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Michigan's Agriculture It's Income, Major Products, Locations and Changes
Michigan State University
Cooperative Extension Service
Farm Science Series
K.T. Wright, Department of Agricultural Economics, D.A. Caul, Agricultural Program
Leaders
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MICHIGAN'S Agriculture

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ITS INCOME, MAJOR PRODUCTS, LOCATIONS AND CHANGES
County and State Data

A sourcebook based on information from 1964 Census Reports

By K. T. WRIGHT
Department of Agricultural Economics

and

D. A. CAUL

Agricultural Program Leader, Cooperative Extension Service

M I C H I G A N
A G R I C U L T U R E - -

Its Income, Major Products, Location
and Changes, 1959-64

County and State Data

A sourcebook based on information
from 1964 census reports

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K. T. Wright
Department of Agricultural Economics

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COOPERATIVE EXTENSION SERVICE
Michigan State University
East Lansing

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MICHIGAN AGRICULTURE

Its Income, Major Products, Location and Changes, 1959-64,
County and State Data

by

K. T. Wright, Department of Agricultural Economics, and
D. A. Caul, Agricultural Program Leader, Cooperative Extension Service

INTRODUCTION

Rapid changes are taking place in Michigan's agriculture. This applies not only to the land in farms, the number of farms, their average size and characteristics, the amount and location of crop production and livestock products, but also to the farm income and many other aspects of agriculture. Most farmers are being and will continue to be affected by these changes.

This publication is a sourcebook of data on Michigan agriculture, presenting information on its income, major products, and location of production in 1964, and changes from 1959 to 1964.

The data are presented both by a series of Michigan maps, containing county information for 1964 and on the changes from 1959 to 1964; and by some tables showing additional county data. The maps also contain information on state totals for 1950, 1954, 1959, and 1964, or other pertinent state averages.

When showing the 1964 situation, generally the top 8 counties, or 10% of all, were shaded a dark gray and the next 17 (20%) in a lighter gray, with the rest of the counties unshaded. With the maps showing change from 1959 to 1964, those counties with the most increase were shaded dark gray and those with the most decrease a cross-hatched light gray. The number of counties shaded depended in a general way on the overall percentage state change, with about twice as many shaded to show increases if a state increase of 8% or more, the same number if 7% increase to 7% decrease, and about twice as many shaded showing decreases if 8% decrease or more.

The publication consists of four major sections. The first deals with land use by major categories in the various counties. The second presents data by counties on the acreages of the principal field crops. The third section contains data of farm product sales by sources for all the counties. Livestock numbers are also presented in connection with the parts dealing with livestock income. The fourth section, is more or less a general section, presenting such information as number of farms, average product sales per farm, nonfarm income, etc.

The source of data for this publication was the 1964 United States Census of Agriculture preliminary reports for all the counties of Michigan and the state report. In a few cases, some data were used from the Michigan Agricultural Statistics.

Acknowledgements: The helpful suggestions of many persons in the different departments in the College of Agriculture and Natural Resources on sections dealing with their fields are gratefully acknowledged by the authors.

MICHIGAN AGRICULTURE HIGHLIGHTS

Facts from 1964 Census of Agriculture

Michigan Agriculture is a growing business ---

Total sales of farm products was \$767 million in 1964 -- up \$144 million or 23% over 1959, even though prices received in 1964 averaged only 2% more than in 1959.

Michigan Farms are consolidating and becoming larger operating units ---

- The number of farms, farmers, amount of land in farms, and cropland, all decreased during the 1959-64 period.
- Farms with gross sales of \$20,000 or more increased from 4,906 to 9,436, or 92%, from 1959 to 1964. In 1964 these farms were 10% of all farms and produced nearly 50% of all farm product sales in the state. (Farms with sales of \$40,000 or more increased by nearly 1,400, or 126%).
- Farms having sales of \$10,000 to \$19,999 increased in number during this period from 12,769 to 13,374, or 5%. They made up 14% of all farms in 1964 and produced about 25% of total sales.
- Smaller "commercial" farms (with less than \$10,000 sales) decreased from 19,353 to 15,298, or 21% during 1959-64. In 1964 they made up 40% of all farms, and produced 20 to 25% of all products.
- Part-time and part-retirement farms decreased from 46,765 to 33,317, or 39%, during these five years. They still made up about 36% of Michigan's farms in 1964, but produced only 5% of total sales.

Michigan Farms produce a wide diversification of important crops ---

Field Crop Sales

- Total value of field crops in 1964 was about \$377 million, with much being fed to livestock. Total field crop sales amounted to about \$240 million or over 30% of the state total farm product sales in 1964. Saginaw Valley counties, along with Lenawee and Monroe, were the top counties in field crop sales. Field crop sales increased 29% from 1959 to 1964.

Corn

- Corn was produced on 20% of the state's cropland and accounted for more acres than any other crop. Michigan ranks 10th among all the states in acreage and 9th in production. ^{1/} Corn acreage is concentrated in Southern Michigan. Lenawee County leads the state in corn acreage. Other big corn counties are mainly located in the extreme southern and central lower counties but big increases in acreage have taken place in the Thumb, particularly in Sanilac and Huron counties. Corn sales have gone up 6% in the 1959-64 period.

^{1/} State rankings based upon "Michigan Agricultural Statistics", Michigan Department of Agriculture, June 1965.

Hay

- Hay production was more widespread than any other crop and was second only to corn in acreage. Sanilac was the leading hay-growing county. Other Thumb and central lower Michigan counties made up the major hay-producing areas. However, the percentage of cropland in hay was highest in the central area of the Upper Peninsula and northeast lower Michigan.

Wheat

- Wheat was grown on 10% of the state's cropland. Michigan ranks 12th among the states. The main wheat growing areas are in the Thumb, central, and southern parts of Lower Michigan.

Dry Beans

- Michigan ranked first among the states in dry bean production. Acreage increased about 100,000 acres from 1959 to 1964, and is concentrated in the Thumb and central lower Michigan (Saginaw Valley).

Sugar Beets

- Michigan ranked 5th among the states in sugar beet production with over 80,000 acres. Acreage was concentrated in the Thumb area. Over 90% of the acreage was in the leading 8 sugar beet growing counties--few other counties have any.

Soybeans

- Soybeans are an important crop in Southern Michigan. Acreage increased 92,000 acres in the 1959-64 period. Soybean production was concentrated in the southern two tiers of counties. Monroe and Lenawee counties were the leading producers but the acreage was moving north into the Central and Thumb regions. Saginaw and Shiawassee counties showed the greatest increase in acreage.

Potatoes

- Michigan ranked 8th among the states in potato acreage with about 40,000 acres. Bay County with 9,000 acres and Montcalm County with 5,700 in 1964 were the leading potato counties. Acreage has expanded rapidly in the Montcalm County area since 1964 due to increased processing facilities. Counties with over 1,000 acres of potatoes include (besides Montcalm and Bay) Presque Isle, Monroe, Allegan, Houghton, Lapeer, and Dickinson.

Fruit

- Michigan is a leading fruit producing state with about a \$70 million fruit business in 1964 -- up about 23% over 1959. Five of the top eight counties in fruit sales were in southwest Michigan with the remaining three (Oceana, Grand Traverse, and Leelanau) also being along Lake Michigan. Berrien County was the top fruit-producing county with \$18 million of fruit sales. Van Buren was next with almost \$12 million.
- Michigan is a major producer of several fruit crops. In production it ranked among the states in 1964 as follows: 3rd in apples, 1st in sour cherries, 3rd in strawberries, 3rd in grapes, 4th in peaches, 2nd in sweet cherries, 4th in pears, and 2nd in plums.

