

Missouri Agriculture: A Growing Industry

Some Comparisons with the Past

Brown, Trujillo and Hobbs

A cooperative project of

**Office of Social and Economic Data Analysis
University of Missouri System**

and the

Missouri Agricultural Experiment Station

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Some Comparisons with the Past

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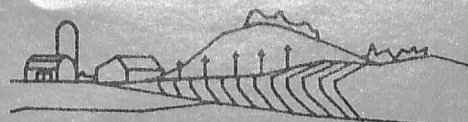
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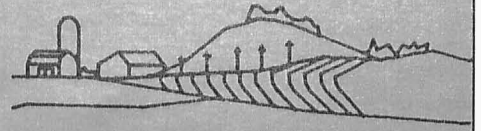
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INTRODUCTION



While the number of farms in Missouri has declined following the national trend, more farmers are successfully combining off-farm employment and farming into a satisfactory way of life.

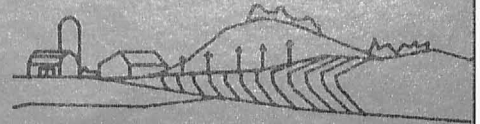
Forage and beef cattle are expanding in all areas of the state. Soybeans have become the number one crop income producer. Dairy and swine production remains important in the state, but are undergoing major reorganization.

Agriculture in Missouri is indeed changing. A look at the enclosed data will clearly show what these changes have been during the past 25 years and provide a basis for looking to the future - a future of further growth for Missouri agriculture.

Agriculture is a major contribution to the economy of Missouri and is a dynamic and growing industry. Information contained in this publication will aid the reader in understanding the continual adjustments that are taking place on farms and businesses that make up this important industry.

Missouri is a large state with abundant and diverse natural resources. It's agriculture is predominately small to medium size owner operated farms. The annual value of farm products produced exceeds \$4 billion. More than half of the farm cash receipts comes from the sale of livestock and livestock products.

MISSOURI AGRICULTURE

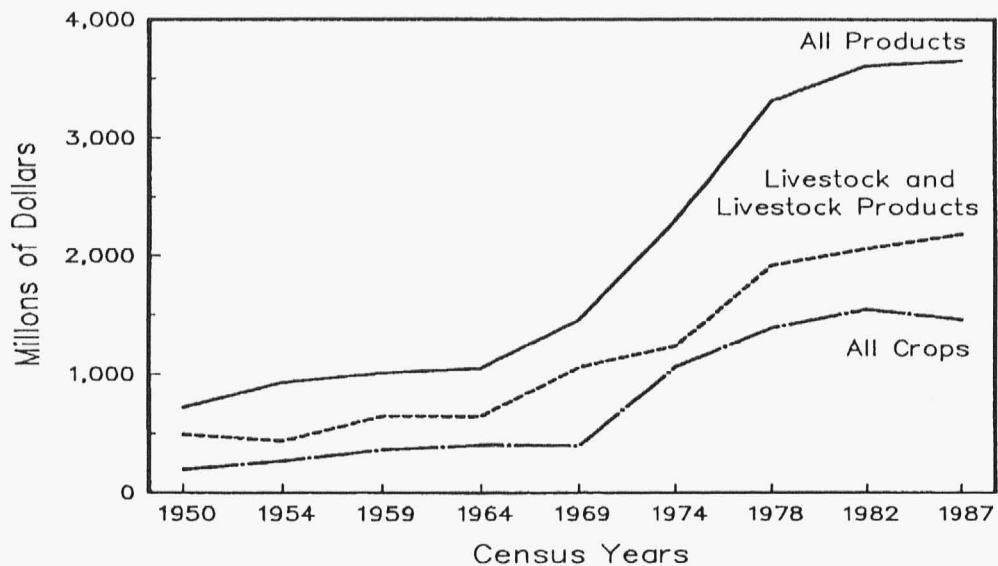


Agriculture in Missouri is a growing industry, an industry that is constantly changing as it adapts to the physical and economic forces within the state, nation and world.

The value of agricultural products sold from Missouri farms was more than \$3.6 billion in 1987. This was an increase of almost three and one half times since 1964.

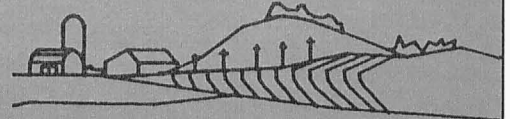
The sale of livestock, dairy, poultry, and their products accounted for 60 percent of total agricultural sales, while crops, including nursery and greenhouse crops, contributed 40 percent. Of each \$5 sales which Missouri farmers receive, \$3 come from the sale of livestock and products and \$2 from crops.

**Value of Farm Products Sold From Missouri Farms
1950-1987**



Source: USDC, Bureau of the Census

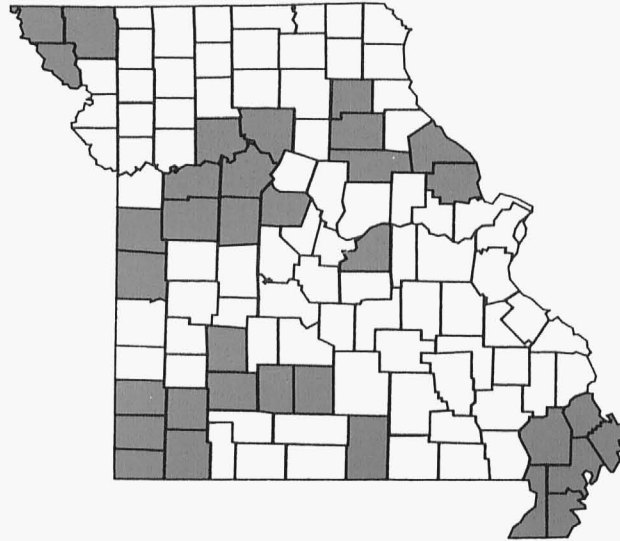
DISTRIBUTION OF AGRICULTURAL SALES



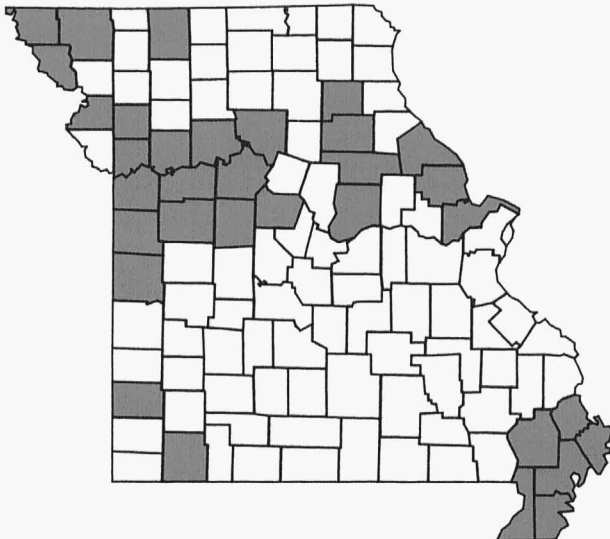
Counties That Produce Fifty Percent of the Agricultural Sales in 1987

The distribution of agricultural sales among the counties in Missouri has shifted during the past 25 years. In 1964, 32 counties accounted for 50 percent of all sales. These counties were concentrated in the delta, west central and northwest counties in Missouri.

By 1987, 34 counties accounted for 50 percent of the agricultural sales and there was some change in the relative importance of different counties. The important crop producing counties of the delta remained high, as did the crop-livestock producing counties of Nodaway, Lafayette, Saline, Chariton and Audrain.

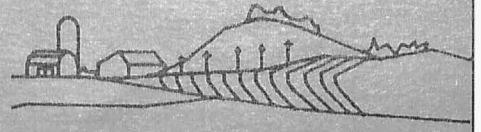


Counties That Produce Fifty Percent of the Agricultural Sales in 1964

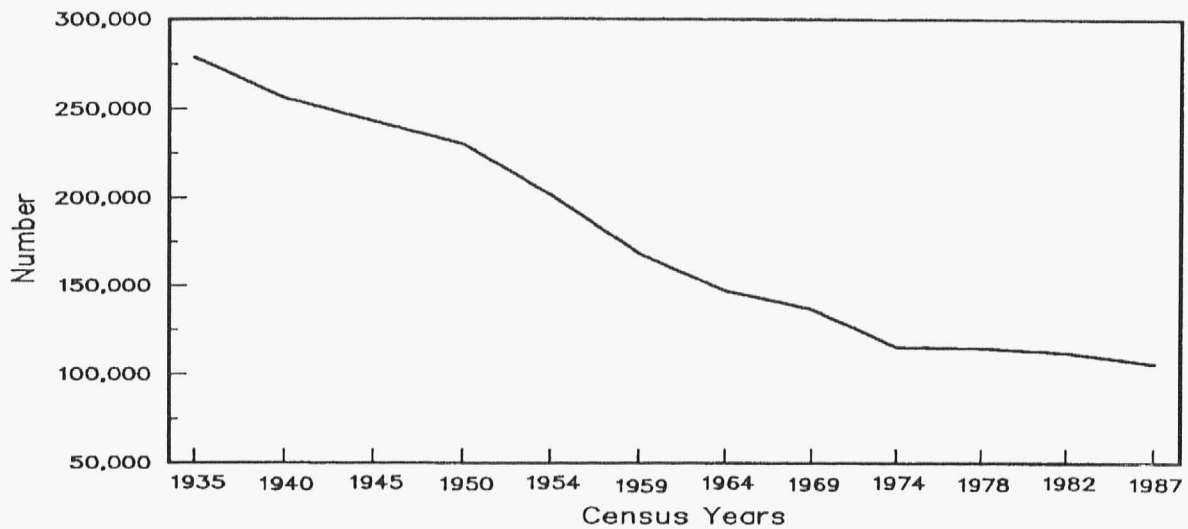


However, southwest Missouri counties McDonald, Newton, Barry and Lawrence showed large increases in sales reflecting the rapid expansion of the poultry industry in that area. The important dairy producing counties of Wright, Webster, Polk and Greene also showed increases, as did Howell County. The urban adjoining counties of Jackson, Clay, St. Charles and Buchanan sustained the largest drops in agricultural sales.

FARMS



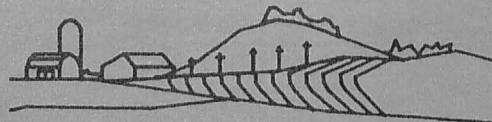
Number of Farms
1935-87



SOURCE: USDC, Bureau of the Census

The number of farms in Missouri has been trending downward since 1935, when the all-time high of 278,454 farms occurred. The 1987 Census reported 106,105 farms - a reduction of 5.6 percent from 1982 and 28 percent since 1964. As farm numbers decline, the remaining farms were able to grow in size. This was especially true in the good cropland areas of southeast and northwest Missouri.

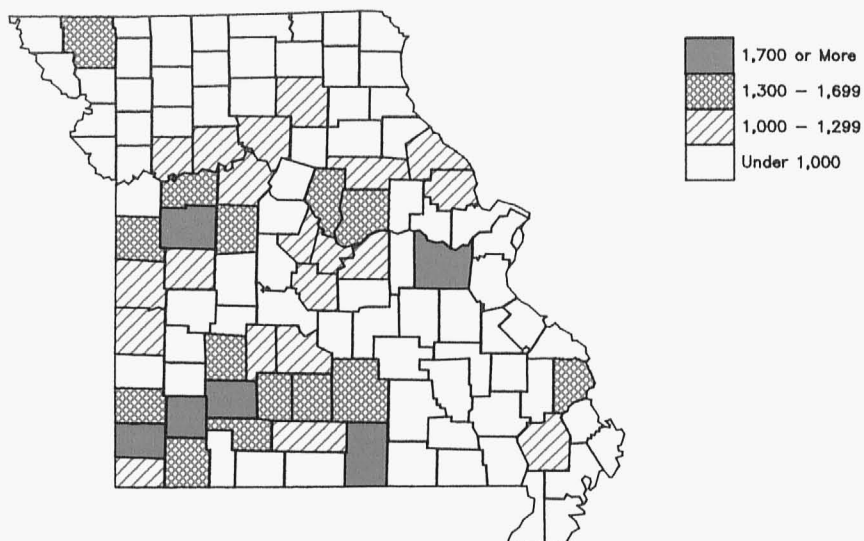
FARMS



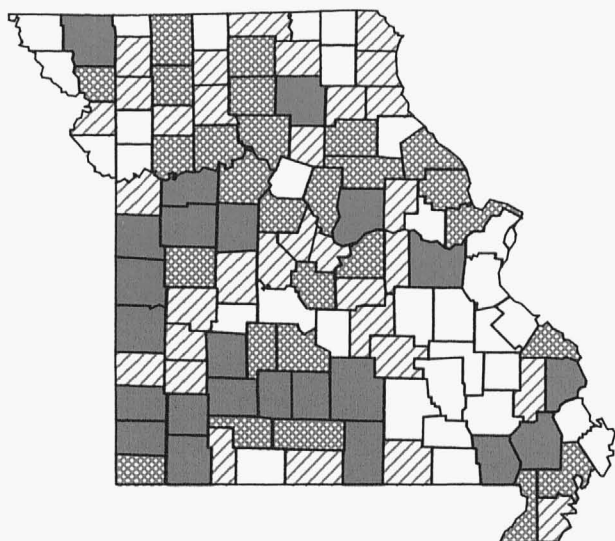
Number of Farms, 1987

The number of farms in a county is influenced by 1) the size of the county, 2) proximity to an urban center, 3) proportion of land area in farms, 4) quality of the land, and 5) the predominant type of farming.

The three counties with the largest numbers of farms (Greene, Newton and Lawrence) are in southwest Missouri in areas with off-farm employment opportunities and where poultry and dairy are major enterprises.

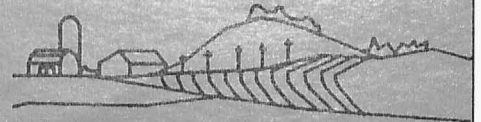


Number of Farms, 1964

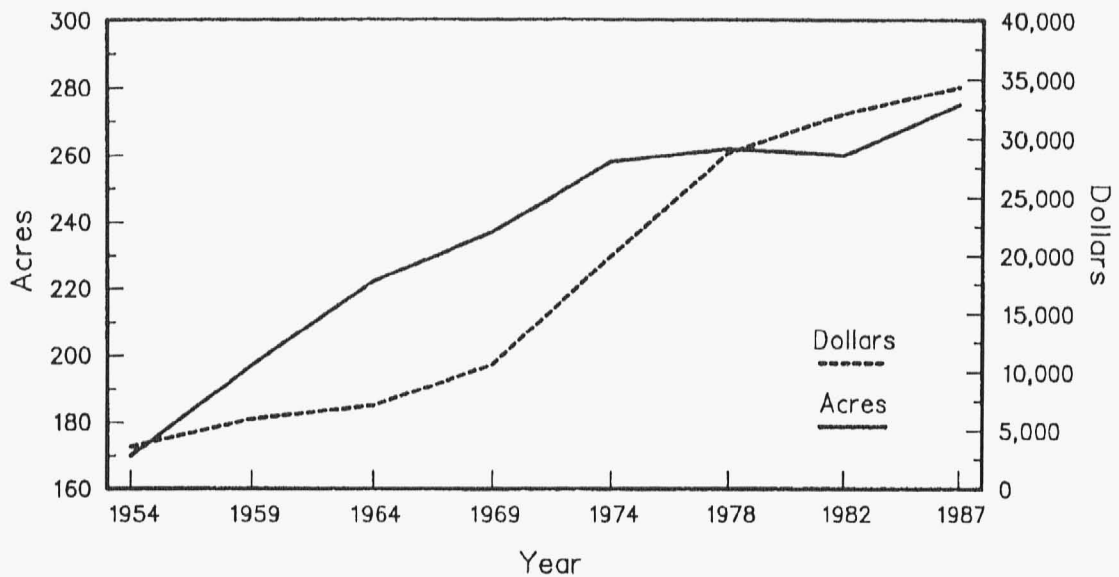


In southwest Missouri and around the major population centers the number of farms and their size has remained stable. In these areas farmers have greater opportunities to combine farming with off-farm employment.

AVERAGE SIZE OF FARMS



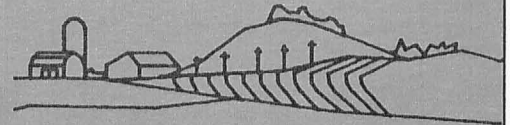
Average Size of Farms and
Average Market Value of Ag Products Sold
1954-87



SOURCE: USDC, Census of Agriculture

The average number of acres per farm in Missouri has continually increased from about 150 acres in 1950 to 275 acres in 1987. The larger acreage farms are located in the more productive cropland areas of the state and in areas with limited off farm employment. The average dollar sales per farm in Missouri has increased 10 times since 1950. The average sales per farm in 1987 was \$34,353. The larger per farm sales reflect general price inflation and larger size farms.

