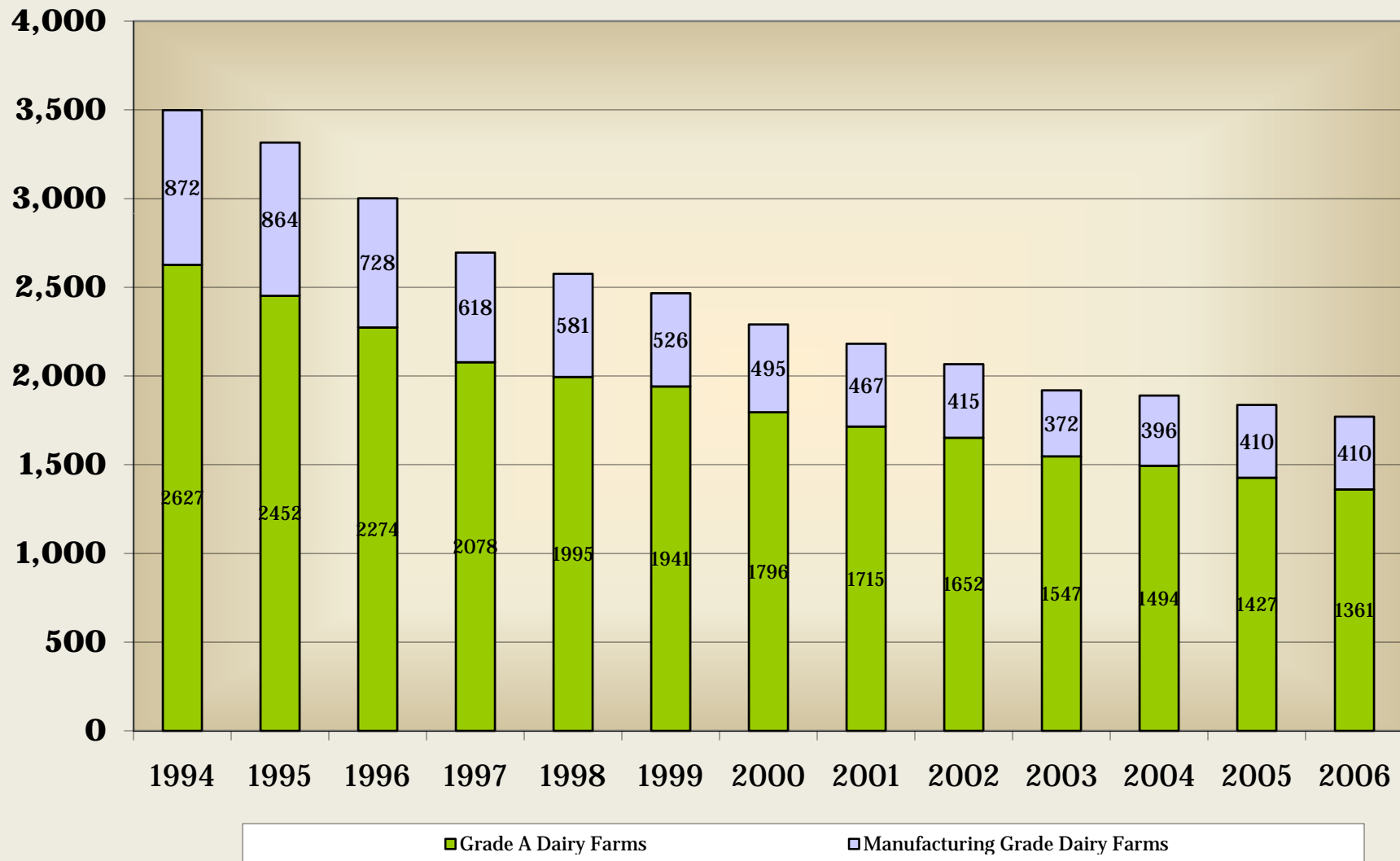
2007 Milk Production Per Cow Ranking Top Ten States Highlighted