Vegetables

- Michigan's vegetable sales in 1964 amounted to \$26 million. The state ranked 10th in cucumbers, 6th in sweet corn, 4th in asparagus, 6th in tomatoes, 4th in onions, and 4th in carrots among all states. The top 8 counties (10%) produced 50% of the vegetable farm product sales. Six of these eight were in southwest Michigan from Berrien County north to Newaygo, with Monroe and Macomb in Southeast Michigan completing the top eight.

Nursery & Greenhouse Crops

- Nursery and greenhouse crop production is increasing and accounted for about \$27 million sales in 1964.

Dairy Farming is the leading farm business in Michigan ---

- About \$250 million or 33% of the state's farm income was from the sale of dairy products and dairy cattle in 1964.
- Farm sales of dairy products amounted to about \$200 million in 1964 -- up 25% from 1959.
- An estimated \$50 million comes from the sale of cull and surplus dairy cattle.
- Numbers of cows went down 7%; and specialized dairy farms declined 18%, while the total number of farms selling dairy products declined 35%. Specialized dairy farms now make up 72% of the farms selling dairy products.
- The sale of dairy products per farm nearly doubled from 1959 to 1964.
- Sanilac was the leading dairy-producing county with \$15.5 million of dairy product sales. Three other Thumb counties and four south central counties made up the top eight dairy counties, with 30% of the state's total dairy product sales.

Livestock Farming, other than dairying, accounts for about 20% of Michigan farm income ---

- Sales of cattle for beef were estimated to amount to about \$100 million.
- Major cattle-feeding areas were located in southern Michigan, the Lenawee, Washtenaw, Calhoun county area; in the Gratiot, Isabella, Ionia, and Clinton county area; and in the Thumb area and surrounding counties.
- Cattle sales in Northern Michigan originate primarily from beef cow-calf, and dairy herds.
- Hog sales were estimated to be around \$40 million. Major hog-producing areas were in the southern, southwestern, and south central parts of the state.
- Sheep and lamb sales were estimated to be \$4-5 million. Washtenaw was the largest sheep-producing county. Other important sheep-producing counties were in the south and south-central areas of the state.

- Income from livestock increased \$10 million from 1959 to 1964 in spite of the fact that 1964 prices for meat animals were about 12% less than in 1959. All of the state did not share in the 10 million dollar increase in the livestock industry, as the industry appears to have been concentrating into certain counties during the 1959-64 period. Seventy-five percent of the state's increase in sales was from the 8 leading counties. Thirty-three counties had a decrease in livestock sales.

Poultry and Poultry Product sales represent \$46 million or about 6% of the state's agricultural income ---

- Egg sales increased 31% from 1959 to 1964.
- Total sales of poultry products went up 41% from 1959 to 1964.
- Turkey production went up 11% from 1959 to 1964.
- Poultry production has concentrated into fewer counties and on fewer but more specialized farms, with a higher total production. The eight leading poultry-producing counties include in order -- Ottawa, Allegan, Huron, Gratiot, Eaton, Kent, Barry, and Hillsdale. Large increases in poultry business occurred in Huron, Allegan, and Ottawa counties during the 1959-64 period. Sizeable increases also took place in widely scattered areas including Gratiot, Montcalm, and Cass counties, and in the Traverse City and Alpena areas.

Farm sales of forest products has been about \$5 million annually and is increasing ---

- 15% more farmers reported sales of forest products in 1964 than in 1959.
- Average sales per farm was about \$900.
- Christmas tree sales are important in Michigan, with the census reporting nearly 1.2 million trees sold in 1964.
- The leading 8 counties in forest product sales include in order -- Menominee, Ottawa, Oceana, Kent, Manistee, Eaton, Delta, and Allegan.

Non-farm income of farm families is of major importance to the rural Michigan economy ---

- 25% of Michigan's total number of farms are classified as part time.
- 44% of the state's farmers work off the farm 100 days or more.
- Non-farm income per farm averaged \$4,200.
- Nearly 37,000 Michigan farm households reported receiving income of \$5,000 or over from sources other than the farm operations.
- Non-farm income of farm families was \$395 million, amounting to over one-half the value of the state's total sales of farm products.

I. TOTAL LAND USE

1. Land in Farms --

There were about 13,600,000 acres of land in Michigan farms in 1964. The amount of land in farms in the various counties varies widely. Ten percent of Michigan's 83 counties, or 8 counties, each had 300,000 acres or more land in farms. These 8 counties had 23% of the state's total land in farms. (See Fig. 1) If the next 20% or 17 counties are included -- all these had from 241,000 to 307,000 acres each -- then the top 30% of the counties or 25 had 57% of the total land in farms.

If one chooses to think of this concentration of land in farms from the standpoint of the southern half of the Lower Peninsula, or specifically those counties south of a line drawn from the north edge of Oceana county east to and including Bay county, one would find that the 41 counties south of this line had 77% of the total land in farms in the state of Michigan.

From 1959 to 1964 the total land in farms decreased from approximately 14.8 million to about 13.6 million, a loss of about 1.2 million acres, or 8% in this 5-year period. In general, the counties in the Upper Peninsula and the northern part of the Lower Peninsula experienced the greatest percentage loss (Fig. 2). However, on an actual acreage basis, the losses suffered in acreages of farm land were greater in southern Michigan counties (Fig. 3). There were 7 southern Michigan counties, each of which lost 30,000 acres or more of farm land during this 5-year period. These 7 were: Jackson, Kent, Allegan, Oakland, Genesee, Saginaw, and St. Clair. These counties had considerable urban development which was likely responsible for this sharp loss.

A few counties had from 1 to 5% increase in farm land. Most of them were in northern Michigan and the Upper Peninsula, but the acreage involved from the total state point of view was small.