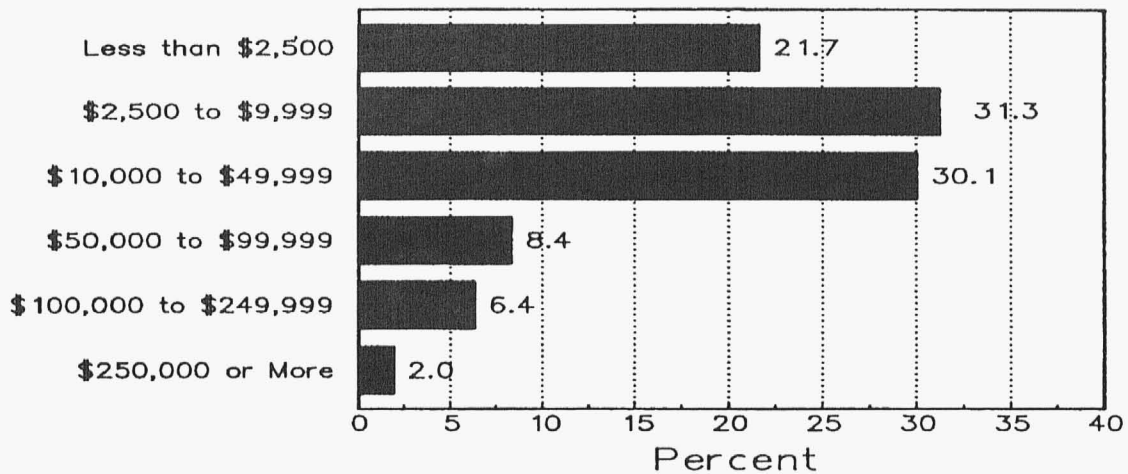
FARMS BY VALUE OF PRODUCTS SOLD



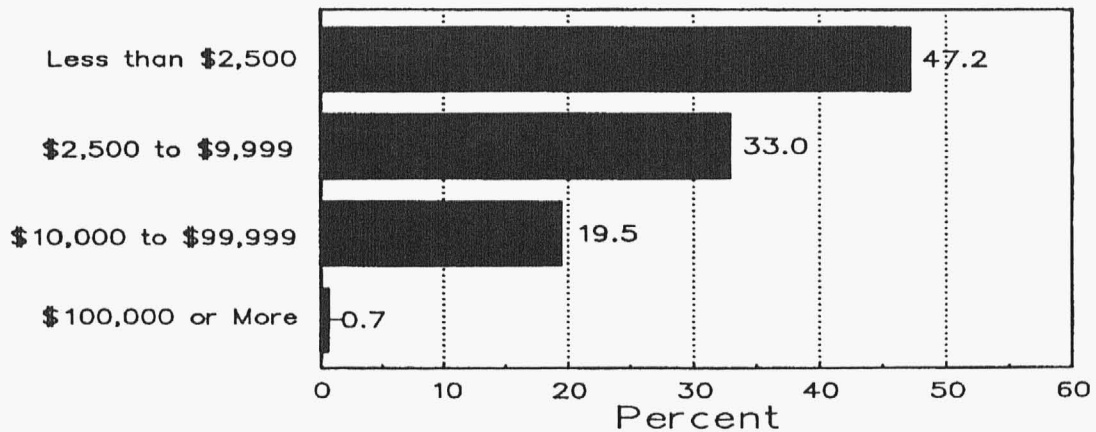
In 1987 there were less than one-half as many very small farms (selling less than \$2,500) as there were in 1964. The number of small farms (\$2,500 to \$9,999 sales) remained about the same, while the medium size commercial farms (\$10,000 to \$99,999 sales) doubled. The greatest percentage increase was the 12 fold increase of large commercial farms (\$100,000 or more sales).

Farms by Value of Products Sold

1987

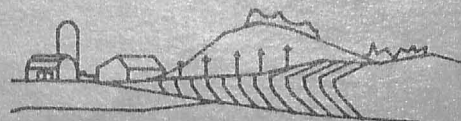


1964



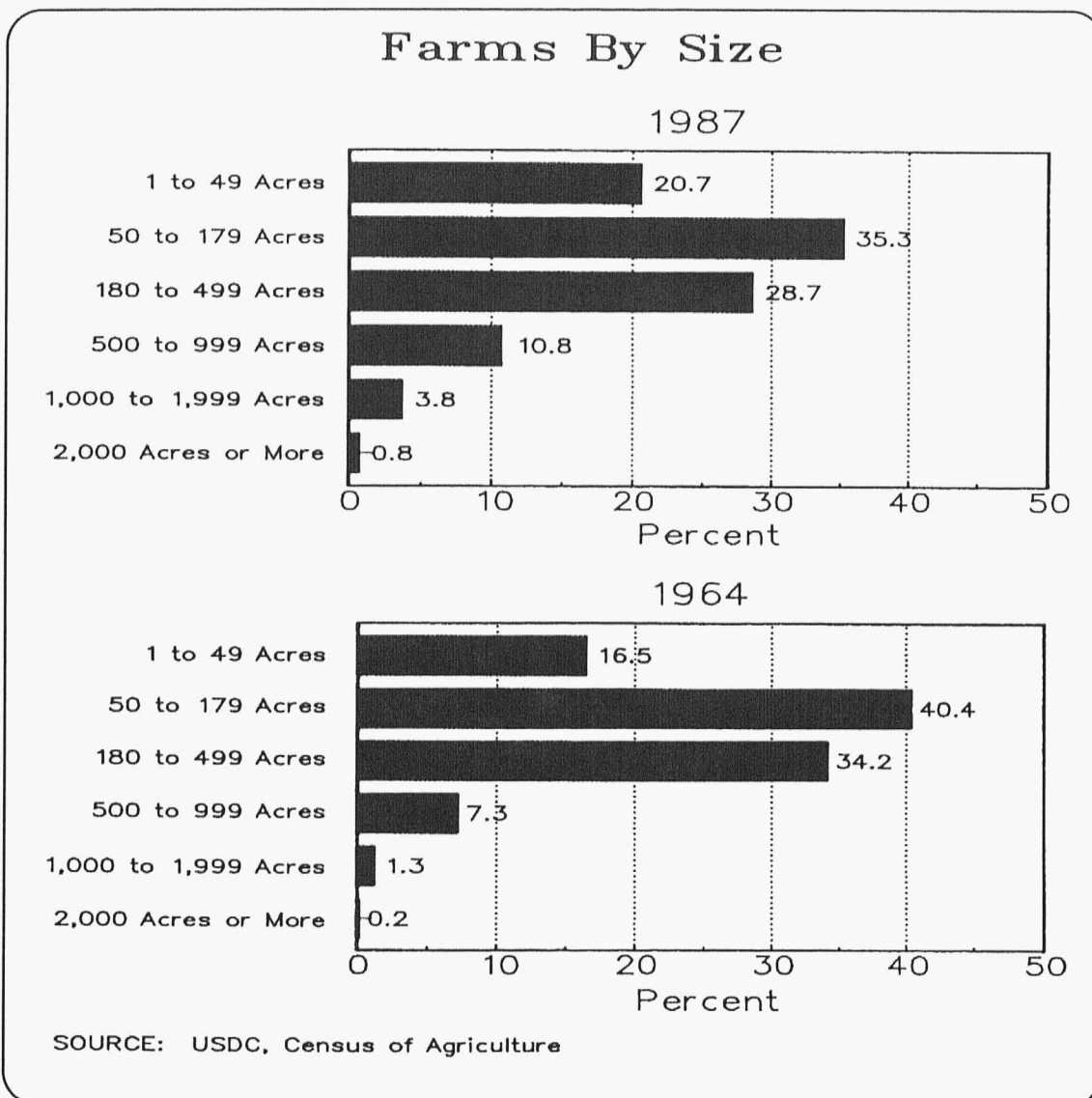
SOURCE: USDC, Census of Agriculture

FARMS BY SIZE

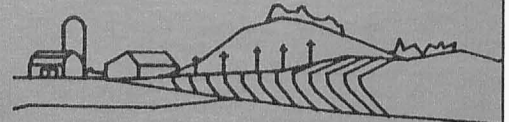


Farm size, when measured by the number of acres in the farm, changed only moderately from 1964 to 1987.

The very small farms (under 50 acres) increased 4.2 percent. The small-sized farms (50 to 179 acres) declined 5.1 percent and the middle-sized farms (180 to 999 acres) decreased 2.0 percent. The large farms (1,000 to 1,999 acres) rose by 2.5 percent and very large farms (2,000 acres or more) increased by less than 1 percent.

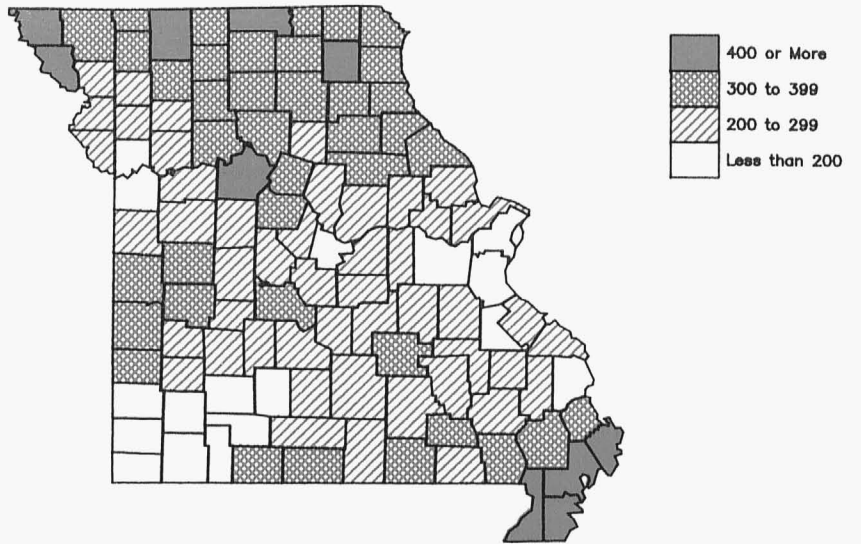


AVERAGE SIZE OF FARMS

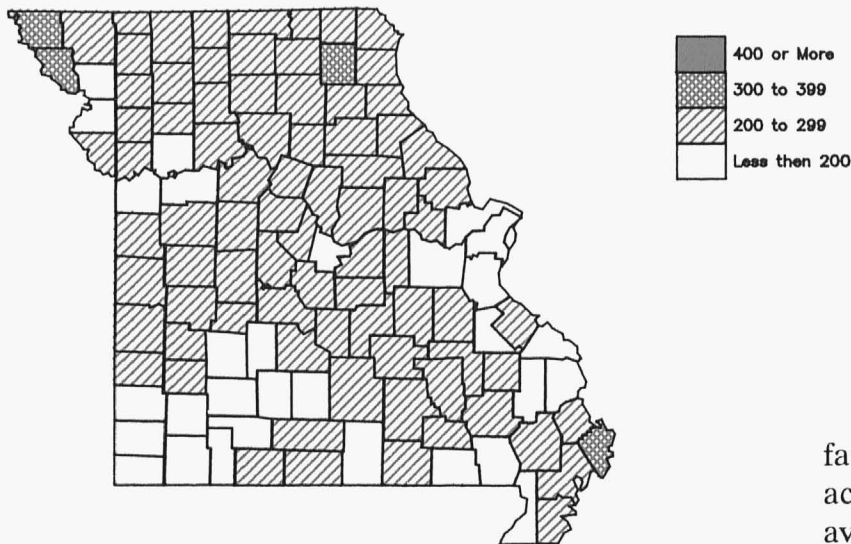


Average Size of Farm (Acres), 1987

In 1964 only four counties - Atchison, Holt, Knox and Mississippi -- had farms that averaged 300 or more acres. The average size farm in 30 counties was less than 200 acres.

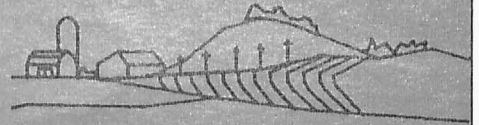


Average Size of Farm (Acres), 1964



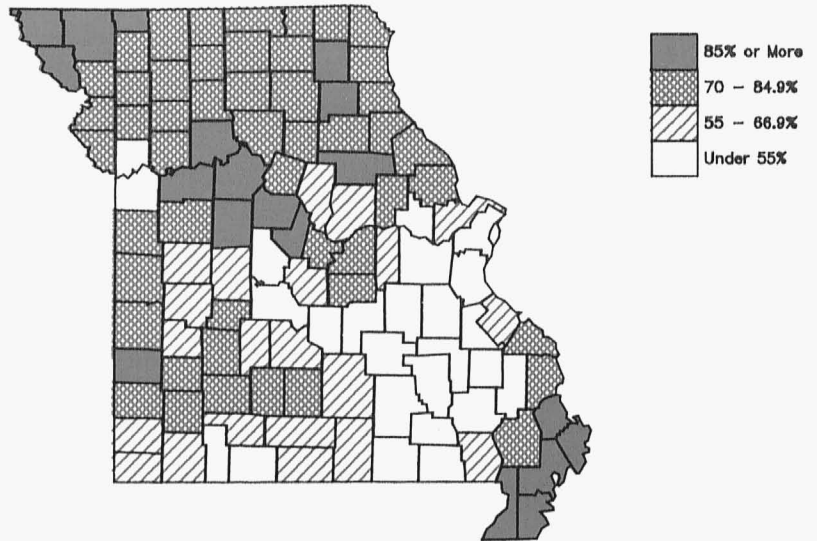
By 1987 ten counties had farms averaging more than 400 acres. In only 17 counties was the average size farm less than 200 acres.

PROPORTION OF LAND AREA IN FARMS

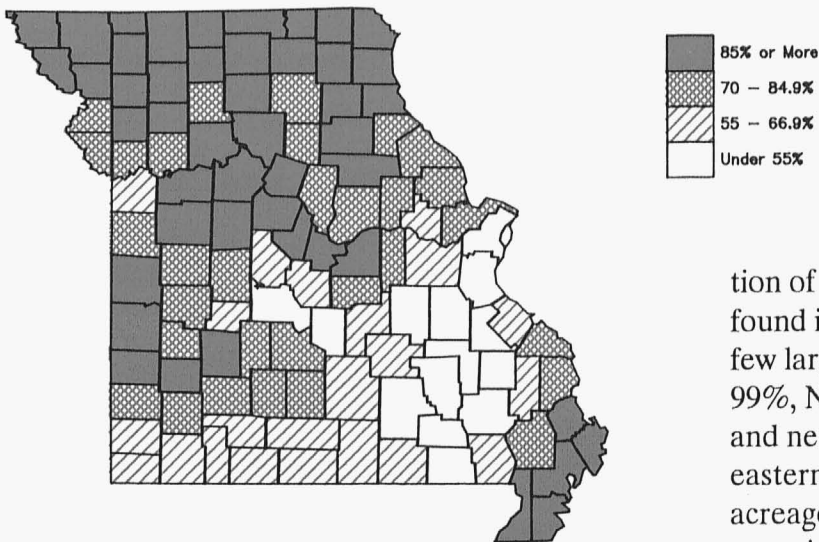


Proportion of Land Area in Farms, 1987

Of Missouri's approximately 45 million acres of land, two-thirds is in farms. This amount of land in farms continues to gradually decline as land is switched to other uses, the major ones being public owned forests and parks, towns and cities, highways, recreational areas, and rural residences.

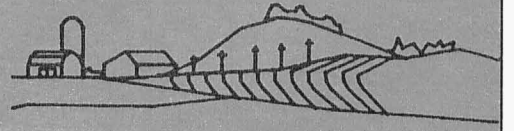


Proportion of Land Area in Farms, 1964

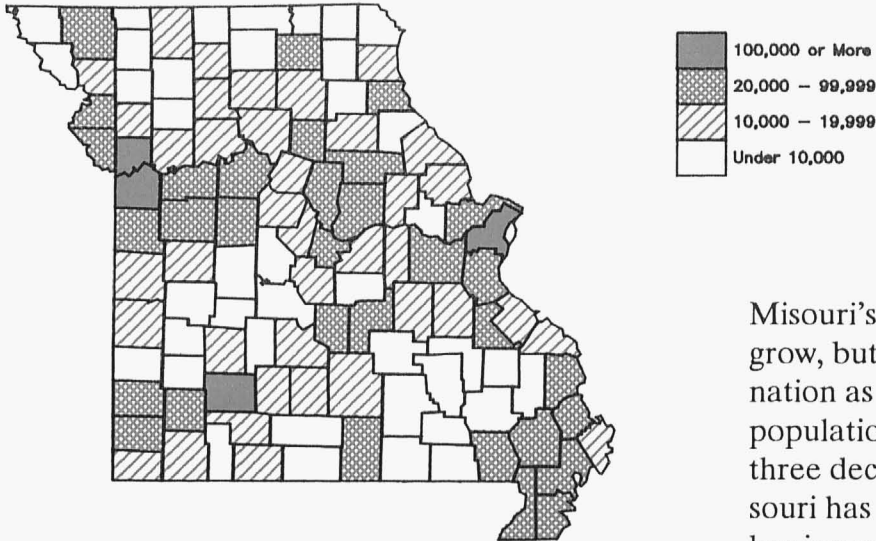


Counties vary widely in the proportion of land area in farms, the highest being found in the more fertile land areas with few larger population centers (Mississippi 99%, Nodaway 94%), and the lowest in and near major urban areas and in the eastern Missouri Ozarks where large acreage of forest land is owned by public agencies (St. Louis 16%, Reynolds 17%).