Percentage of Total US Milk Production by Herd Size



Dairy Operations in Missouri



29 Systems -- Investment Per Cow

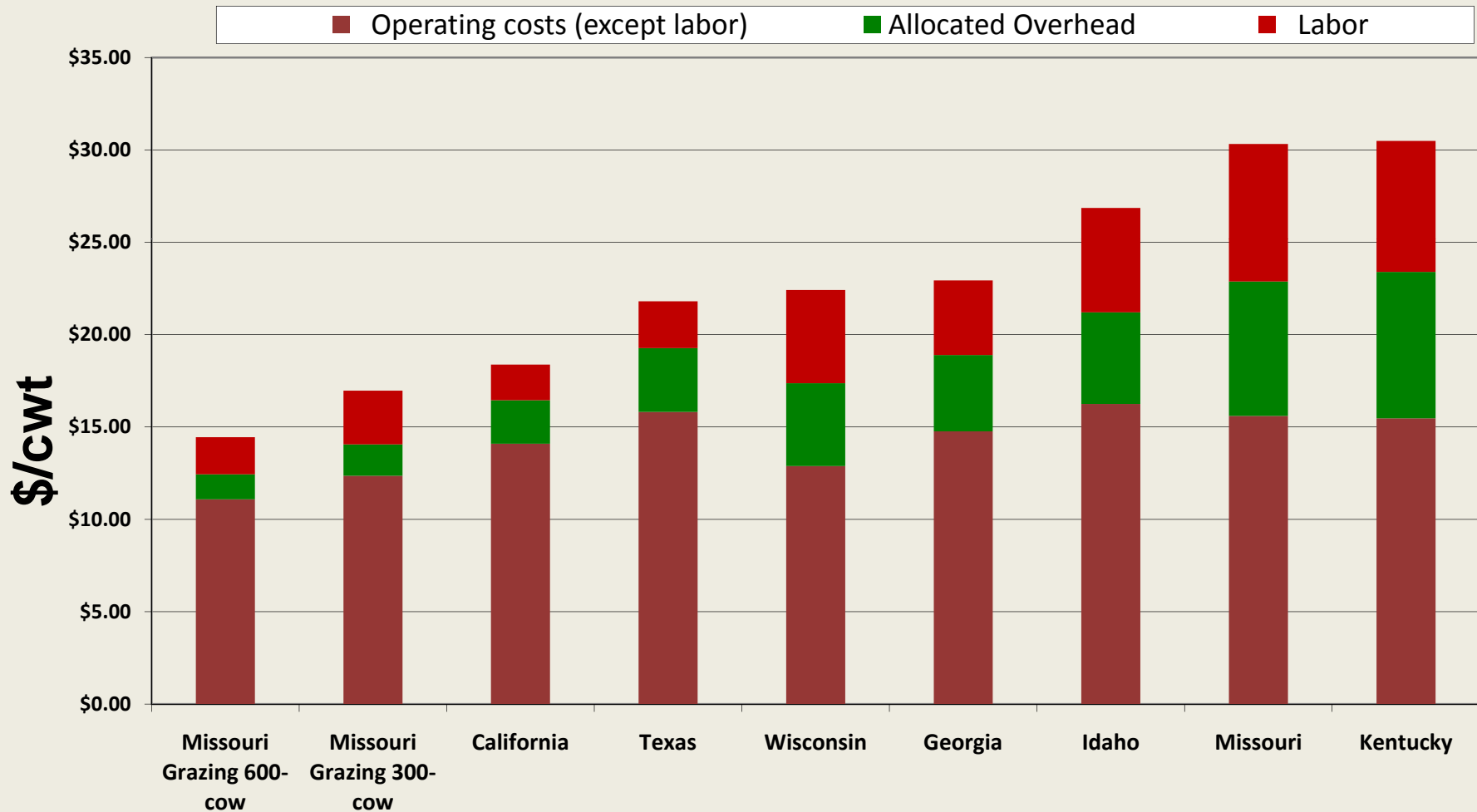
Type of Operation	Manure System	Ventilation	200 Cow	700 Cow	3000 Cow
Confinement Dairy-Bedded Pack	Rice hulls or sawdust	Natural	\$6,675	\$6,064	\$5,419
Confinement Dairy- Mattress Freestall	Slatted floor	Natural	\$8,037	\$7,852	\$7,216
		Mechanical	\$7,718	\$7,500	\$6,864
	Slurry scrape to outside covered storage	Natural	\$7,620	\$6,500	\$5,864
		Mechanical	\$7,301	\$6,224	\$5,512
Confinement Dairy-Sand Bedded Freestall	Mechanical sand separation and 2 stage covered holding area	Natural	\$7,859	\$6,489	\$5,848
		Mechanical	\$7,540	\$6,137	\$5,496
	Covered gravity settling basin and covered holding area	Natural	\$7,667	\$6,913	\$6,137
		Mechanical	\$7,348	\$6,561	\$5,785
Grazing Dairy-Center Pivot System			\$5,666 (300 cow)	\$5,269 (600 cow)	