FIGURE I. LAND IN FARMS (THOUS. ACRES) BY COUNTIES, MICHIGAN, 1964

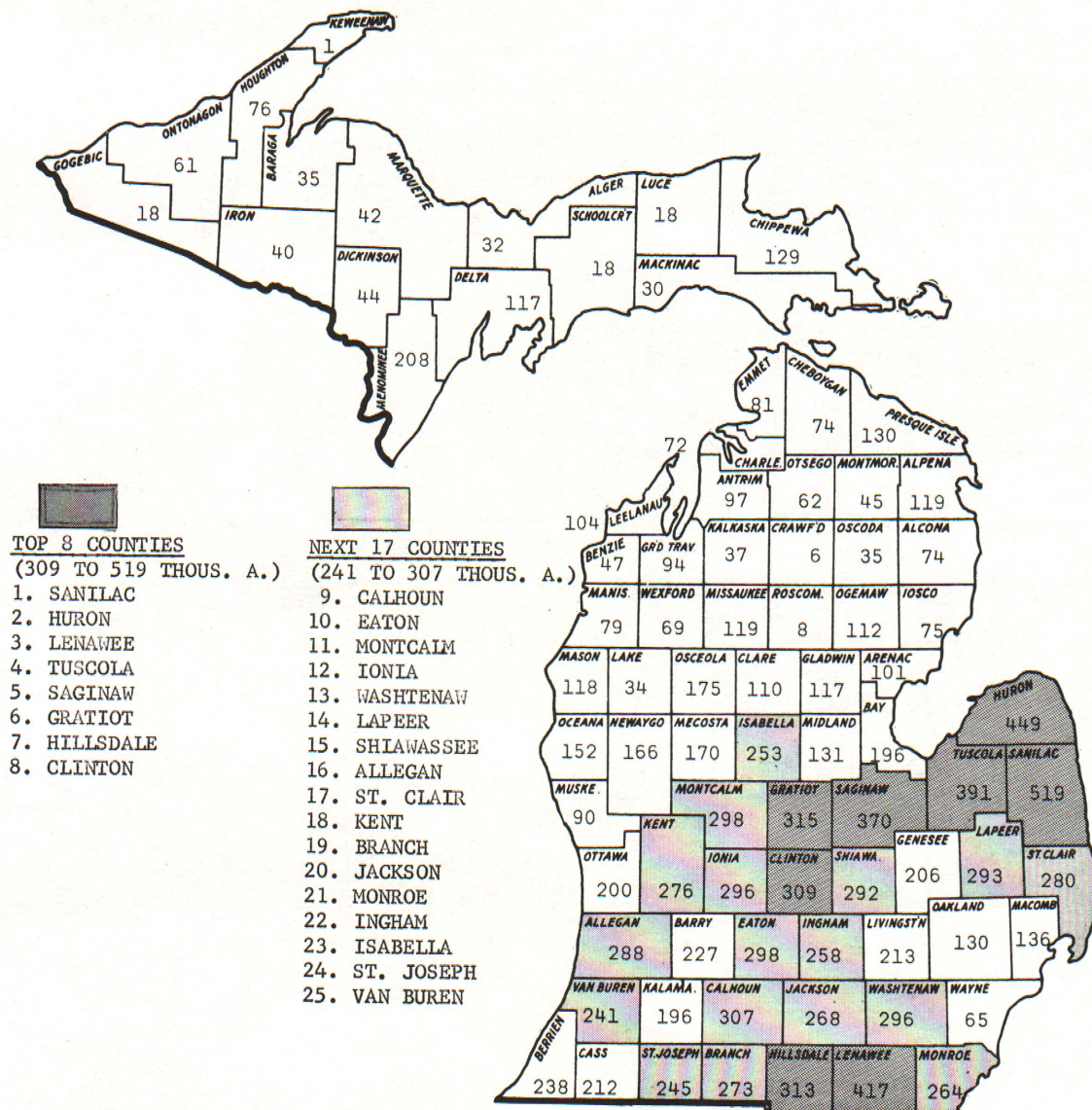
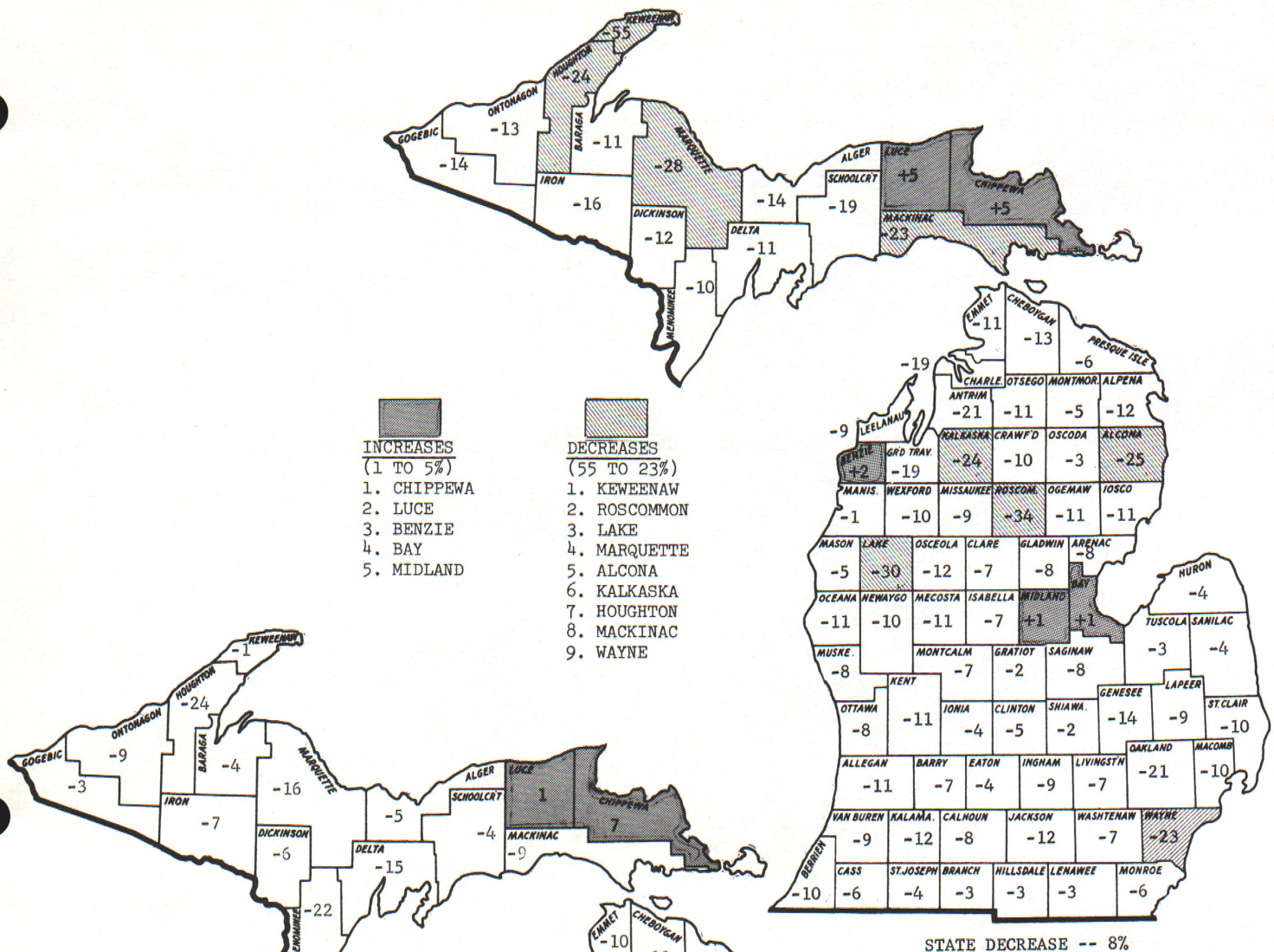


FIGURE 2. PERCENTAGE CHANGE IN LAND IN FARMS, BY COUNTIES, MICHIGAN, 1959 TO 1964



- INCREASES (1 TO 7 THOUS. A.)**
1. CHIPPEWA
 2. BAY
 3. MIDLAND
 4. LUCE
 5. BENZIE
- MOST DECREASE (27 TO 38 THOUS. A.)**
1. JACKSON
 2. KENT
 3. ALLEGAN
 4. OAKLAND
 5. GENESSEE
 6. SAGINAW
 7. ST. CLAIR
 8. LAPEER
 9. CALHOUN
 10. KALAMAZOO