POPULATION



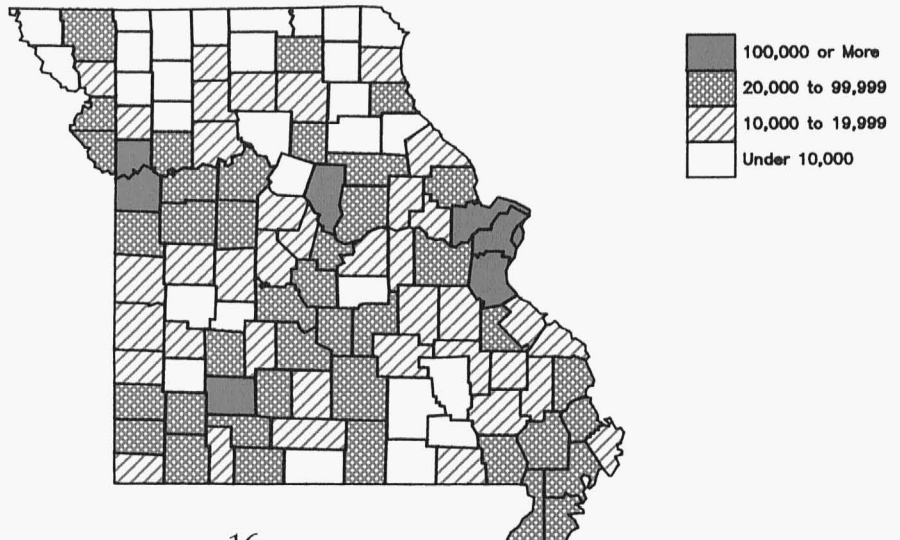
Population Estimates of Missouri Counties, 1966



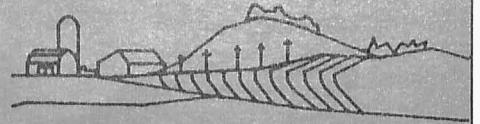
Missouri's population has continued to grow, but at a slower rate than for the nation as a whole. The distribution of population has changed over the past three decades. In general, North Missouri has declined and South Missouri has increased.

In 1966 four counties had a population greater than 100,000. They were St. Louis, Greene, Jackson and Clay. By 1988 Boone, Jefferson and St. Charles counties also exceeded 100,000 people.

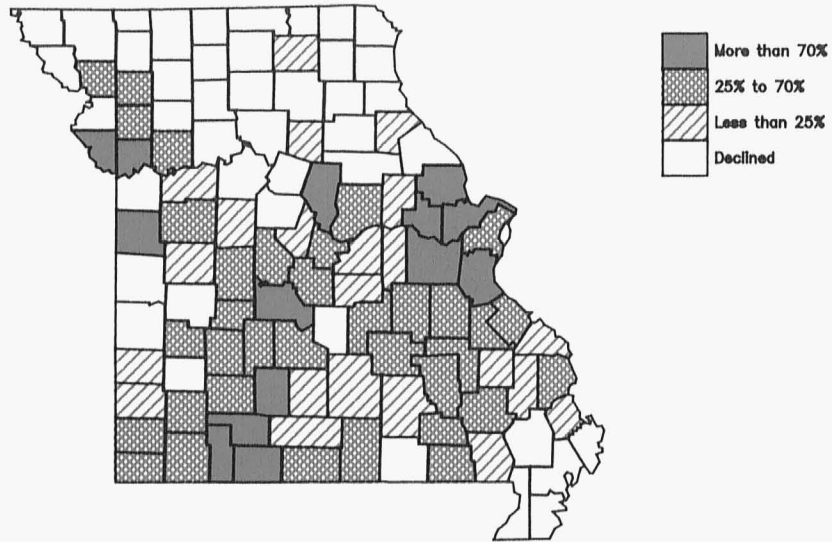
Population Estimates of Missouri Counties, 1988



POPULATION



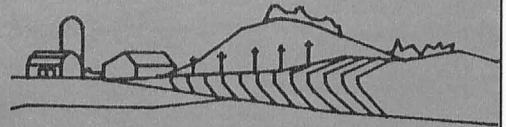
Percent Change in Population, 1960–1990



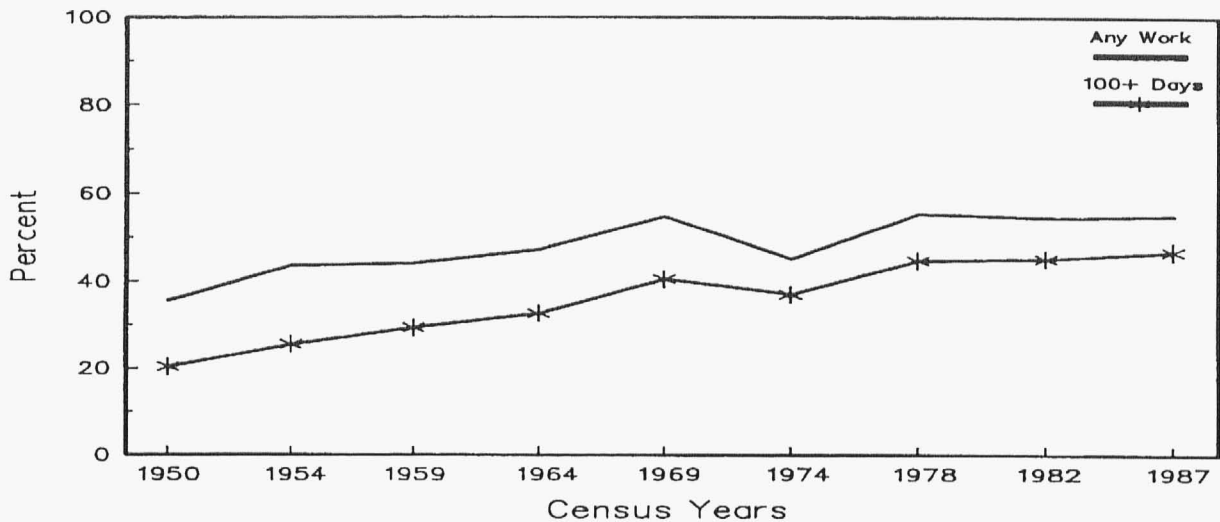
Only 11 counties in the southern half of the state failed to increase during the 1960 - 1990 period. Most counties increased by 25 percent or more. In North Missouri during this same period 15 counties grew in population and 32 declined.

The rapid growth was near Kansas City, St. Louis, Columbia, Springfield, Lake of the Ozark and Shepard of the Hills country.

FARM OPERATORS

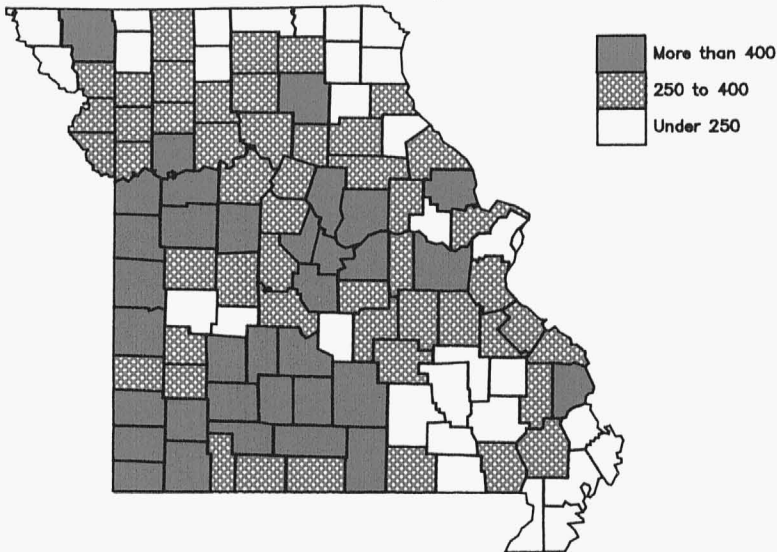


Percentage of Missouri Farm Operators Working Off Farm, 1950-87



SOURCE: USDC, Bureau of the Census

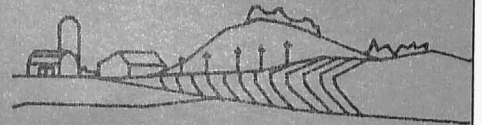
Number of Farm Operators Working Off Farm 200 days or More, 1987



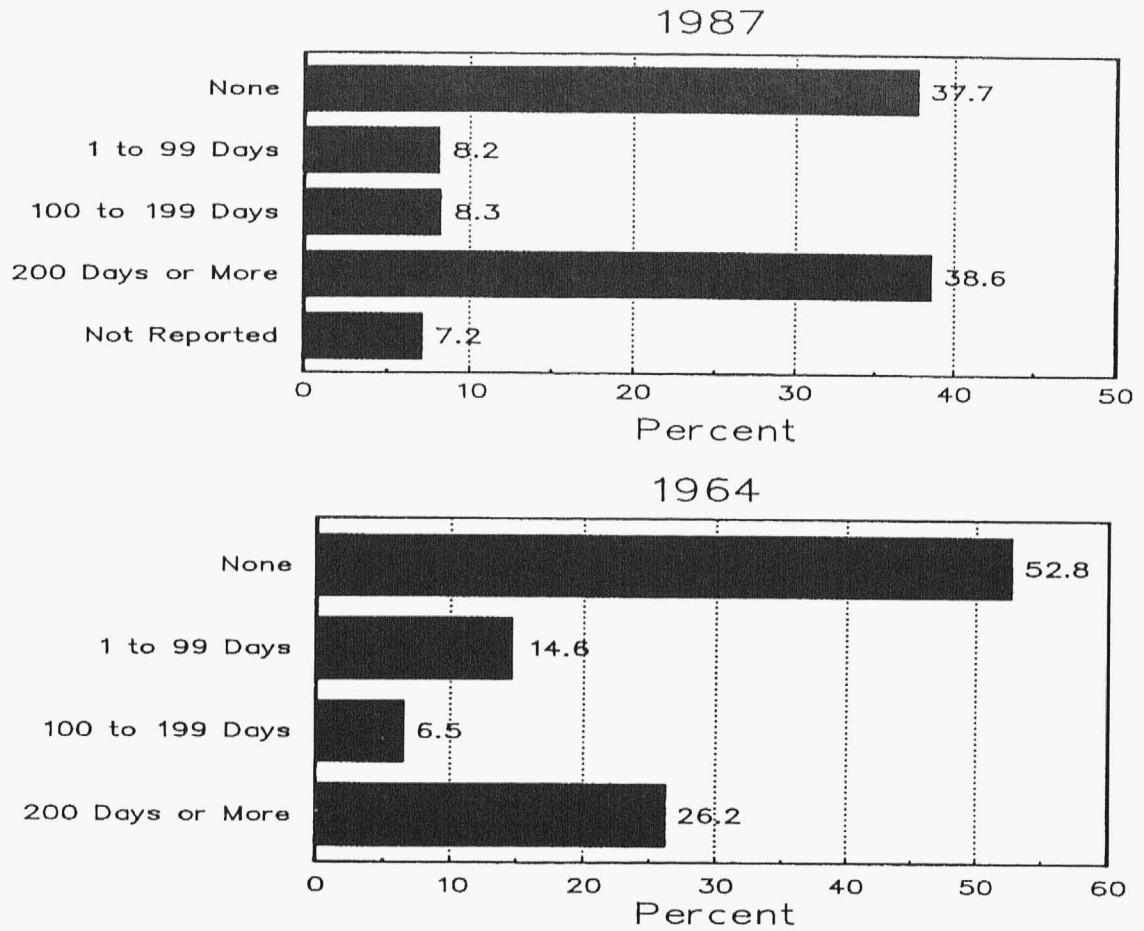
Missouri farmers have increasingly been combining farming with off-farm employment. In 1954, 43 percent of all farmers worked off the farm. In 1987 this number had risen to 55 percent.

Approximately 4 out of 10 farmers held a full time off-farm job (working 200 or more days annually) in 1987, while this number had been less than 2 out of 10 in 1954.

The number of farmers in a county who work full time at an off-farm job is dependent upon the number of farmers available to work and the number of jobs available within commuting distance.



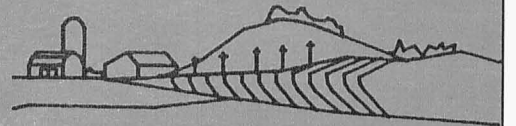
Operators Working Off Farm



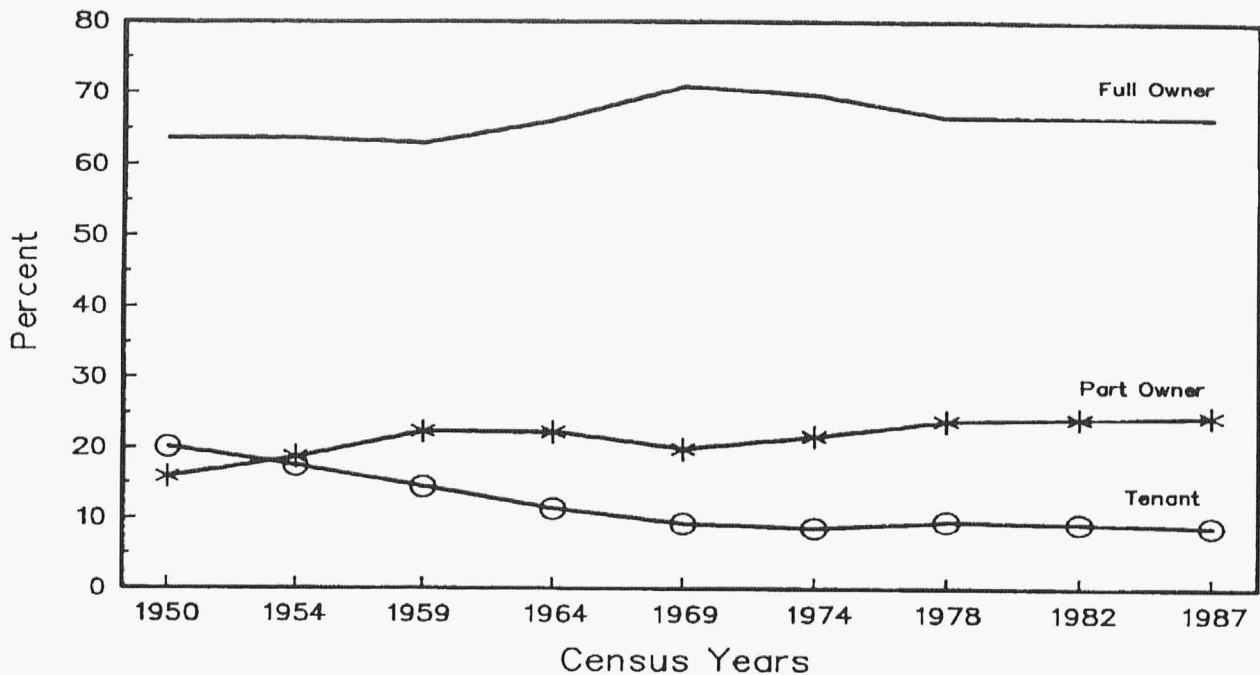
SOURCE: USDC, Census of Agriculture

More than one-half of all farmers in 1964 did not work off the farm. By 1987 the number of farmers not working off the farm had dropped to slightly more than one-third. Farmers who worked off the farm 200 or more days, essentially holding a full-time job off the farm, rose from 26 percent in 1964 to 39 percent in 1987. The remaining farmers, those who worked off the farm some but less than a full time job, remained about the same percentage; 17 percent in 1987 compared to 21 percent in 1964.