29 Systems -Return on Assets (Year 5)

Type of Operation	Manure System	Ventilation	200 Cow	700 Cow	3000 Cow
Confinement Dairy-Bedded Pack	Rice hulls or sawdust	Natural	5.1%	8.1%	12.3%
Confinement Dairy- Mattress Freestall	Slatted floor	Natural	1.7%	3.4%	5.8%
		Mechanical	3.3%	5.2%	7.8%
	Slurry scrape to outside covered storage	Natural	3.7%	7.1%	10.2%
		Mechanical	5.6%	9.4%	12.7%
Confinement Dairy-Sand Bedded Freestall	Mechanical sand separation and 2 stage covered holding area	Natural	3.9%	8.1%	11.4%
		Mechanical	5.7%	10.0%	13.9%
	Covered gravity settling basin and covered holding area	Natural	4.7%	7.4%	10.8%
		Mechanical	6.5%	9.5%	13.2%
Grazing Dairy-Center Pivot System			8.8% (300 cow)	11.2% (600 cow)	

Milk Cost of Production

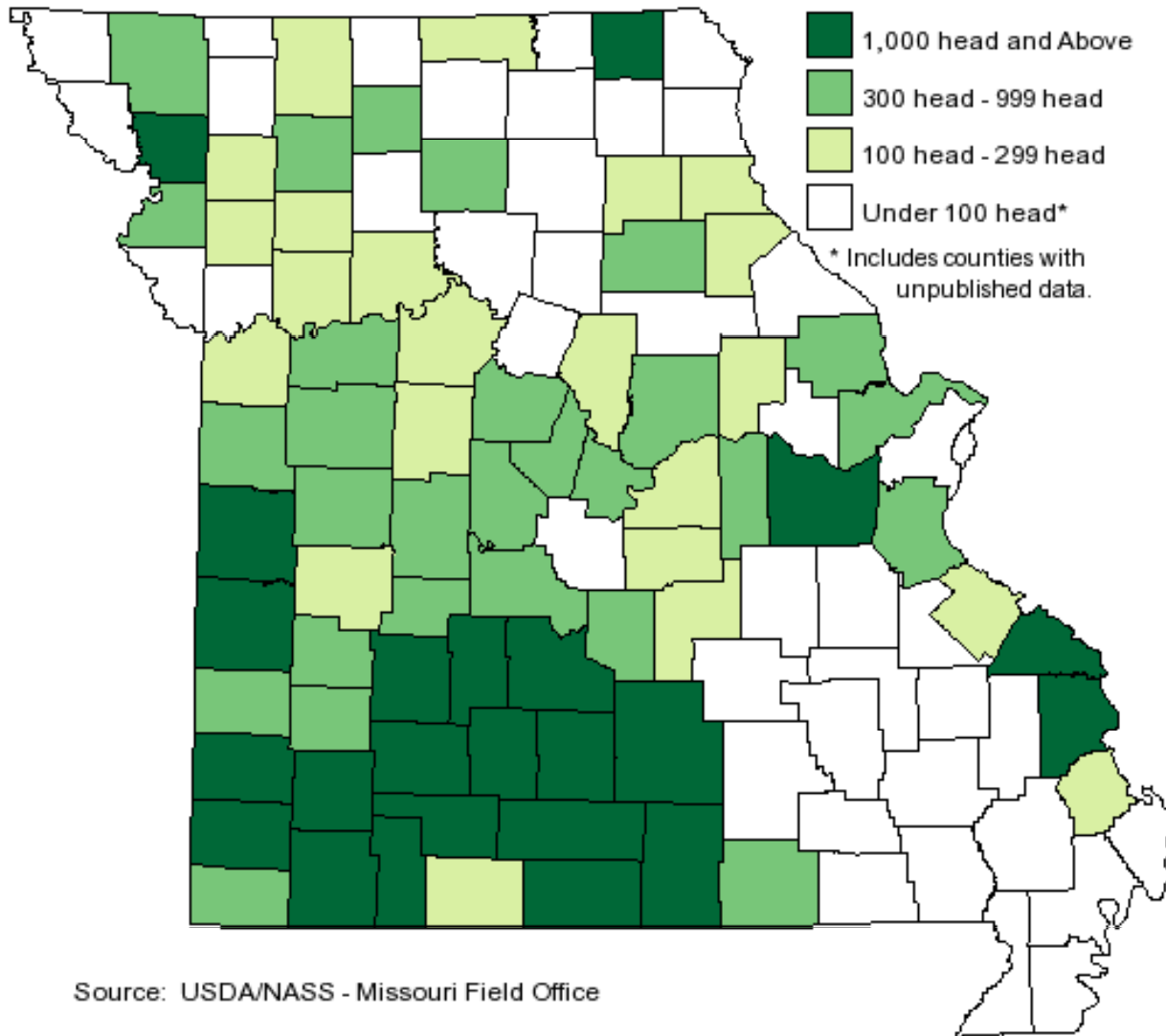
Feb. 2008



Missouri's Strategic Advantages for larger scale grazing dairies

- Legacy Dairy Industry – Infrastructure
- Far enough south to avoid winter housing
- Far enough north to grow cool seasons
- Far enough east to have adequate rainfall
- Far enough west to have less expensive land in large blocks
- MU SW Center Research & Grazing Discussion Groups