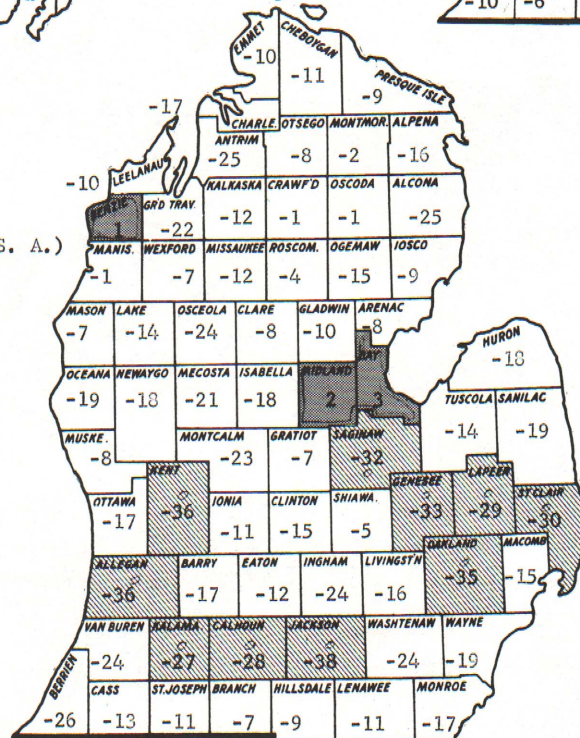


FIGURE 3. CHANGE IN LAND IN FARMS (THOUS. ACRES) BY COUNTIES, MICHIGAN, 1959 TO 1964

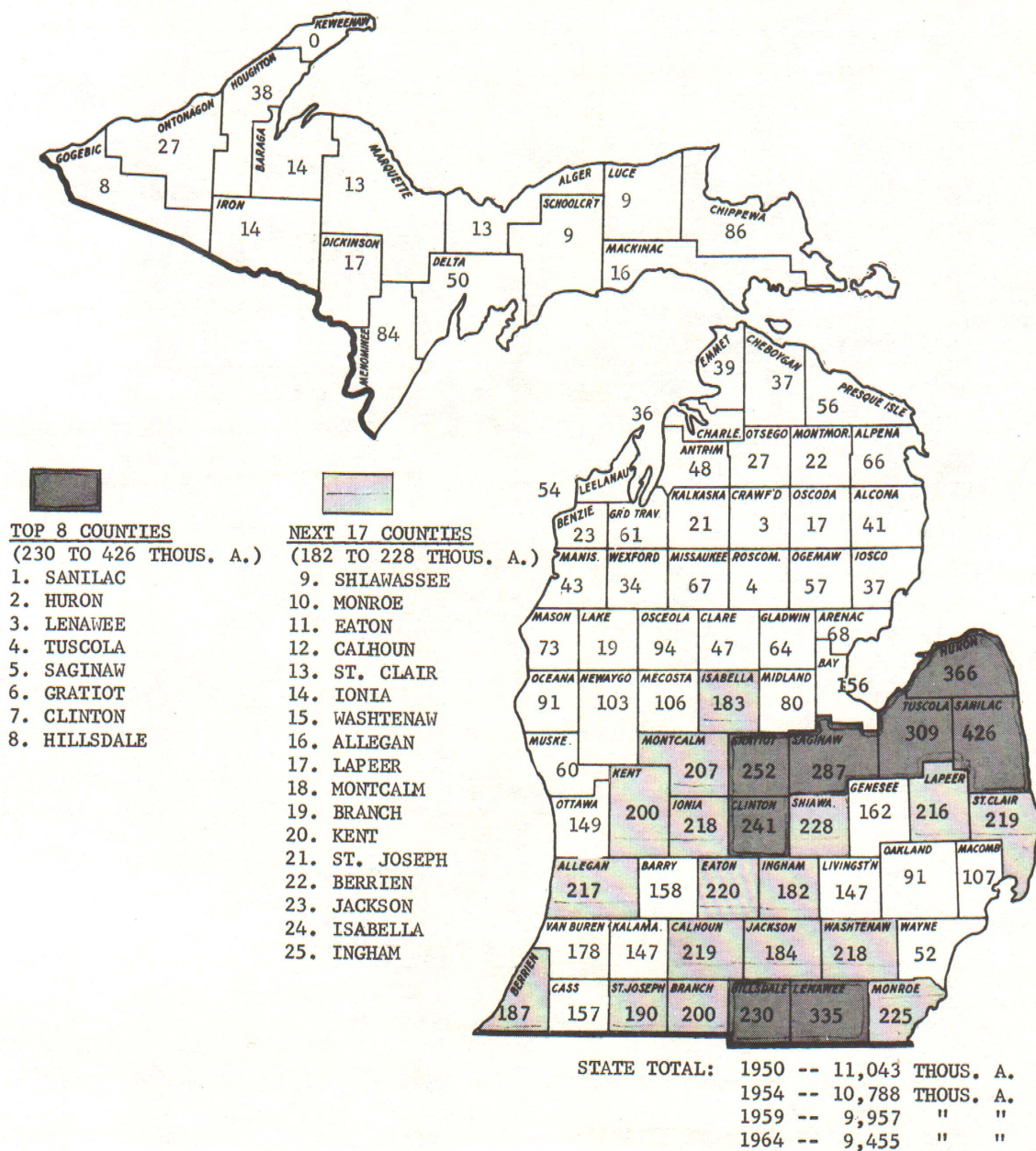
2. Total Cropland

Not all of the land in farms is cropland. In fact, in 1964 the total area of cropland amounted to 9.5 million acres, or just 69% of the total land in farms. Like the "total land in farms" it is concentrated in southern Michigan with 84% of the state's total in the 41 southern Michigan counties referred to earlier. The top 8 counties in cropland acreage are located largely in the Thumb and south central regions in Lower Michigan and along the Ohio line. (See Fig. 4) These 8 counties contain 26% of the state's total cropland, while the top 25 contain 63% of the total.

From 1959 to 1964 the total area of cropland in Michigan declined from approximately 10 million to 9-1/2 million acres, a loss of 500,000 acres, or 5%. Slight increases or small decreases in cropland area occurred in widely scattered rural counties throughout Michigan. (See Fig. 5).

Some 25% of the total reduction of cropland in the state took place in the 6 counties of Oakland, Kent, Kalamazoo, Genesee, St. Clair, and Allegan.

FIGURE 4. TOTAL CROPLAND IN FARMS (THOUS. ACRES) BY COUNTIES, MICHIGAN, 1964



[illegible]

9

3. Cropland Harvested

Total cropland is further classified into (a) harvested, (b) pastured, and (c) neither harvested nor pastured. In 1964 some 72% of the total cropland was harvested, or 6.7 million acres. Harvested cropland acreage is concentrated in the Thumb, central Lower Michigan, and southeastern counties. (See Fig. 6).

There were 8 counties with 79% or more of their total cropland harvested. (Fig. 7). In addition, all of the top 25 counties harvested crops from 70% or more of the cropland in the county. Farmers in most northern Michigan counties harvest crops from about half their cropland.

From 1959 to 1964 there was a decrease of about 417,000 acres or nearly 6% in cropland harvested. (Fig. 8). Practically all counties showed decreases.