FARM OPERATORS BY TENURE



Percentage of Missouri Farm Operators by Tenure
1950-87

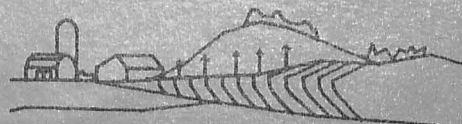


SOURCE: USDC, Bureau of the Census

Missouri farms are predominately owner-operated. This has been true for the past 40 years. About two-thirds of all farms are completely owned by the operator and only one farm in 10 is rented by a tenant farmer. The remaining farms are a combination of owned and rented land.

The number of full tenant farms has gradually declined over time, while full owners have remained about the same and part owners increased slightly.

FARM PRODUCTION EXPENSES

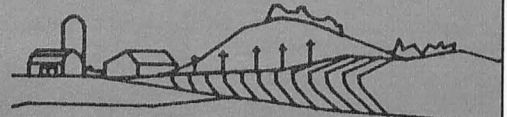


Missouri farmers spent \$2,804,630,000 on production expenses in 1987. This amount represents 77 percent of the value of all agricultural products sold that year. Feed for livestock and poultry was the largest single expense followed by purchased livestock and poultry. Interest expenses was third.

SELECTED FARM PRODUCTION EXPENSES

	1987		1969	
	(\$1,000)	%	(\$1,000)	%
Livestock and Poultry Purchased	\$397,299	20.4%	\$250,327	33.1%
Feed for Livestock and Poultry	\$552,814	28.5%	\$257,067	33.9%
Commercial Fertilizers	\$239,254	12.3%	\$88,868	11.7%
Petroleum Products	\$176,852	9.1%	\$70,481	9.3%
Hired Farm Labor	\$163,868	8.4%	\$56,744	7.5%
Interest Expenses	\$277,614	14.3%	(NA)	-
Agricultural Chemicals	\$135,348	7.0%	\$34,092	4.5%
TOTAL SELECTED EXPENSES:	\$1,943,049	100.0%	\$757,579	100.0%

FOREIGN OWNERSHIP



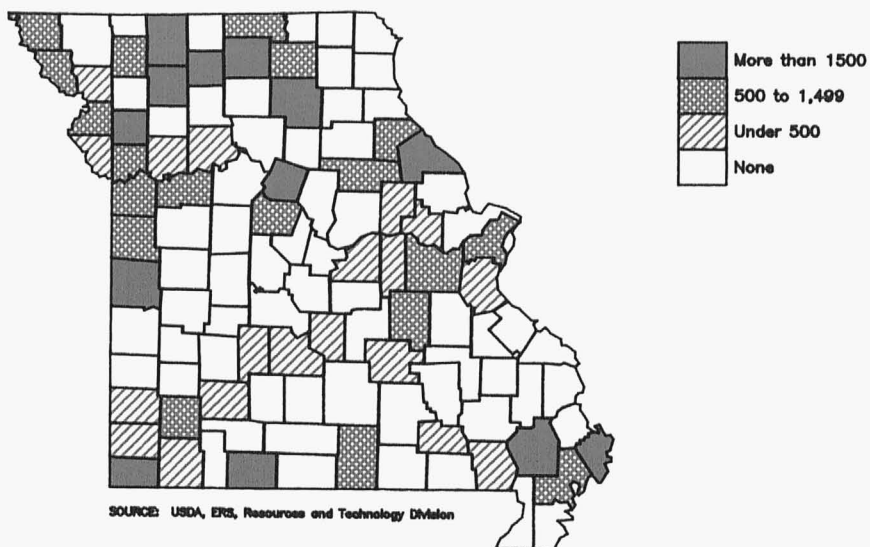
Foreigners owned 59,848 acres of Missouri agricultural land as of December 31, 1989. This is slightly less than one-tenth of one percent of all privately owned agricultural land.

LANDHOLDINGS OF FOREIGN OWNERS (ACRES), 1989

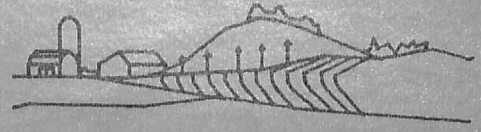
TANEY	6,451	LAFAYETTE	800
STODDARD	5,181	AUDRAIN	787
MACON	3,758	ST. LOUIS	677
PIKE	3,606	RALLS	614
CLINTON	3,138	HOLT	525
HARRISON	2,681	GENTRY	512
GRUNDY	2,546	PULASKI	455
MCDONALD	2,497	PLATTE	421
SULLIVAN	1,950	RAY	385
MISSISSIPPI	1,942	JEFFERSON	252
BATES	1,779	OSAGE	200
DAVIESS	1,642	BARRY	199
HOWARD	1,580	CARTER	198
CRAWFORD	1,311	NEWTON	180
COOPER	1,280	MONTGOMERY	160
LAWRENCE	1,244	JASPER	155
FRANKLIN	1,188	LACLEDE	152
ADAIR	1,160	ANDREW	140
NEW MADRID	1,160	GREENE	120
HOWELL	1,090	CARROLL	116
CLAY	1,029	DENT	77
ATCHISON	1,006	WARREN	63
PUTNAM	880	DALLAS	30
BUCHANAN	860	GASCONADE	21
CASS	840	BUTLER	7
JACKSON	803		
		TOTAL	59,848

SOURCE: USDA, Economic Research Service
 "Foreign Ownership of U.S. Agric. Land Through Dec. 31, 1989"

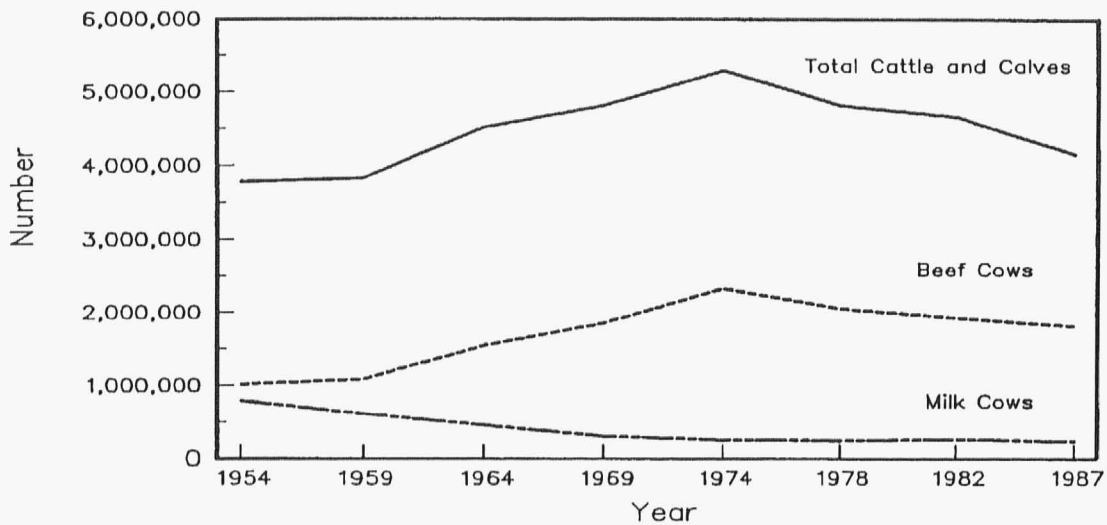
Landholdings of Foreign Owners (Acres), 1989



BEEF AND DAIRY CATTLE



Cattle and Calves Inventory



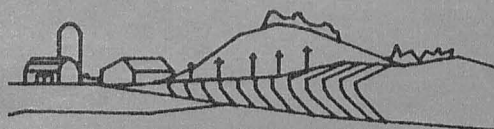
SOURCE: USDC, Bureau of the Census

The production of cattle and calves in Missouri has trended slightly upward over the past three decades. The number of beef cows has increased while the number of milk cows has declined.

The trend lines have not been smooth. They reflect the tug and pull of the economic forces that shape the cattle number cycle for the U.S. Missouri's all time high in cattle numbers was reached in 1975, simultaneous with the peak in U.S. cattle numbers. 1987 is probably near the low point for the current cattle numbers cycle.

Beef cattle and calves are a major user of farm resources in Missouri and contribute significantly to farm income -- 29 percent of the total in 1987 and 28 percent in 1964.

BEEF AND DAIRY CATTLE

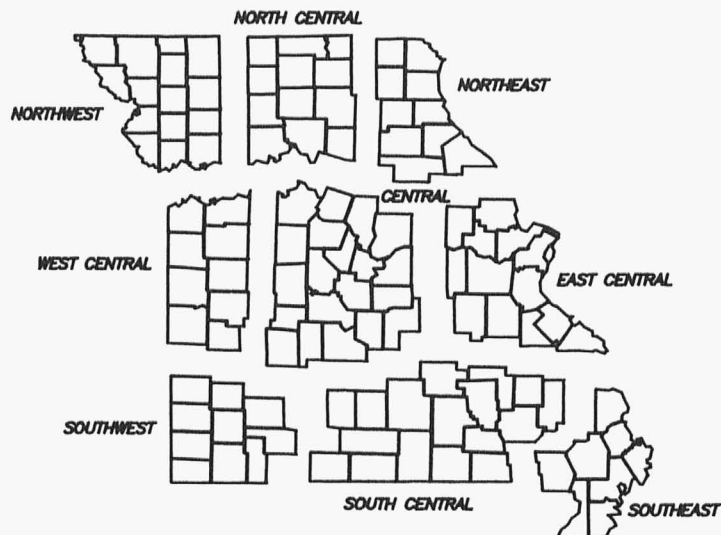


ALL CATTLE IN MISSOURI

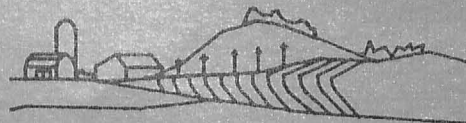
CROP REPORTING DISTRICTS:	1987	RANK	1964	RANK	NUMBER CHANGE	PERCENT CHANGE
NORTHWEST	490,000	4	758,000	2	-268,000	-35%
NORTH CENTRAL	420,000	6	518,000	4	-98,000	-19%
NORTHEAST	310,000	8	387,000	7	-77,000	-20%
WEST CENTRAL	470,000	5	540,000	3	-70,000	-13%
CENTRAL	950,000	1	764,000	1	186,000	24%
EAST CENTRAL	330,000	7	352,000	8	-22,000	-6%
SOUTHWEST	770,000	3	474,000	5	296,000	62%
SOUTH CENTRAL	780,000	2	435,000	6	345,000	79%
SOUTHEAST	80,000	9	163,000	9	-83,000	-51%
MISSOURI	4,600,000		4,391,000		209,000	5%

SOURCE: Missouri Farm Facts, MO Department of Agriculture

CROP AND LIVESTOCK REPORTING DISTRICTS



BEEF CATTLE

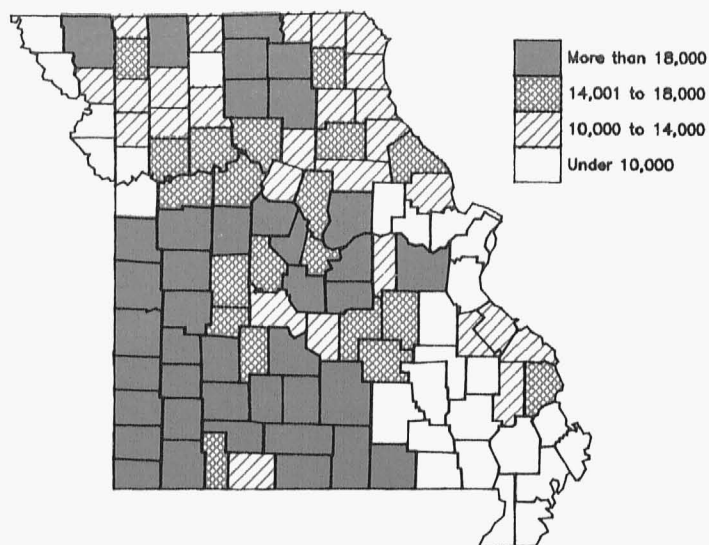


Seven out of 10 Missouri farms raise beef cattle. This ratio has remained fairly constant for many years. The number of beef cows on each farm continues to rise, but the herds remain small -- averaging 30 cows in 1987 and 17 cows in 1964.

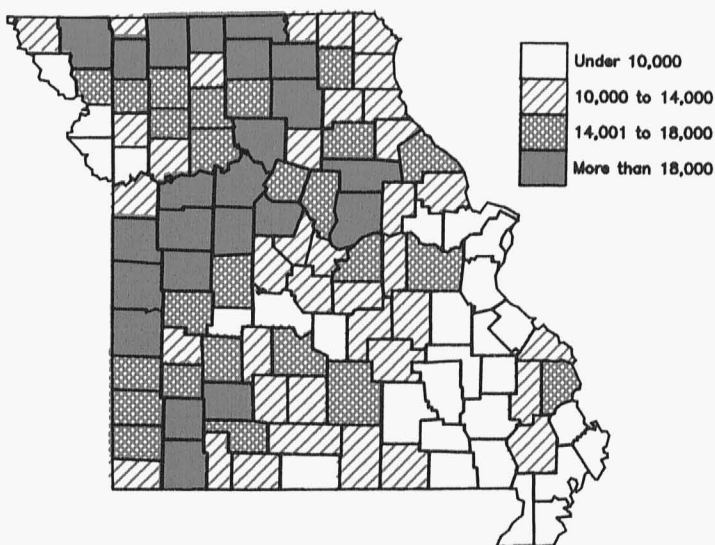
The distribution of beef and dairy cows throughout Missouri has changed during the past 25 years. In most instances, when milk cows were reduced or eliminated from a farm, they were replaced by beef cattle.

Beef cattle numbers also expanded in areas where poultry production increased, and declined in areas where pasture land was converted to crops, especially soybeans.

Total Number of Beef Cows, 1987



Total Number of Beef Cows, 1964

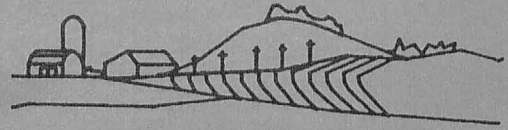


During the period 1964-87, beef cow numbers increased in 63 counties and declined in 51 counties. Total beef cows in the state rose 17 percent, from 1.5 million head to 1.8 million.

The number of farms with 100 or more beef cows in 1987 was 2,708. This was down from 2,868 in 1982.

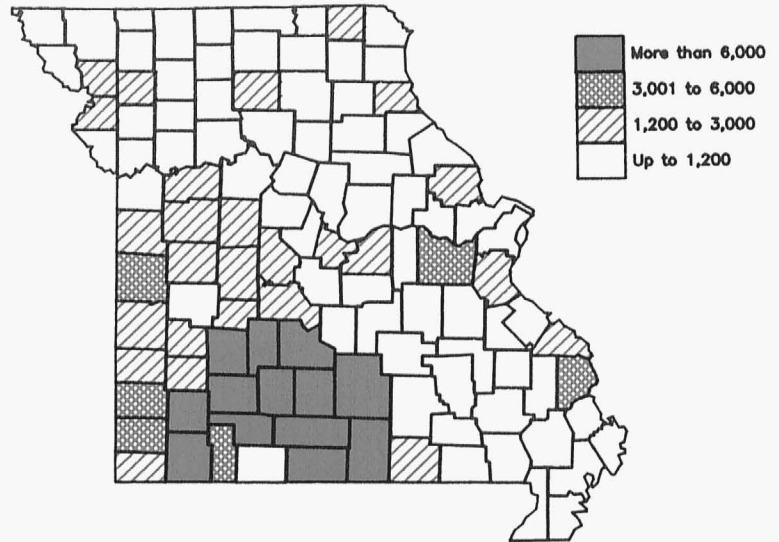
In 1987, 8,750 farms reported selling 335,042 head of cattle which had been grain fed. These cattle represented 13 percent of all cattle sales. Of those farms grain feeding cattle, 923 fed 100 head or more each year.