2007 Milk Cow Inventory by County





08/03/2005



08/03/2005



In Summary

Future Growth in Grazing Dairies

- Additional Mo dairymen converting
- Homegrown early adopters expanding
- Dairymen moving in from other states
- International investment accelerating
 - Focal Dairies
 - Grassland Dairies
 - Barfoote Dairy
 - Tiller Investments

600-cow Grazing Dairy with Center Pivot

Cow housing system	Open pasture paddocks				
Milking center	Double 48 parabone swing parlor with takeoffs				
Manure handling system	Manure storage structure will capture effluent from the parlor and holding areas of the operation.				
Total capital investments	\$3,161,679				
Total acreage needed for farm layout	420 acres				
Direct dairy jobs created (FTE)	7				
Selected forage variety	Cool season perennial ryegrass. Other species could be adapted into the forage system as well.				
	Year 1	Year 2	Year 3	Year 4	Year 5
Gross revenue	\$1,115,396	\$1,267,212	\$1,313,686	\$1,361,923	\$1,412,905
Net income	\$44,240	\$194,351	\$240,533	\$287,851	\$327,082
Net cash flow	\$127,778	\$281,350	\$329,692	\$379,044	\$418,275
Rate of return on assets	1.4%	6.3%	7.8%	9.6%	11.2%

Picture Examples