FIGURE 6. CROPLAND HARVESTED (THOUS. ACRES) BY COUNTIES, MICHIGAN, 1964

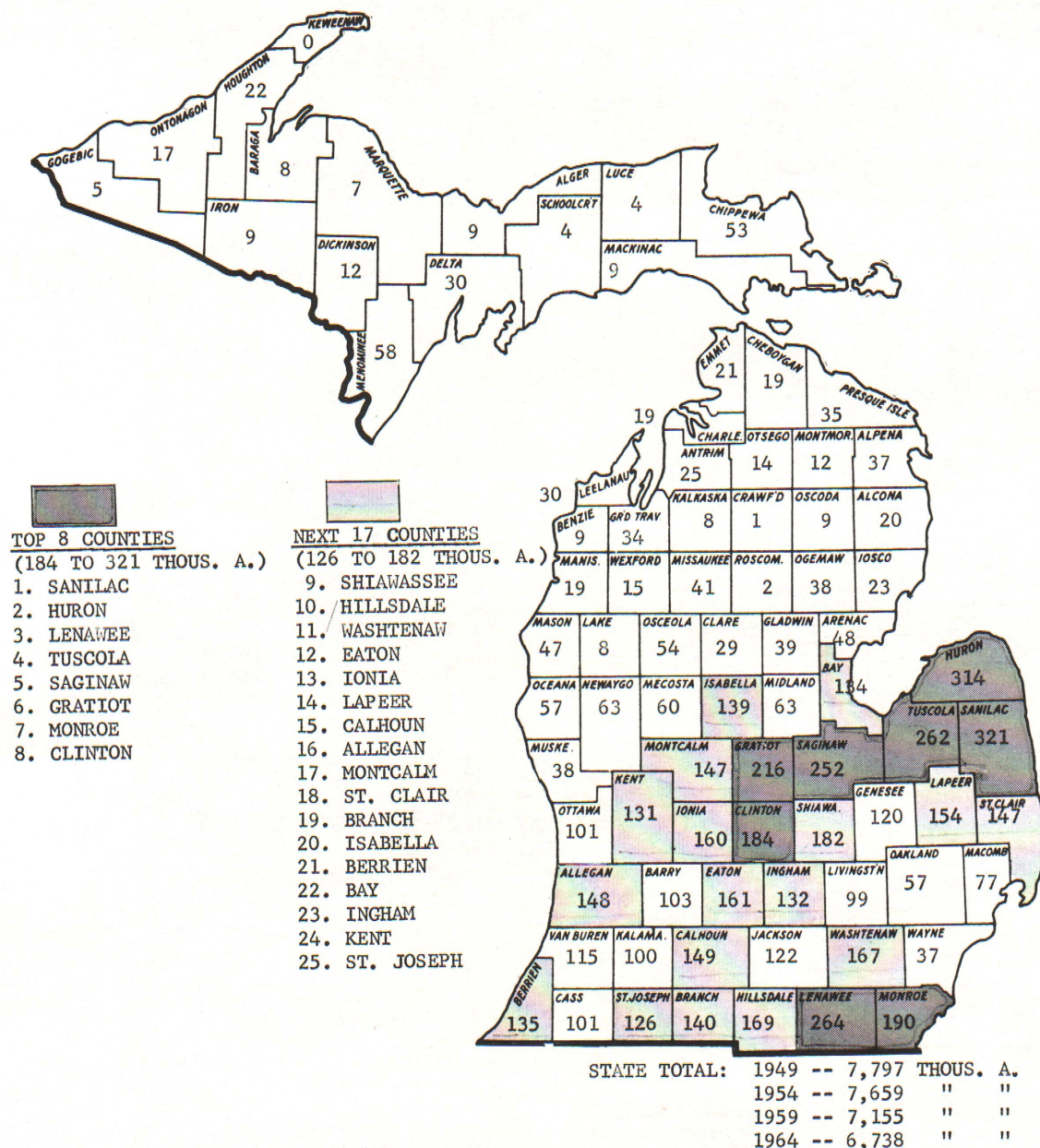


FIGURE 7. CROPLAND HARVESTED AS A PERCENTAGE OF TOTAL CROPLAND, BY COUNTIES, MICHIGAN, 1964

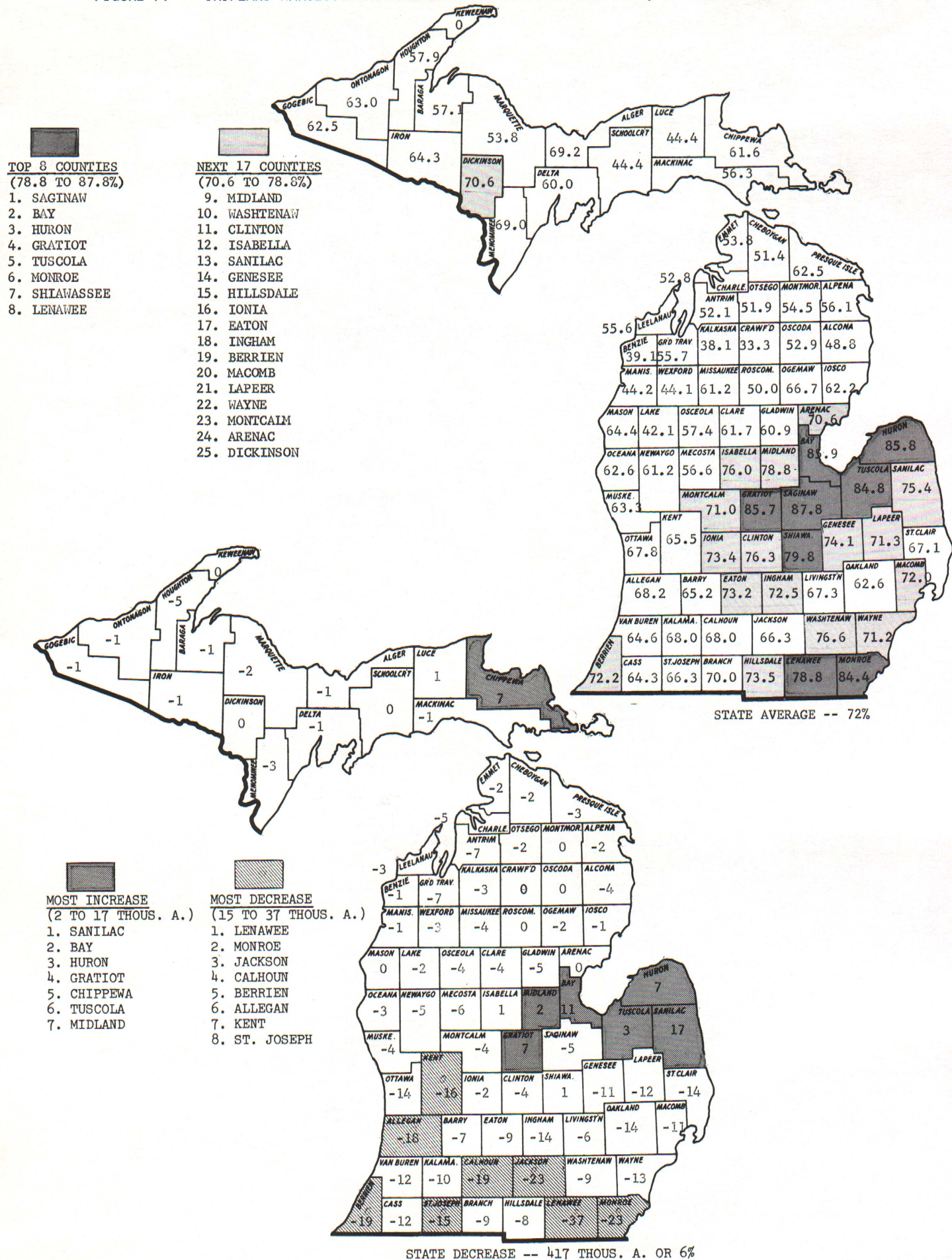


FIGURE 8. CHANGE IN CROPLAND HARVESTED (THOUS. ACRES) BY COUNTIES, MICHIGAN, 1959 TO 1964

4. Cropland Pastured

Cropland that was pastured amounted to 1,147,000 acres or 12% of the total in 1964. Some 760,000 acres or 66% of the state's total pastured cropland was located in the 41 southern Michigan counties referred to earlier. (Fig. 9). Sanilac County with 65,000 acres of cropland pastured had as much as any other two counties. The top 8 counties in cropland pastured had 22% of the state's total, while the top 25 had 54% of the state's pastured cropland acreage. The percentage of cropland used for pasture was highest in northern Michigan, and in general, the acreage pastured in 1964 was equal to or greater than in 1959. (Fig. 10).