DAIRY CATTLE

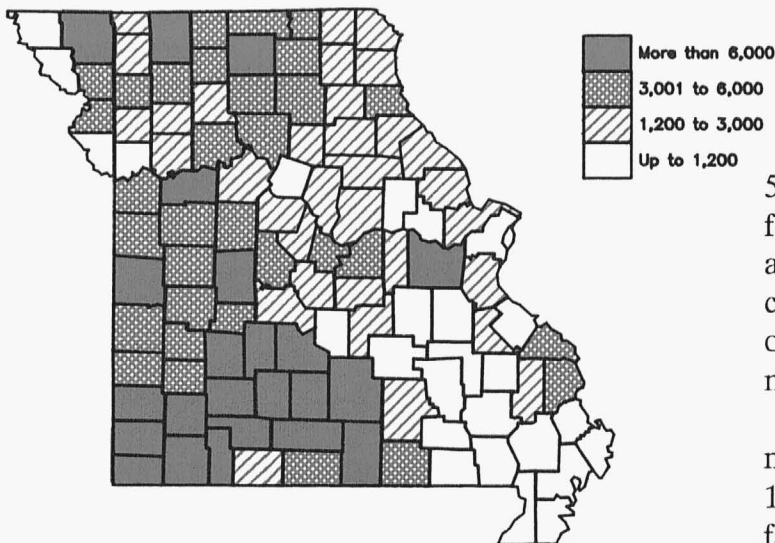


Total Number of Milk Cows, 1987

Thirty-five years ago most farms had their own milk cow and many farmers milked a few cows and sold milk or cream. In 1987, the 242,039 milk cows in the state were concentrated on 7,712 farms of which 4,940 were commercial dairy farms.



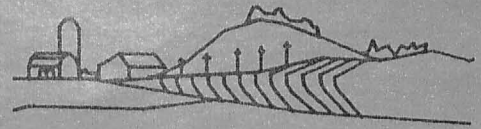
Total Number of Milk Cows, 1964



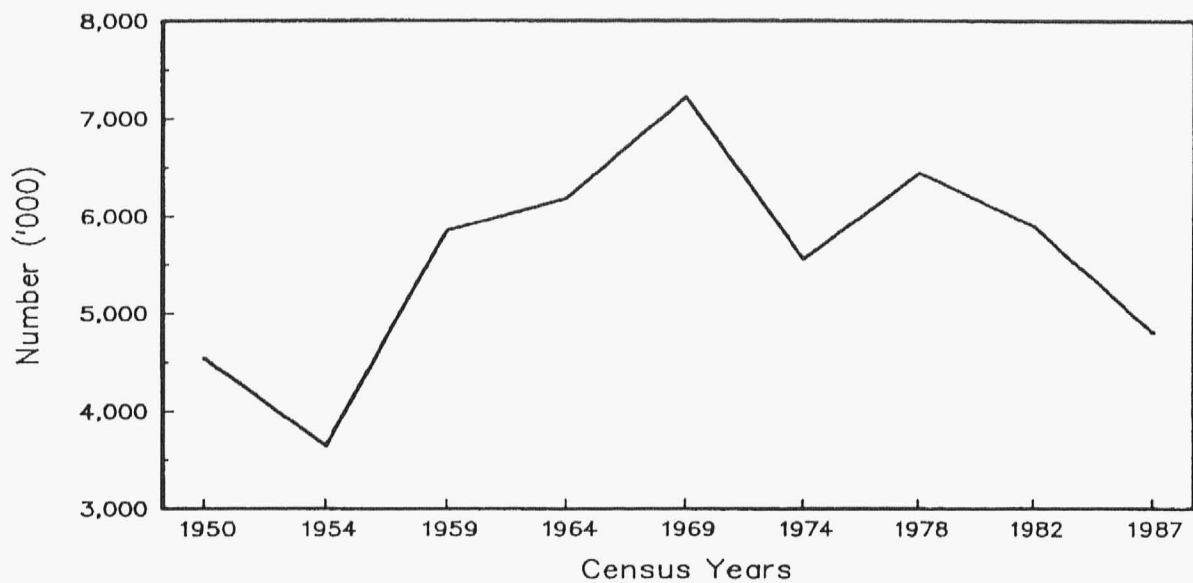
Milk cow numbers dropped almost 50 percent between 1964 and 1987. Only four counties -- Wright, Laclede, Ozark, and Texas - increased the number of milk cows. Increased milk production per cow offset a great deal of the reduction in cow numbers.

In 1964, 30,121 farms sold \$102 million worth of dairy products, and in 1987, 4,940 farms (one-sixth as many farms) sold \$324 million (over three times as much) worth of dairy products.

HOGS AND PIGS



Hogs and Pigs Sold From Missouri Farms
1950-87

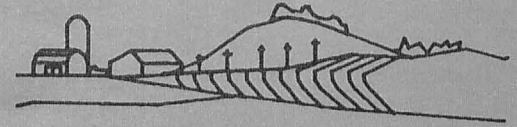


SOURCE: USDC, Bureau of the Census

One Missouri farm in seven raised hogs in 1987. This compared with one in two in 1954 and one in four in 1978.

The number of hogs and pigs sold annually has varied from a low of 3.2 million head in 1954 to a high of 7.2 million in 1969. The 4.8 million head sold in 1987 would be near the middle of this range.

HOGS AND PIGS

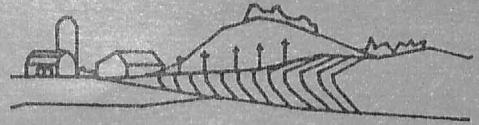


HOG AND PIG SALES

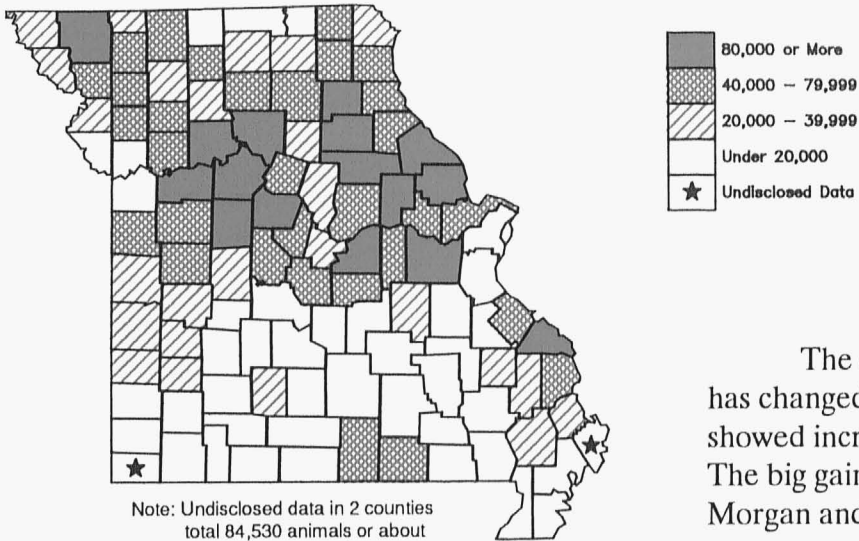
	1964	1987	CHANGE	PERCENT CHANGE
FARMS	58,846	15,306	-43,540	-73.9
NUMBER	6,181,497	4,804,123	-1,377,356	-22.3
HOG\PIG SALES	\$169,713,950	\$492,286,000	\$322,572,000	190.1
TOTAL FARM SALES	\$1,053,094,333	\$3,644,988,000	\$2,591,893,667	246.1
HOG SALES AS A % OF TOTAL FARM SALES	16.1	13.5	-2.6	-----

The number of farms selling hogs and pigs has declined much more than the number of hogs and pigs sold during the past 25 years. The value of swine sales increased almost two times and the contribution to total farm sales slipped from 16 percent to 14 percent.

HOGS AND PIGS

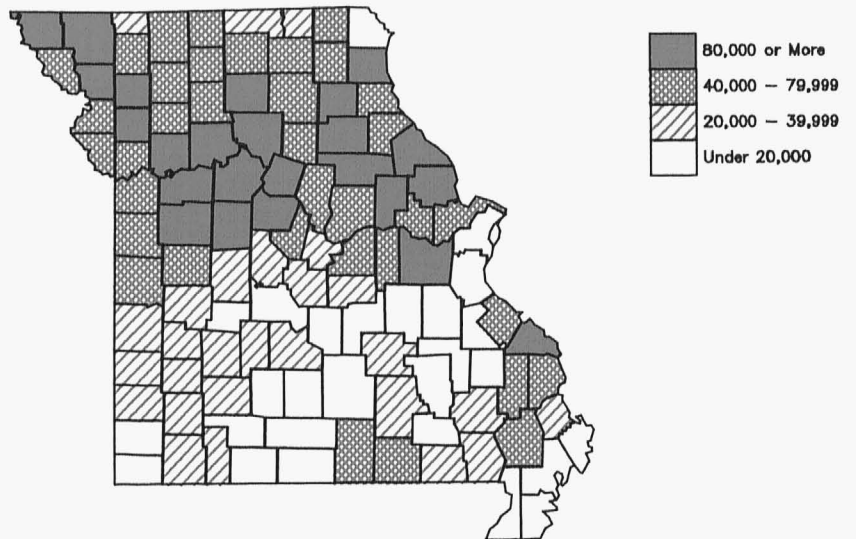


Head of Hogs and Pigs Sold, 1987

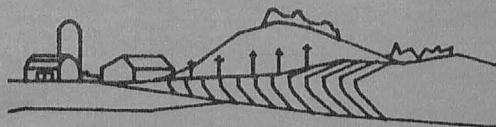


The distribution of hog production has changed since 1964. Eighteen counties showed increases and 96 showed decreases. The big gainers were Osage, Shelby, Pettis, Morgan and Miller counties.

Head of Hogs and Pigs Sold, 1964

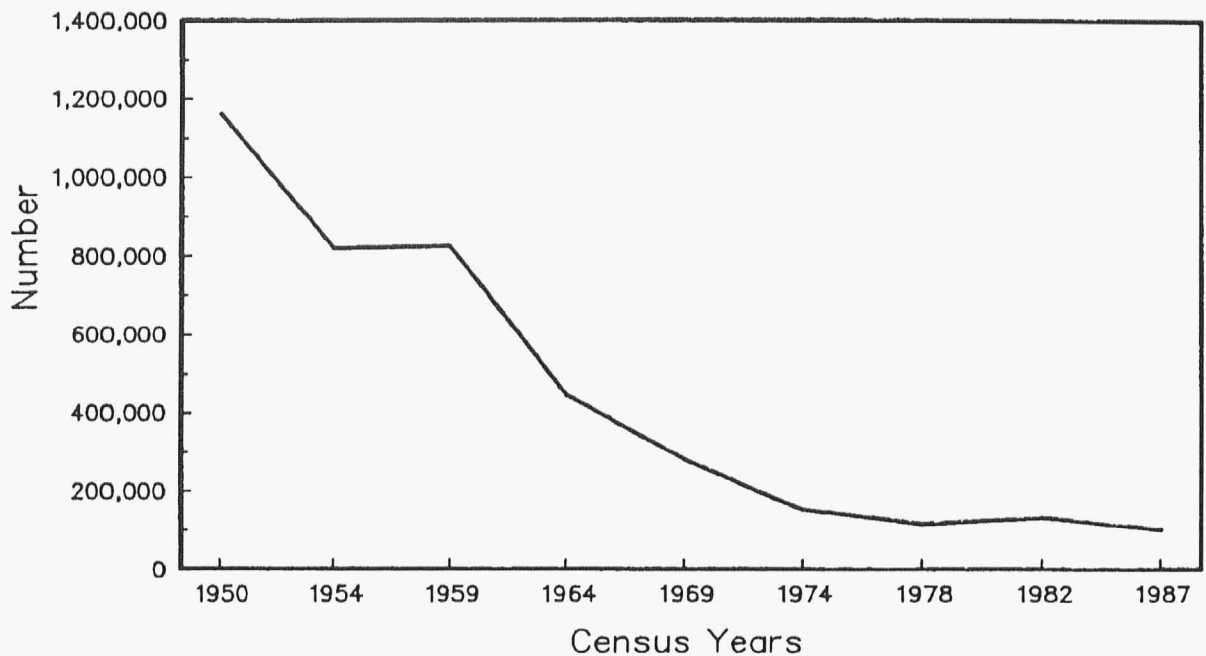


SHEEP AND LAMBS



Sheep numbers in Missouri dropped sharply in the decades of the fifties and sixties, from more than a million head to about 100,000 in 1974. Since 1974, however, the numbers have remained fairly stable.

**Sheep and Lamb Inventory on Missouri Farms
1950-87**

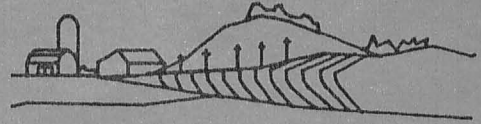


Source: USDC, Bureau of the Census

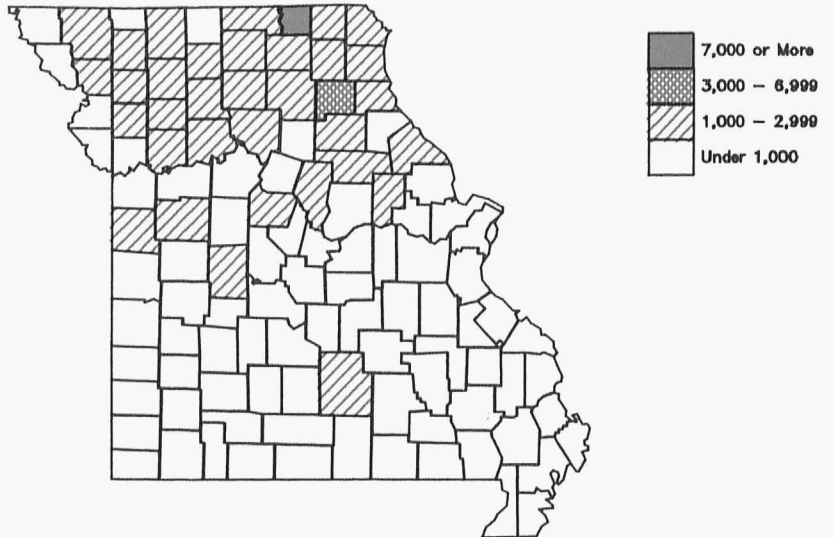
Sheep and Lamb Sales in MO, 1964 & 1987

	1964	1987
FARMS	9,999	2,606
NUMBER	395,719	101,780
DOLLARS	\$6,363,171	\$5,924,000

SHEEP AND LAMBS

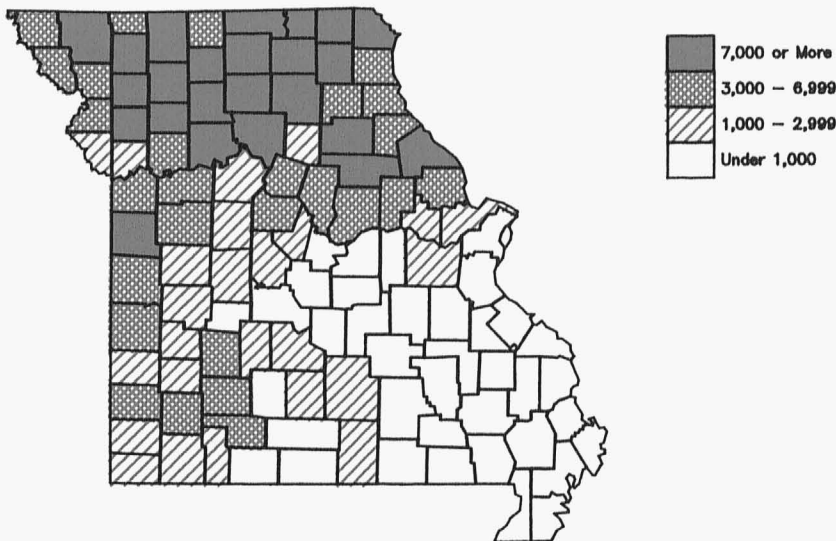


Head of Sheep and Lambs on Missouri Farms, 1987



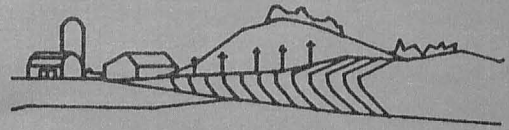
In 1964, most Missouri counties north of the Missouri River had 7,000 or more sheep and lambs. Schuyler led the state with 31,827.

Head of Sheep and Lambs on Missouri Farms, 1964



By 1987, sheep numbers had declined in 105 counties and increased slightly in 9 counties. Only Schuyler and Shelby counties had more than 3,000 head. Total sheep numbers had declined 77 percent.

POULTRY

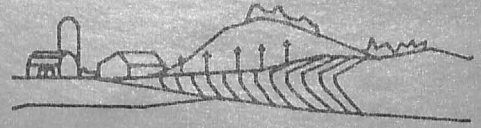


The sale of poultry products from Missouri farms has increased more than four times since 1964, while the number of farms producing poultry dropped from 30,625 to 2,882.

POULTRY SALES AND INVENTORIES

	<u>1964</u>	<u>1987</u>
ALL POULTRY:		
Number of Farms	30,625	2,882
Value of Sales	\$64,365,043	\$273,584,000
% of Total Ag Sales	6.0	7.5
BROILERS:		
Farms	559	316
Number	28,133,321	40,991,224
TURKEYS:		
Farms	2,202	394
Number	6,856,028	15,507,171

POULTRY

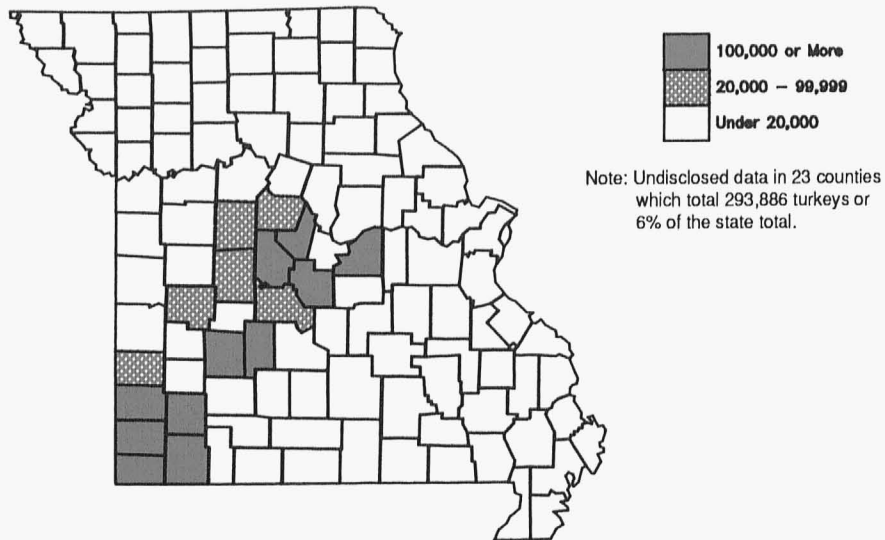


The number of turkeys raised in Missouri increased two and one-fourth times between 1964 and 1987. This larger production was produced by fewer farms in fewer counties.

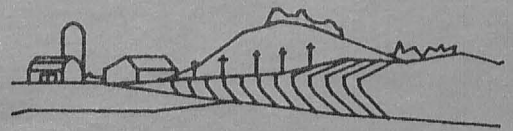
In 1987 turkeys were raised in 109 counties, but 17 counties accounted for most of the production. The top 10 counties in number of turkeys sold in 1987 were :

Barry	2,482,994
Miller	2,387,323
Newton	1,723,464
Morgan	1,696,315
Osage	1,534,471
McDonald	894,738
Jasper	790,473
Polk	450,393
Pettis	354,470
Lawrence	347,855

Turkeys Raised on Missouri Farms, 1987



CORN PRODUCTION



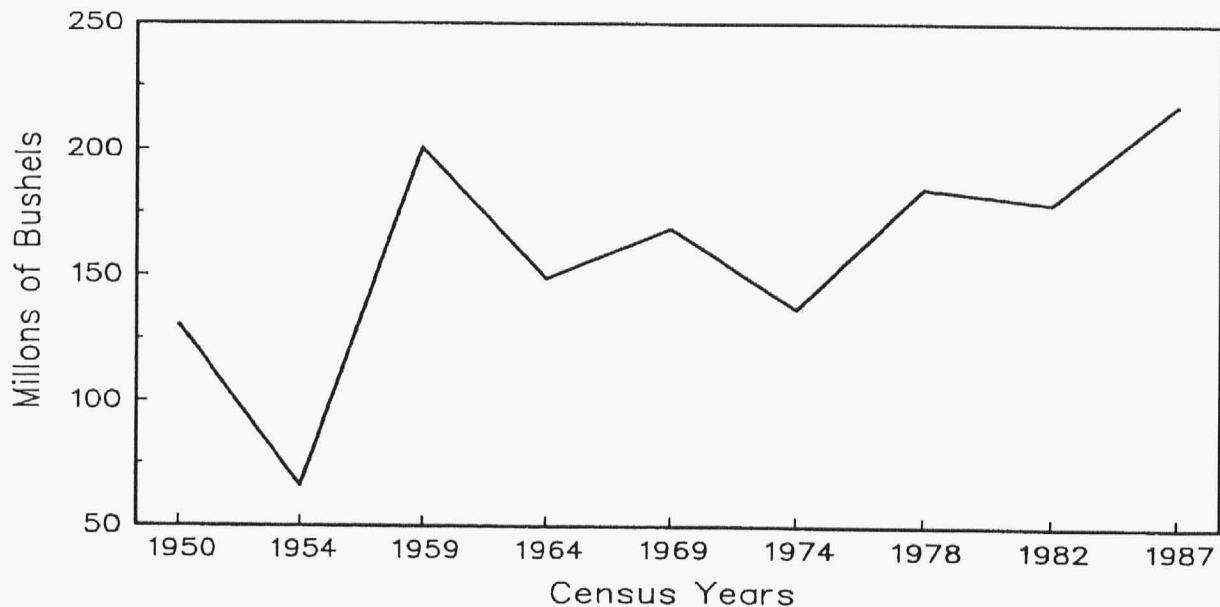
CORN HARVESTED FOR GRAIN IN MISSOURI

	1987	1982	1978	1974	1969	1964	1959	1954
FARMS	25,921	25,323	31,616	38,819	49,482	64,423	94,969	84,908
ACRES (000)	2,069	1,893	2,202	2,559	2,655	2,833	3,921	2,839
YIELD (bu/ac)	105.4	94.4	83.9	53.6	63.8	52.8	51.3	23.3
BUSHEL (000)	218,093	178,723	184,789	137,211	169,467	149,474	201,053	66,254

Despite the fact that the number of farms growing corn declining by more than two-thirds and the acreage about one-third, the total bushels of corn harvested rose more than two times during the period 1954-1987.

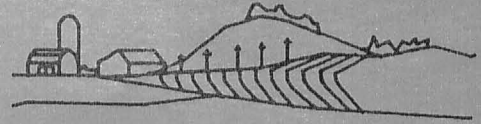
Corn was shifted to better producing land in the better corn growing counties. Farmers growing corn raised more acres and used more of the available yield increasing technology.

**Bushels of Corn Harvested for Grain
From Missouri Farms, 1950-87**



Source: USDC, Bureau of the Census

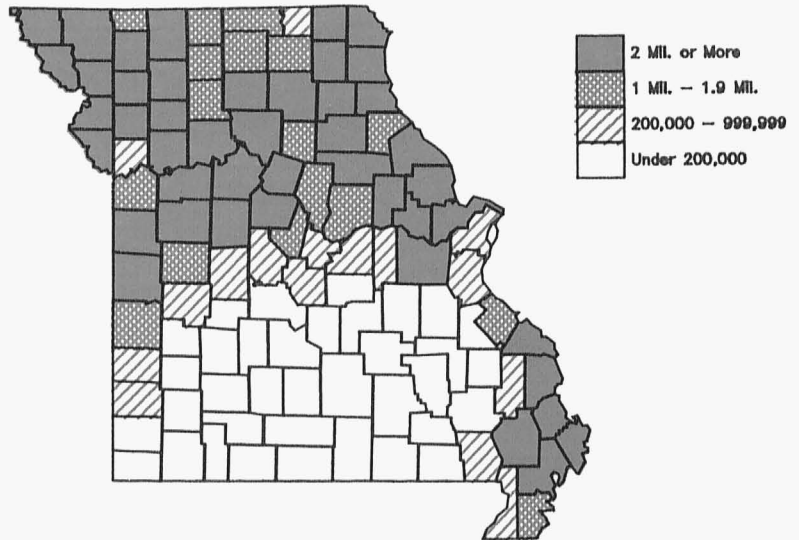
LOCATION OF CORN PRODUCTION



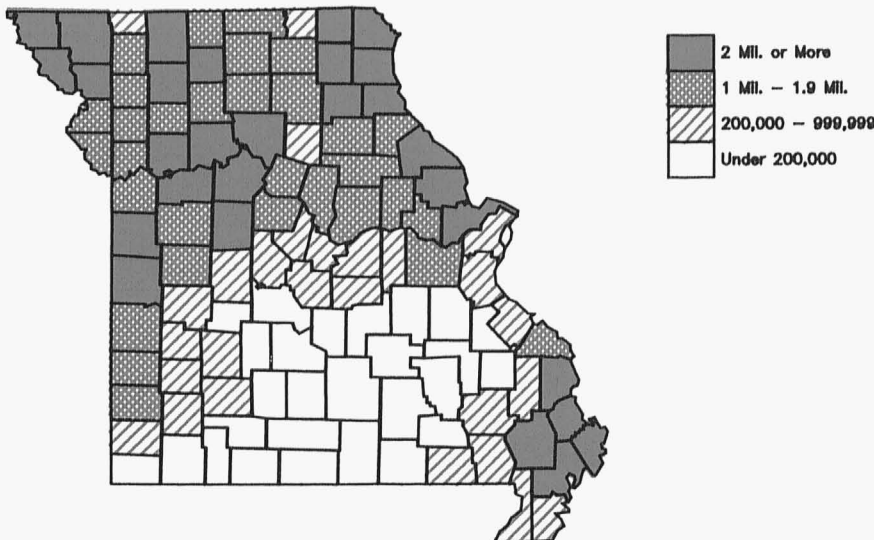
In 1964 the growing of corn for grain was an important farm enterprise in most counties. The heaviest concentration was in the northern counties and in the southeast delta. Atchison County ranked number one in corn production followed by Saline, Holt and Nodaway counties.

Corn production in the state rose 46 percent by 1987 and became more concentrated in the high producing counties of 1964. Saline County moved ahead of Atchison County and Nodaway County moved into third place.

Bushels of Corn Harvested, 1987

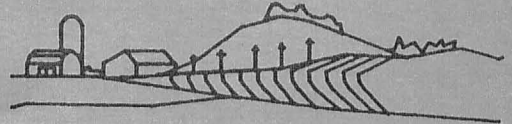


Bushels of Corn Harvested, 1964



Stoddard County jumped from 16th place in 1964 to fourth place in 1987. Several counties, especially in Southwest Missouri, reduced or even eliminated corn entirely.

SOYBEAN PRODUCTION

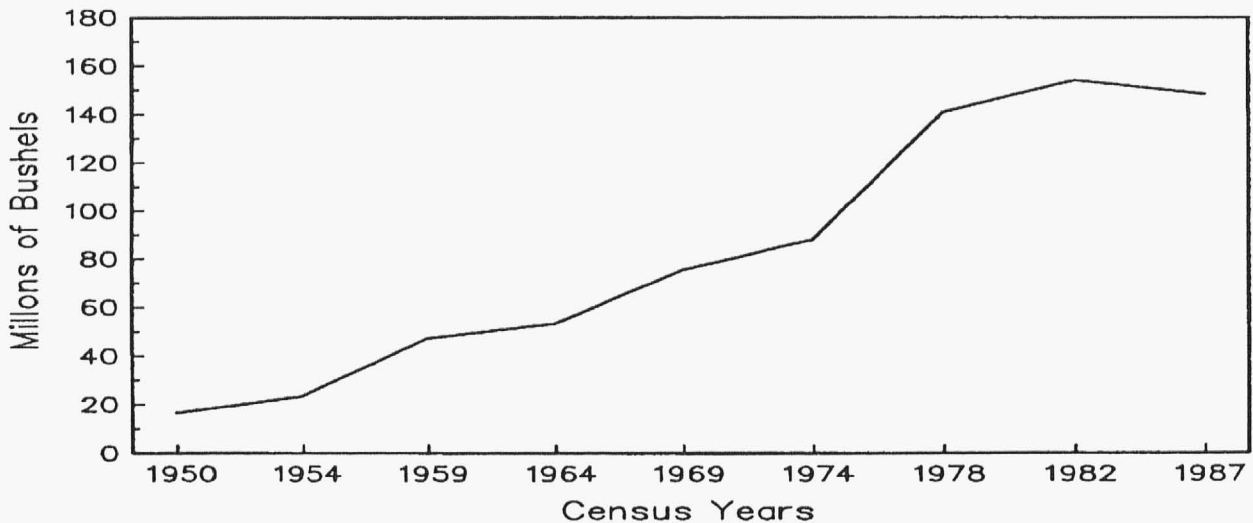


SOYBEANS HARVESTED FOR GRAIN IN MISSOURI

	1987	1982	1978	1974	1969	1964	1959	1954
FARMS	33,489	38,820	41,137	40,893	41,119	43,870	42,757	40,391
ACRES (000)	4,827	5,286	5,167	4,065	3,027	2,061	2,207	1,701
YIELD (bu/ac)	30.7	29.1	27.3	21.6	24.9	20.6	21.5	13.9
BUSHEL (000)	148,273	153,691	140,836	87,982	75,476	53,466	47,441	23,596

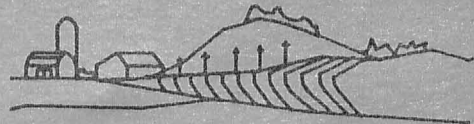
Soybean is the most important crop grown on Missouri farms. The acreage has almost tripled since 1954 and the bushels of beans harvested has increased more than six times. Total bushels produced increased 177 percent between 1964 and 1987. Soybeans are grown in almost every county except for a few Ozark counties.

**Bushels of Soybeans Harvested for Beans
From Missouri Farms, 1950-87**



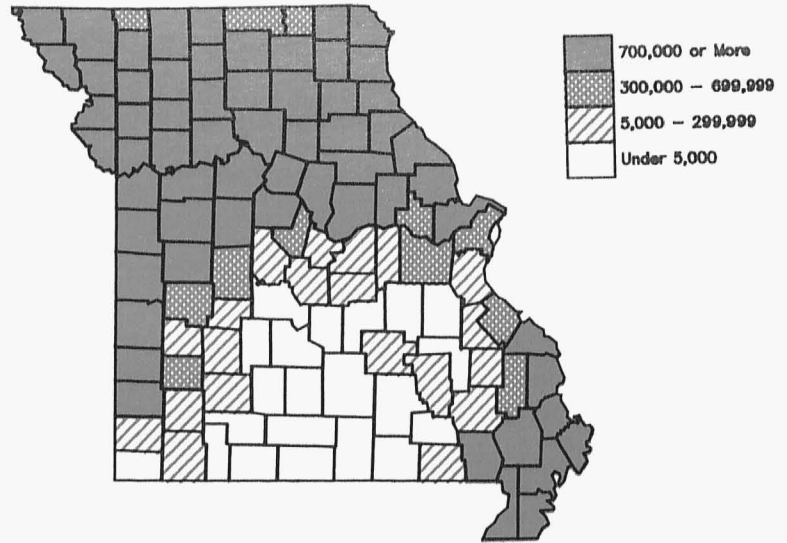
Source: USDC, Bureau of the Census

LOCATION OF SOYBEAN PRODUCTION

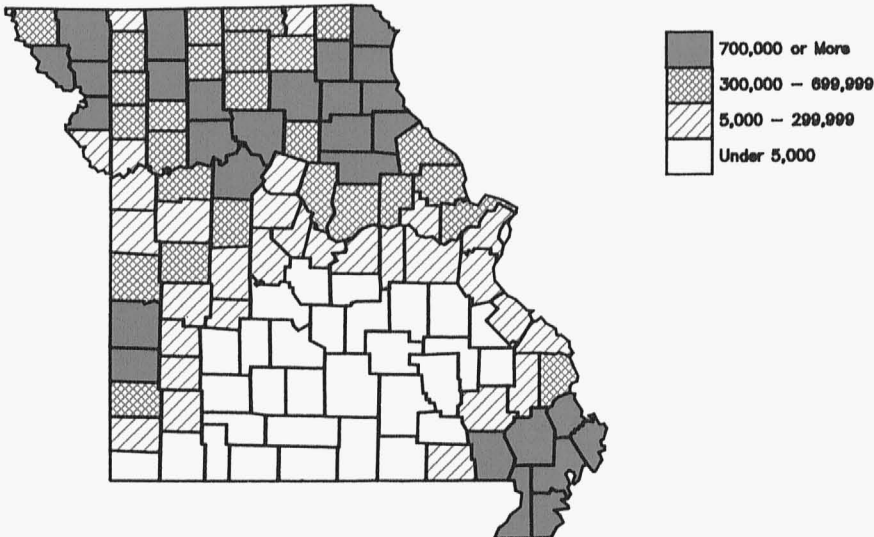


Bushels of Soybeans Harvested, 1987

In 1964, the top five counties in soybean production were in the southeast Missouri Bootheel region -- New Madrid, Pemiscot, Stoddard, Dunklin and Mississippi counties. None of these counties were in the top five in 1987 yet all increased production except Dunklin County.

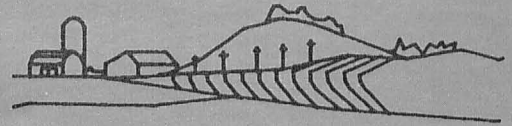


Bushels of Soybeans Harvested, 1964



The top producing area in 1987 was central Missouri led by Saline, Carroll, Audrain and Chariton counties.