The total acreage in pasture in 1964 was about 18% less than in 1959. In general, pastured cropland in southern Michigan counties decreased about 25% in that 5-year period (Fig. 11).

FIGURE 9. CROPLAND PASTURED (THOUS. ACRES) BY COUNTIES, MICHIGAN, 1964

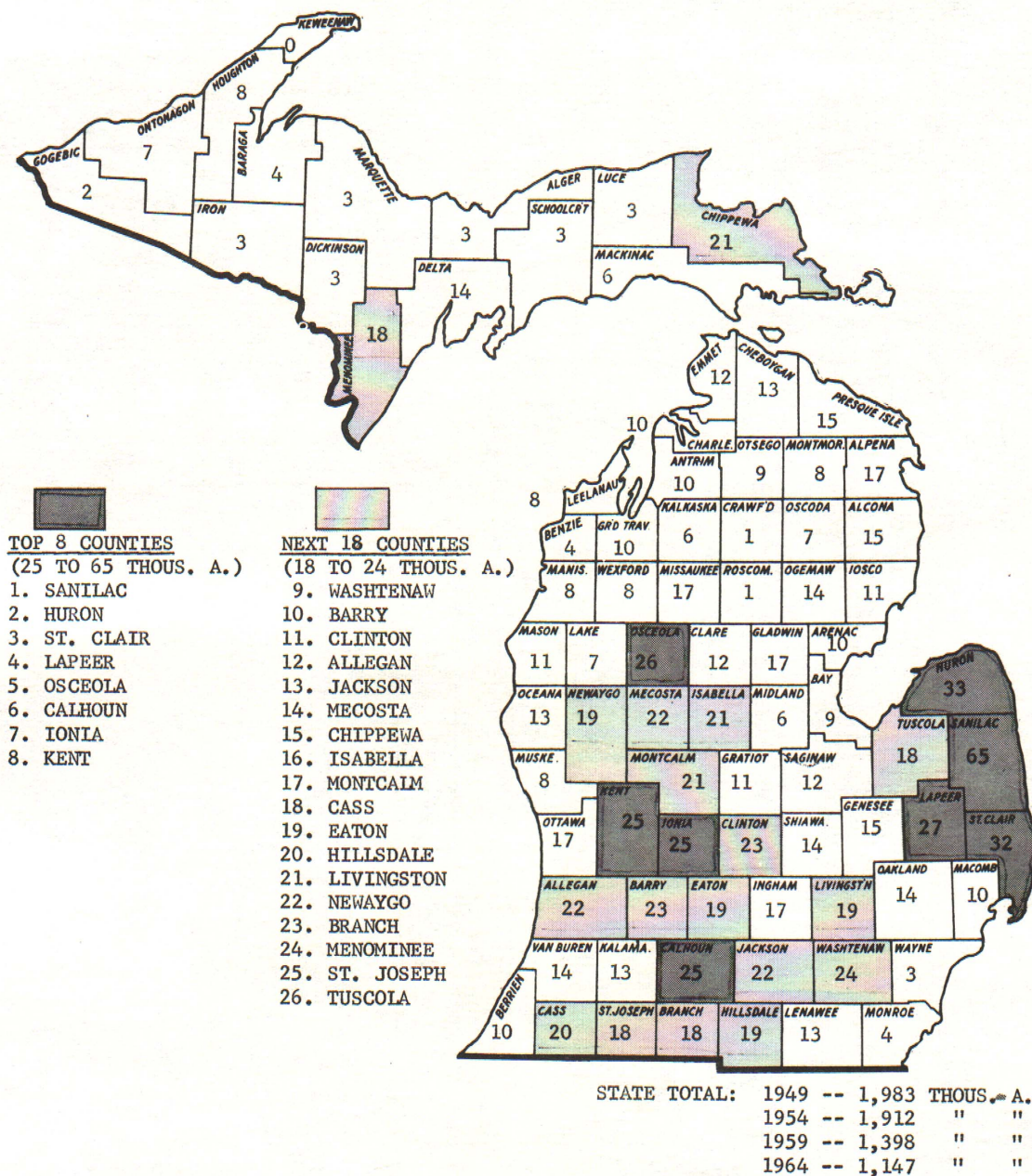
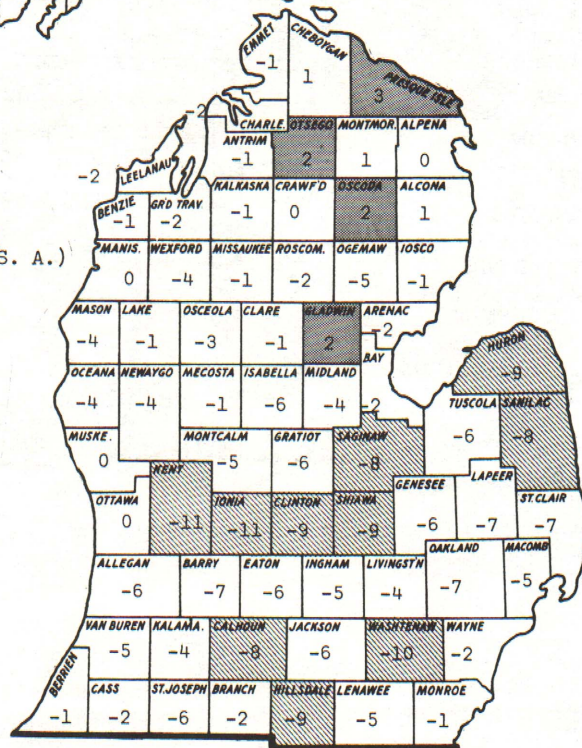
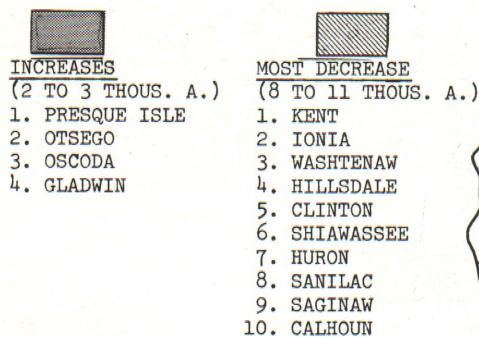
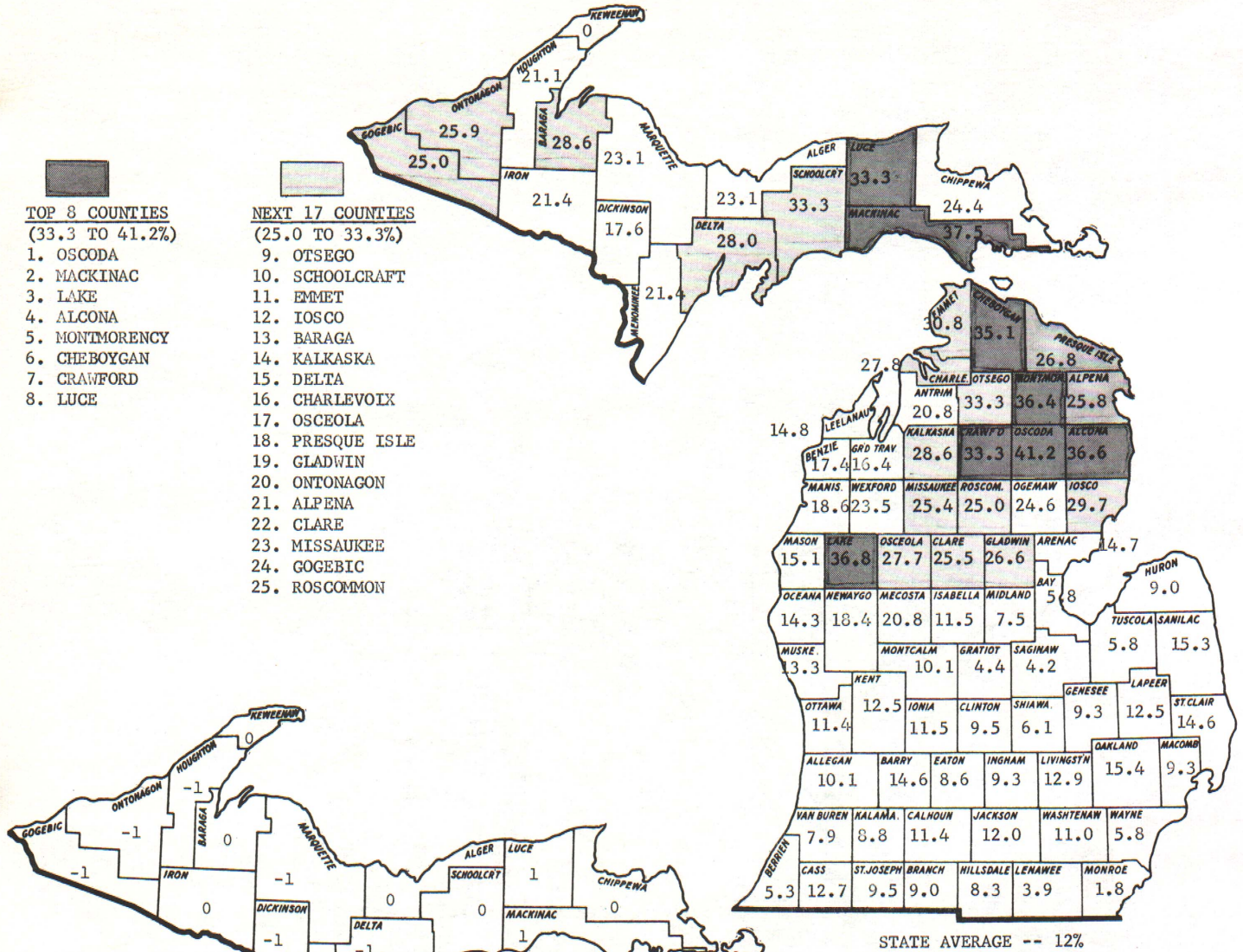