WHEAT PRODUCTION

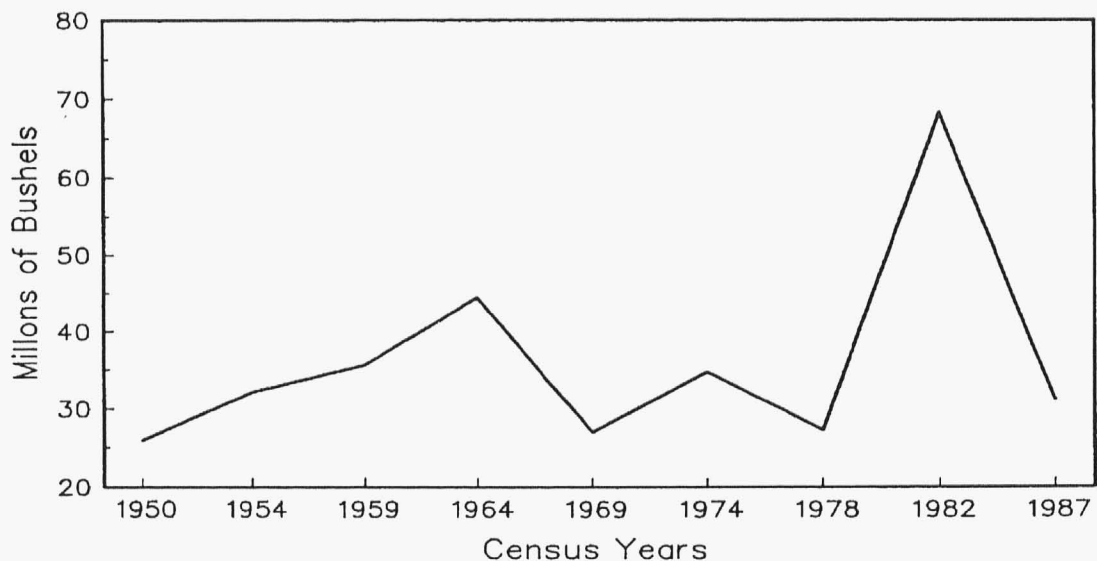


WHEAT HARVESTED IN MISSOURI

	1987	1982	1978	1974	1969	1964	1959
FARMS	12,683	29,507	17,564	27,736	34,110	45,707	61,685
ACRES ('000)	750	2,045	825	1,237	906	1,458	1,472
YIELD (bu/ac)	42.6	33.4	33.1	28.1	29.8	30.5	24.3
BUSHEL ('000)	31,939	68,338	27,277	34,764	26,961	44,525	35,731

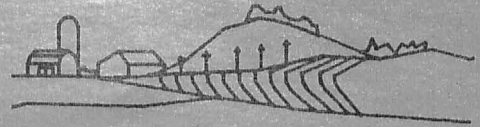
The acreage of wheat planted in Missouri has varied widely over the past 30 years. Over 2 million acres were planted in 1982 and only 750,000 acres in 1987. The average during this period was 1 1/4 million acres. Weather and government programs have contributed to the fluctuation in planted acres. It is difficult to identify any major trend in wheat production. The number of farms growing wheat has declined along with the reduction in farms in the state. Wheat yields per acre have increased, reflecting higher yielding technology.

**Bushels of Wheat Harvested on Missouri Farms
1950-87**

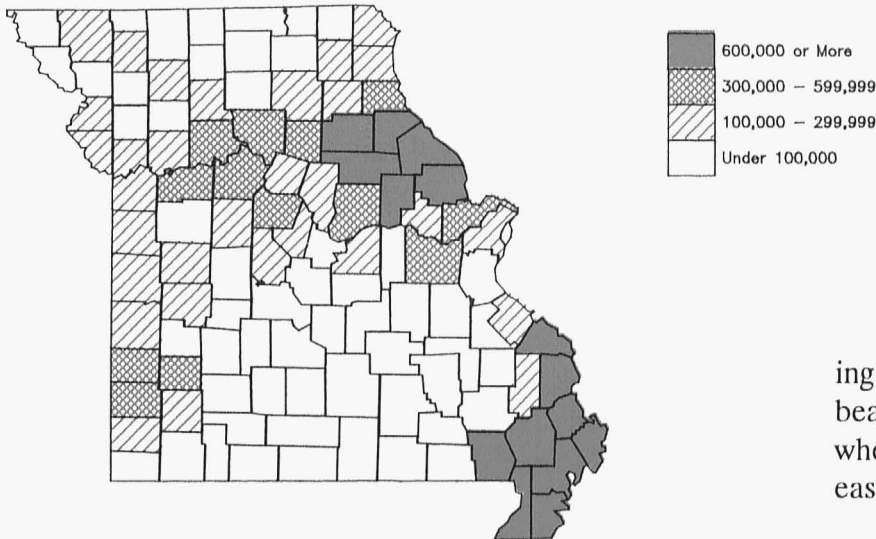


Source: USDC, Bureau of the Census

LOCATION OF WHEAT PRODUCTION

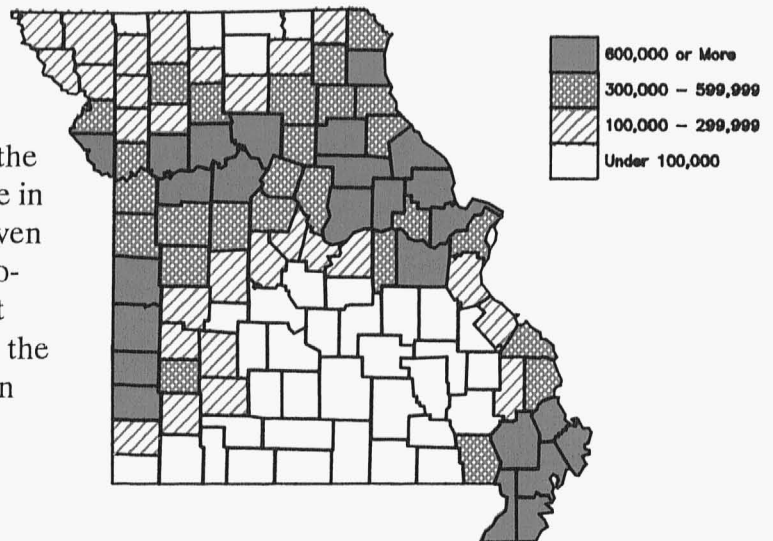


Bushels of Wheat Harvested, 1987



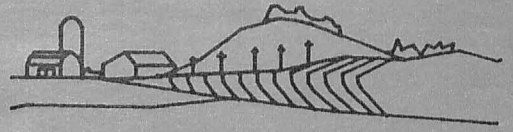
The potential of combining wheat and double crop soybeans has caused a major shift in wheat production toward southeast Missouri.

Bushels of Wheat Harvested, 1964



In 1964, four out of five of the top wheat producing counties were in southeast Missouri. By 1987, an even greater concentration of wheat production was found in the southeast delta. These six counties made up the top six wheat-producing counties in the state. Stoddard County, with more than 2.5 million bushels, was number one.

GRAIN SORGHUM PRODUCTION

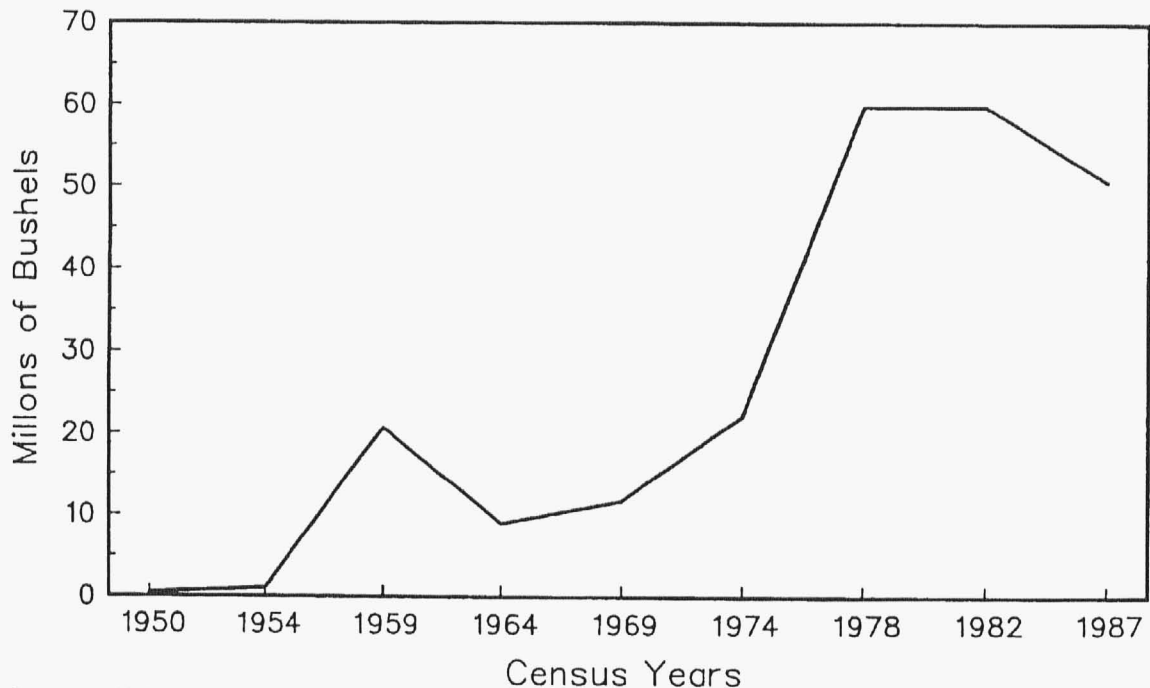


GRAIN SORGHUM HARVESTED FOR GRAIN IN MISSOURI

	1987	1982	1978	1974	1969	1964	1959	1954
FARMS	9,258	10,317	13,769	8,921	5,275	7,108	19,242	4,119
ACRES ('000)	625	747	809	456	199	189	478	64
YIELD (bu/ac)	81.2	73.5	74.0	48.8	59.4	47.8	43.4	17.8
BUSHEL ('000)	50,759	54,910	59,901	22,239	11,820	9,033	20,748	1,137

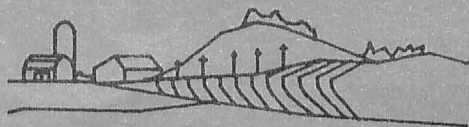
Grain sorghum production has increased in Missouri but the increase has come in erratic spurts, frequently rising sharply after a drought, and then falling off only to rise again. The number of bushels of grain sorghum harvested rose 462 percent between 1964 and 1987. The increase occurred in all parts of the state except the central Ozarks.

**Bushels of Grain Sorghum Harvested
on Missouri Farms, 1950-87**



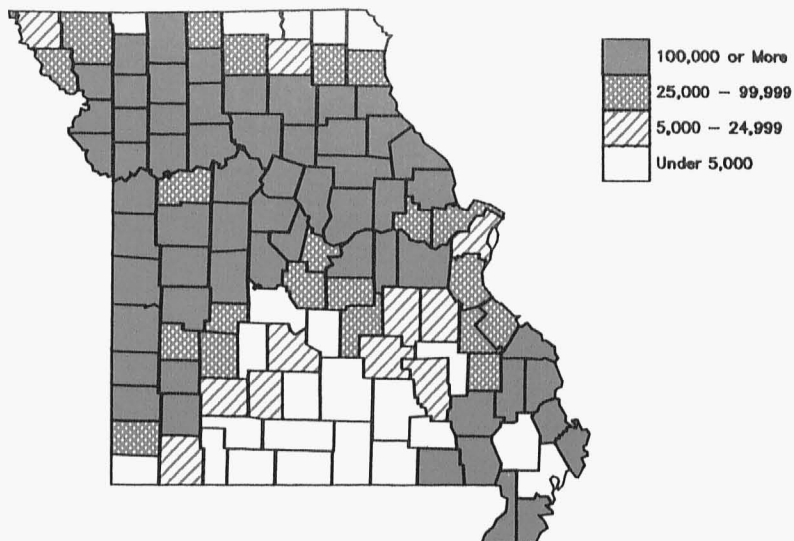
Source: USDC, Bureau of the Census

LOCATION OF GRAIN SORGHUM PRODUCTION

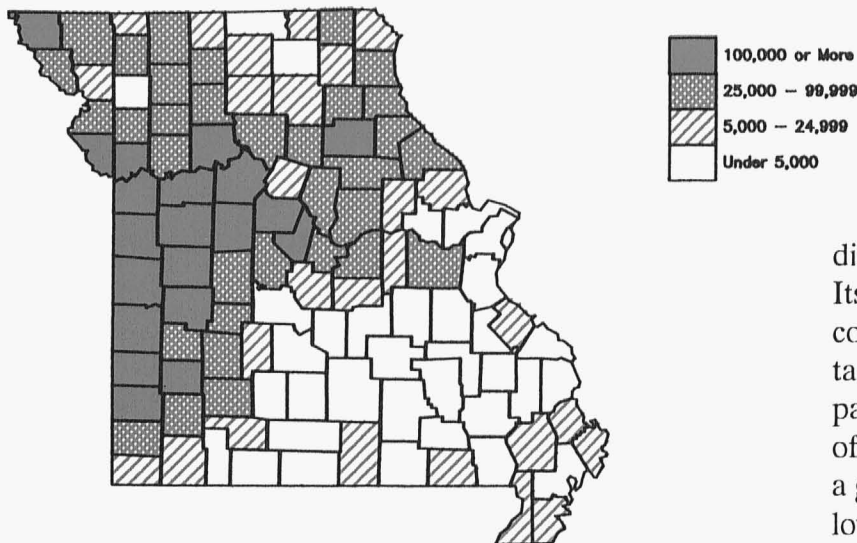


Bushels of Grain Sorghum Harvested, 1987

The top five counties in grain sorghum production in 1964 were in west central Missouri. While all of these counties increased the production of grain sorghum further, none of them were in the top five in 1987. Three of the top five counties were in southeast Missouri: New Madrid, Stoddard, and Butler, followed by Barton in the southwest and Audrain in the northeast.

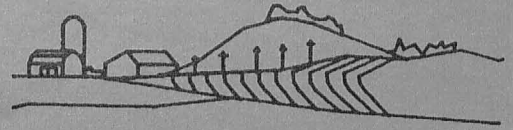


Bushels of Grain Sorghum Harvested, 1964



Grain sorghum production is distributed throughout the state. Its resistance to drought may account for its increase in the important crop producing areas with clay pan soils. Grain sorghum also offered southeast Missouri farmers a good rotation alternative for following soybeans.

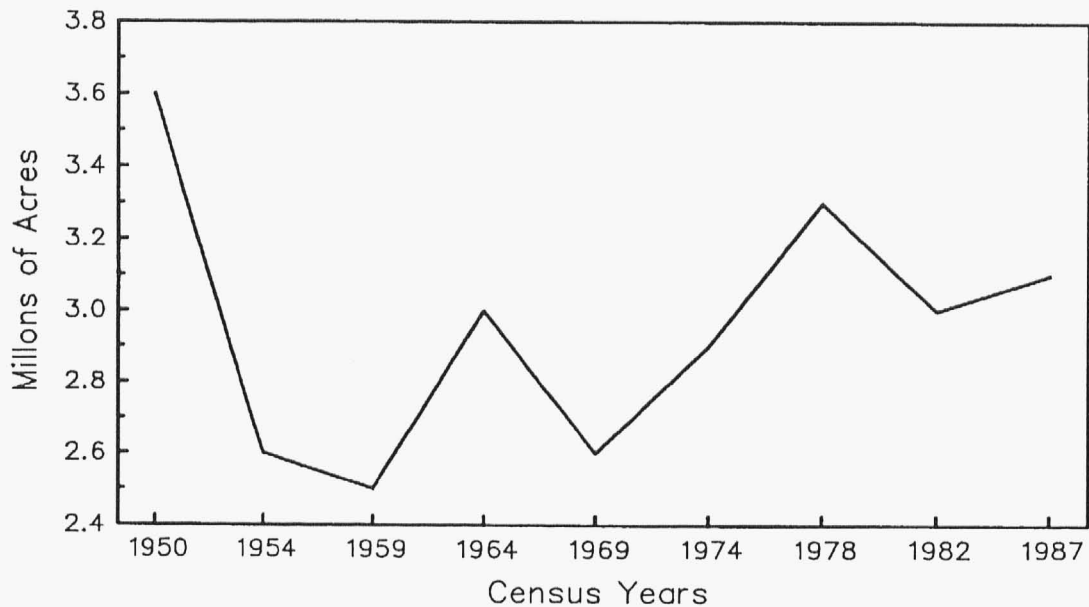
HAY PRODUCTION



HAY HARVESTED IN MISSOURI

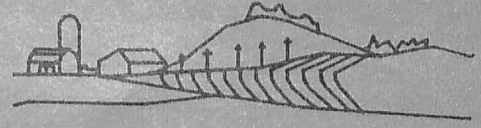
	1987	1982	1978	1974	1969
FARMS	60,138	63,951	70,364	69,622	73,913
ACRE ('000)	3,138	2,970	3,268	2,939	2,556
YIELD (ton/ac)	1.7	1.9	1.8	1.7	1.9
TONS ('000)	5,409	5,576	5,749	5,080	4,917

**Acres of Hay Crops Harvested on Missouri Farms
1950-87**



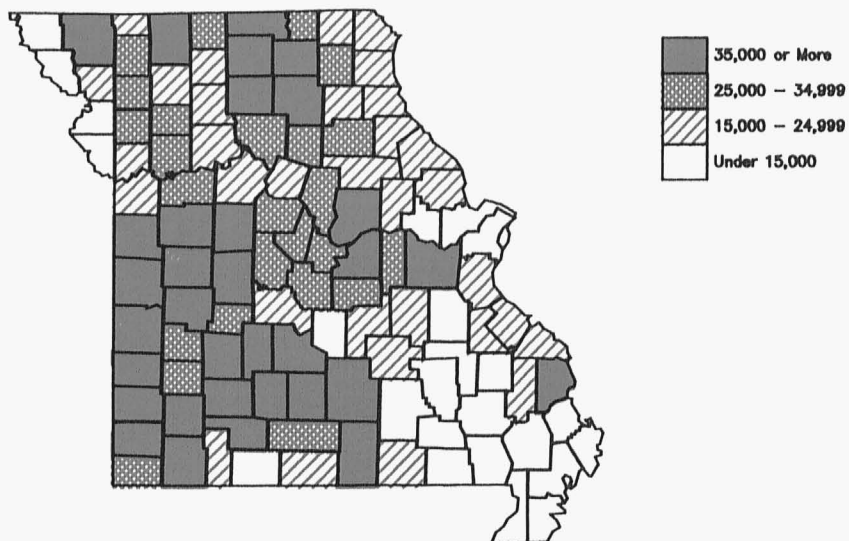
Source: USDC, Bureau of the Census

LOCATION OF HAY PRODUCTION

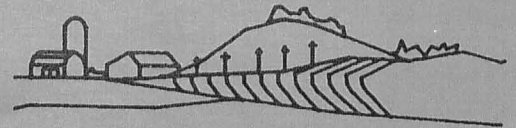


Hay is cut in every county in the state. The tonnage produced is influenced by the amount of rainfall and the number of acres cut each year. More farmers put up hay than harvest any other crop. Four of the top five hay-producing counties are located in southwest Missouri -- Polk, Lawrence, Greene, and Webster. These same counties also rank high in the number of beef and dairy cattle on farms.

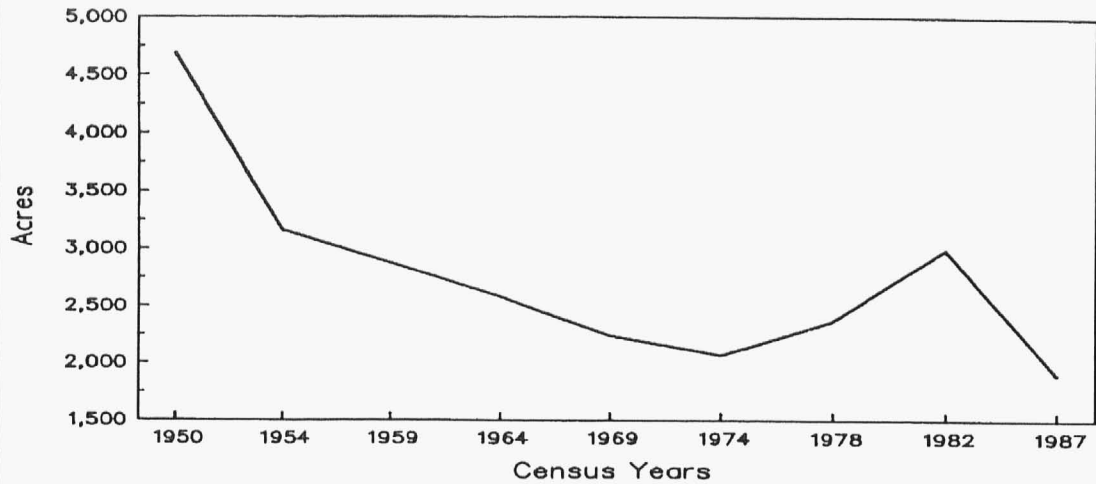
Acres Cut For Hay, 1987



TOBACCO PRODUCTION

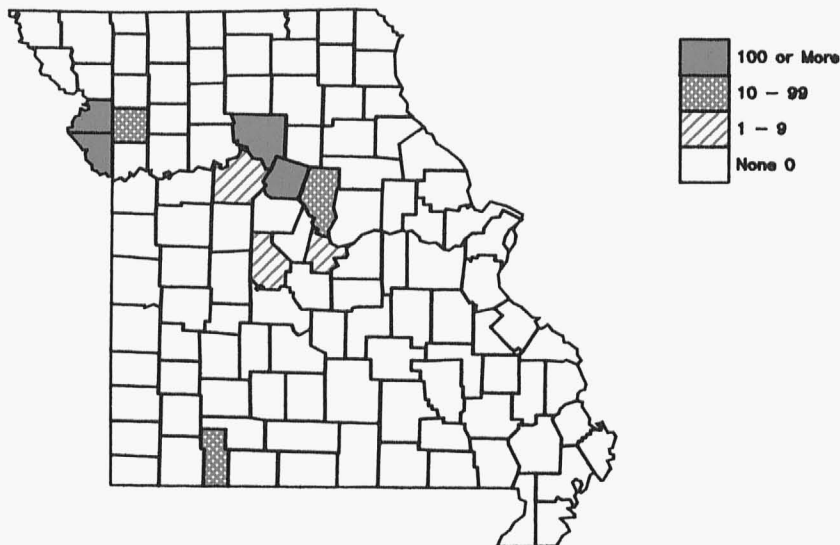


**Tobacco Raised on Missouri Farms
1950-87**



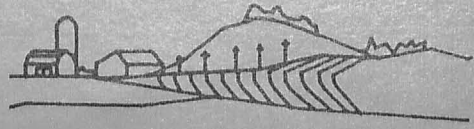
SOURCE: USDC, Bureau of the Census

Acres of Tobacco Raised, 1987



The number of farms and the acreage of tobacco grown has continued to decline. Platte County is the dominant producer. It produced 59 percent of the tobacco in the state in 1964 and 61 percent in 1987. In 1964, 26 counties grew tobacco, by 1987 only 11 counties did.

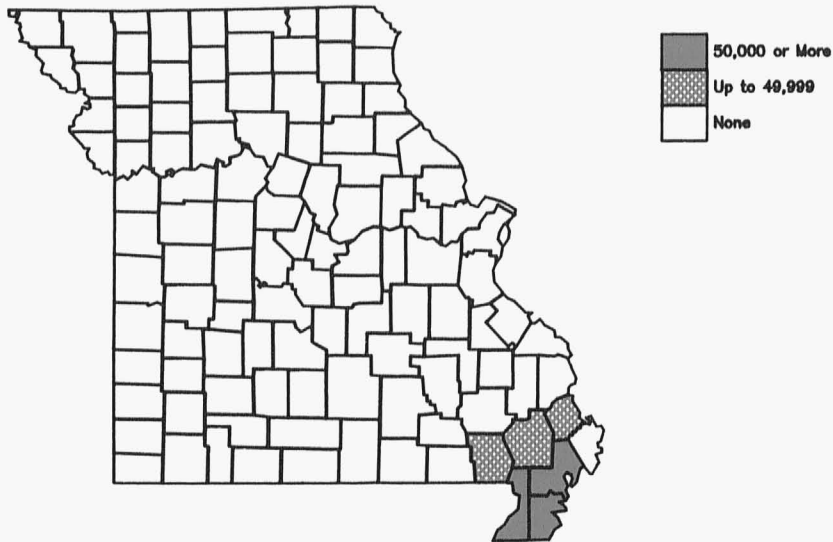
COTTON PRODUCTION



BALES OF COTTON HARVESTED

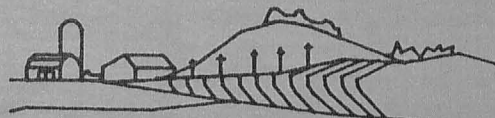
COUNTY	1987	1964	PERCENT CHANGE
Dunklin	146,659	99,052	48.1
New Madrid	75,007	90,072	-16.7
Pemiscot	58,355	101,253	-42.4
Stoddard	15,248	41,629	-63.4
Scott	7,331	16,586	-55.8
Butler	1,755	17,997	-90.2
-----	-----	-----	-----
Missouri	305,767	398,820	-23.3

Bales of Cotton Harvested, 1987



Cotton is grown in six Missouri counties. Only Dunklin, the top cotton-producing county, increased production between 1964 and 1987.

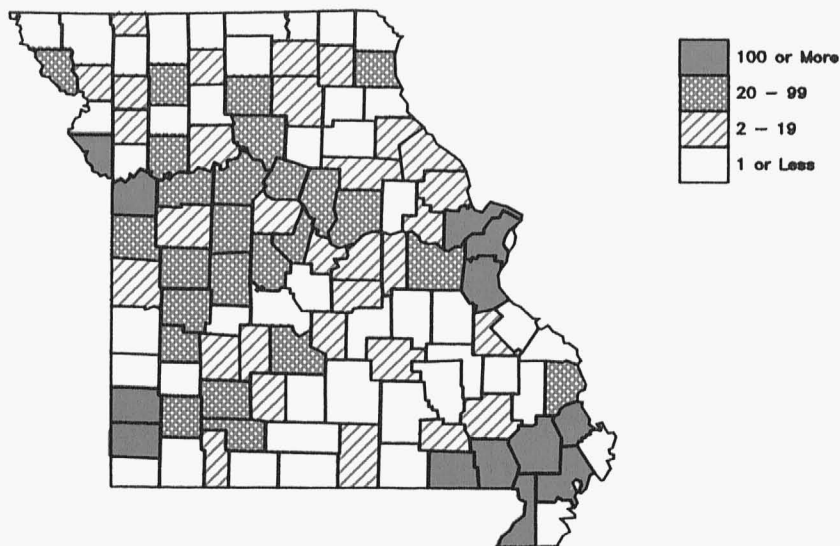
VEGETABLE PRODUCTION



ACRES OF VEGETABLES HARVESTED FOR SALE IN MISSOURI

	1964	1987	CHANGE
FARMS	1,331	849	-492
ACRES (000)	13,314	16,698	+3,384
VALUE (000)	\$2,917	\$9,543	+\$6,626

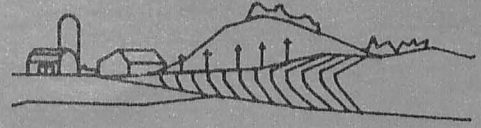
Acres of Vegetables Harvested for Sale, 1987



The acreage and value of vegetables, sweet corn and watermelons increased while the number of farms and counties declined between 1964 and 1987.

The largest concentration of production is in southeast Missouri with Dunklin County number one with more than 7,000 acres. Other major areas of production are near St. Louis, Kansas City, and Newton and Jasper counties.

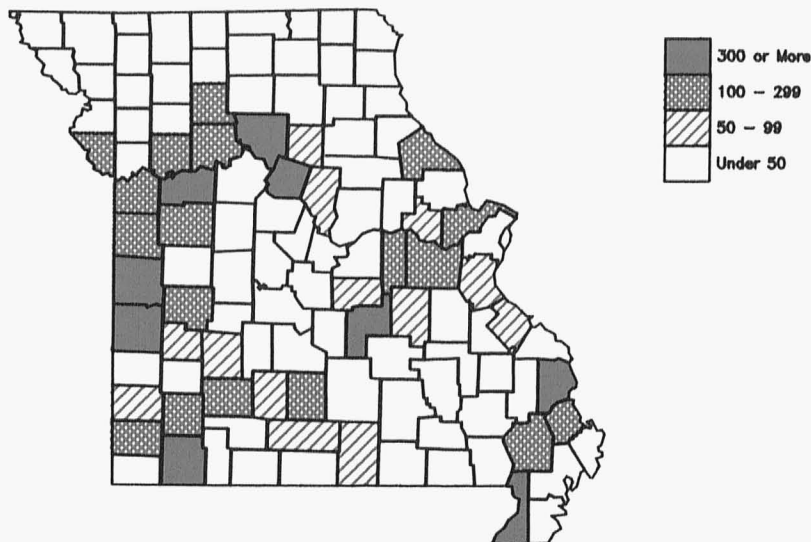
ORCHARDS PRODUCTION



LAND IN ORCHARDS IN MISSOURI

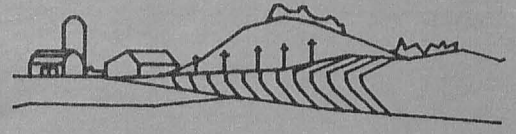
	1964	1987	CHANGE
FARMS	5,965	1,127	-4,838
ACRES (000)	23,166	16,339	-6,827
VALUE (000)	4,458	10,120	+5,662

Acres of Orchards, 1987



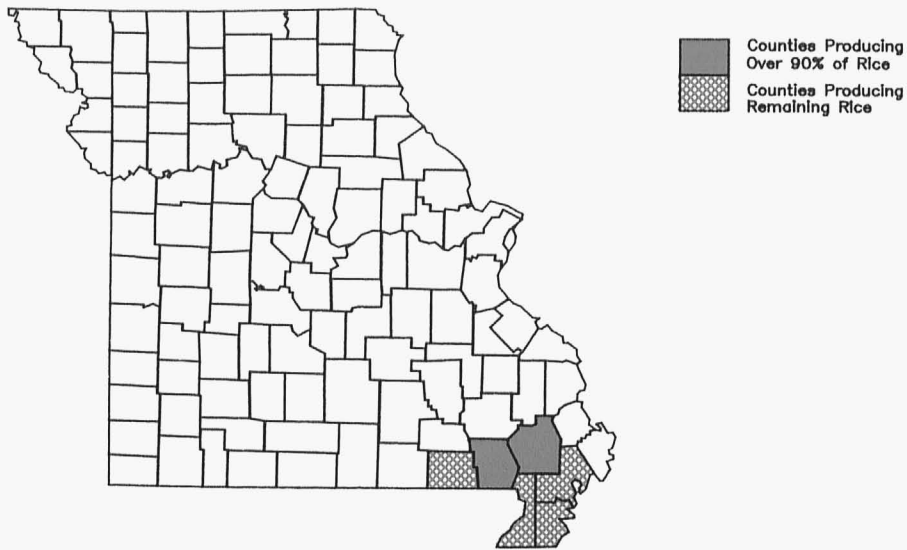
The acreage and number of fruit and nut orchards declined sharply between 1964 and 1987. The value of sales rose 2 1/4 times during this period. The top counties by crops were: apples - Lafayette and Barry; peaches - Dunklin and Stoddard; pecans - Vernon, Bates, and Chariton; grapes - Phelps and Barry; berries - Jackson and Platte.

RICE PRODUCTION



COUNTY	FARMS			ACRES			QUANTITY		
	1987	1982	% CHANGE	1987	1982	% CHANGE	1987	1982	% CHANGE
BUTLER	261	206	26.7	37,858	48,247	-21.5	1,887,485	2,176,197	-13.3
STODDARD	132	62	112.9	21,546	12,298	73.8	1,195,485	596,001	100.6
REMAINDER	56	26	115.4	5,002	4,123	21.3	256,994	187,822	36.8
MISSOURI	449	294	52.7	64,406	64,668	-0.4	3,339,964	2,960,020	12.8

Rice Producing Counties, 1987



Rice is a fairly new crop to Missouri and is becoming important in a small cluster of counties in the southeast corner. The two major rice producing counties are Butler, producing 56 percent, and Stoddard, producing 36 percent. The remaining 8 percent is spread (in order of amount produced) throughout Ripley, New Madrid, Dunklin and Pemiscot counties. Because of it's newness, it is still fluctuating among these counties, increasing in some and decreasing in others.

In the state, farms have increased from 294 in 1982 to 449 in 1987 (53%) while total acreage has remained about the same -- 64,668 acres in 1982 compared to 64,406 acres in 1987. Total production has increased by 13 percent, from 2,960,020 CWT in 1982 to 3,339,964 CWT in 1987.



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