FIGURE 10. CROPLAND PASTURED AS A PERCENTAGE OF TOTAL CROPLAND, BY COUNTIES, MICHIGAN, 1964



STATE DECREASE -- 251 THOUS. A. OR 18%

FIGURE 11. CHANGE IN CROPLAND PASTURED (THOUS. ACRES) BY COUNTIES, MICHIGAN, 1959 TO 1964

5. Idle Cropland

Some 16%, or 1,569,000 acres, of Michigan's cropland was neither harvested nor pastured (Fig. 12). This was about a 12% increase in idle cropland from 1959. This reflects, in part, government feed grain programs that encouraged reduction in crop acres.

The percentage of the cropland that was idle in 1964 was greatest in the northwest part of the Lower Peninsula, the southwest Lower Michigan, and some counties in southeast Michigan and in the Upper Peninsula (Fig. 13).

From the standpoint of actual acreage that was idle, Figure 14 shows that this was largely in the southern half of the Lower Peninsula.

FIGURE 12. IDLE CROPLAND (THOUS. ACRES) BY COUNTIES, MICHIGAN, 1964

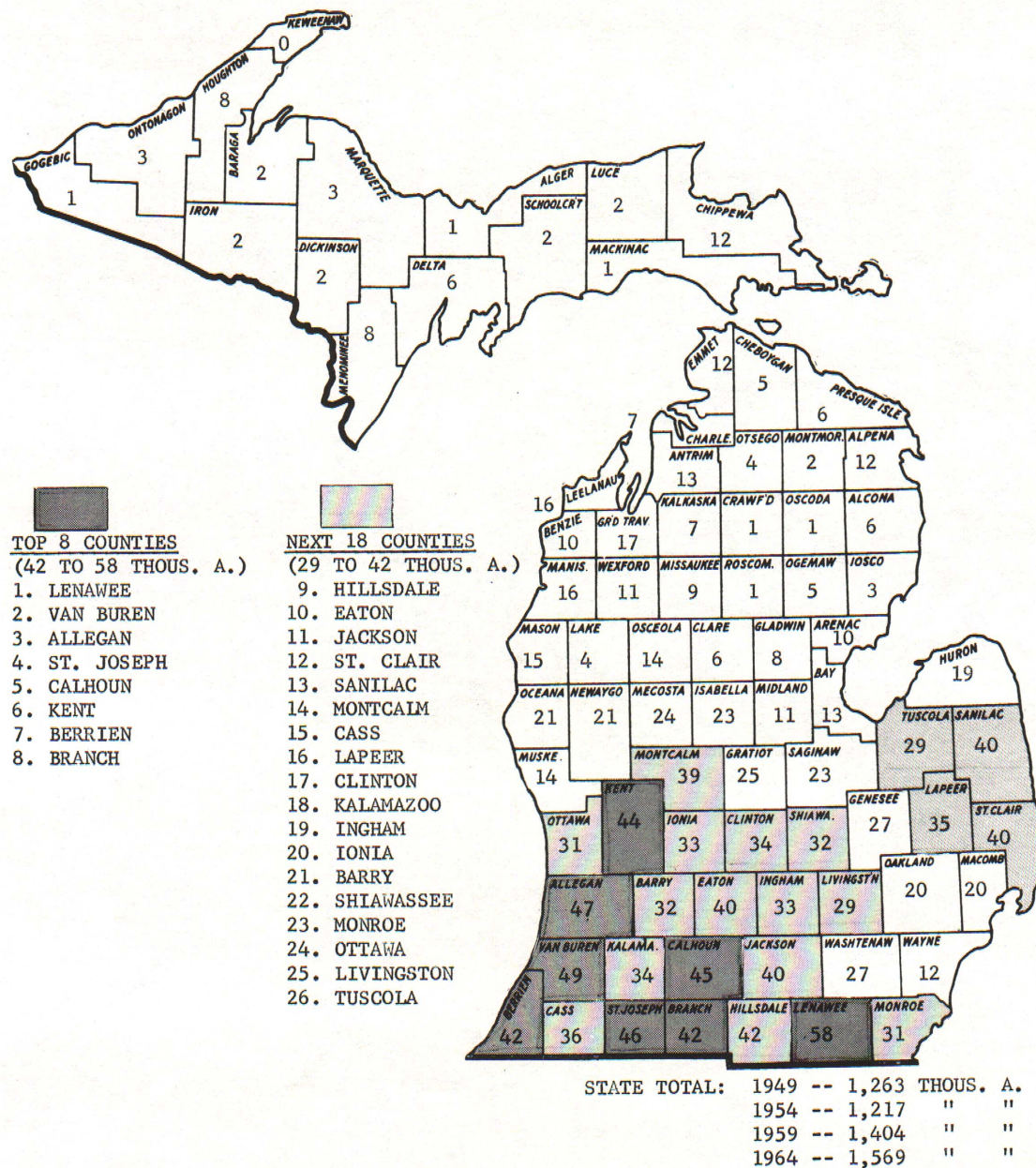


FIGURE 13. IDLE CROPLAND AS A PERCENTAGE OF TOTAL CROPLAND, BY COUNTIES, MICHIGAN, 1964

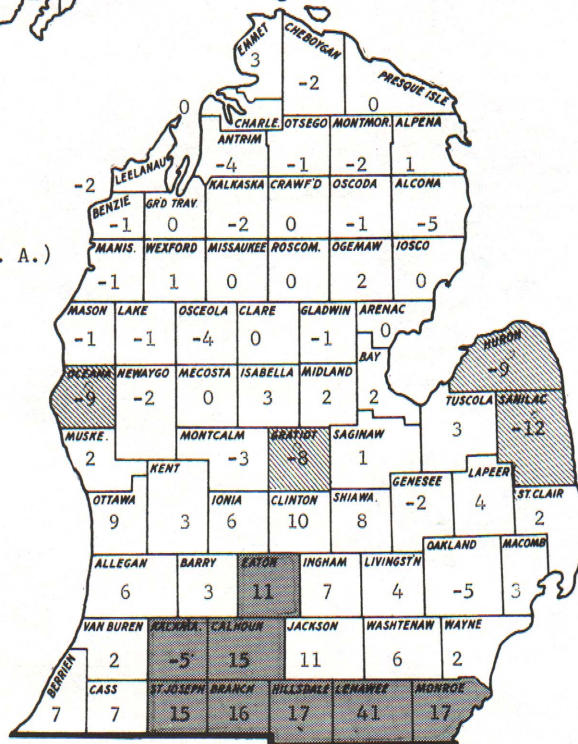
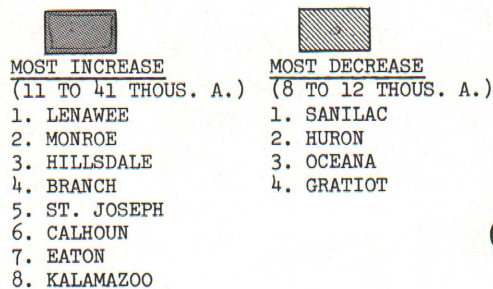
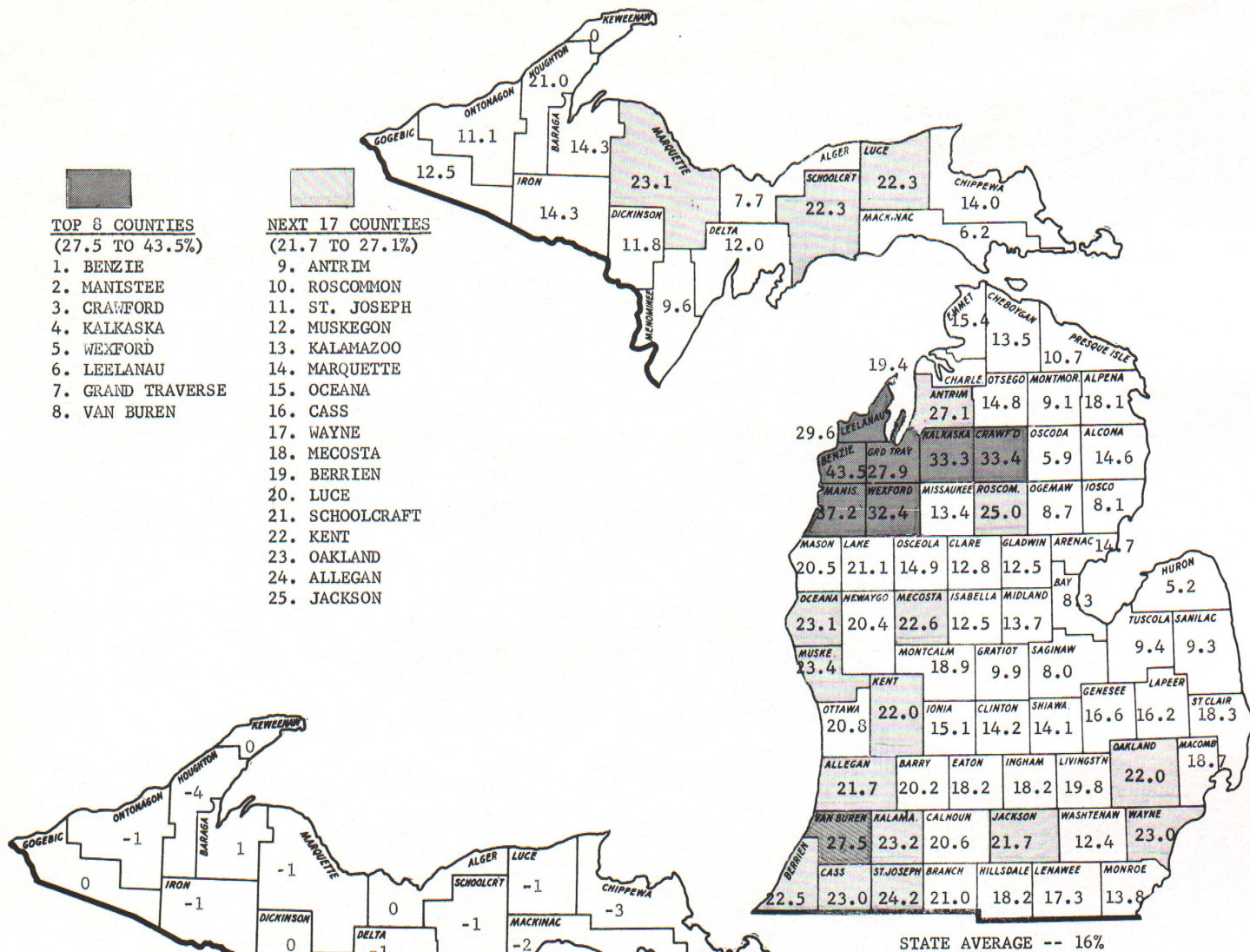


FIGURE 14. CHANGE IN IDLE CROPLAND (THOUS. ACRES) BY COUNTIES, MICHIGAN, 1959 TO 1964

II. ACREAGES OF PRINCIPAL CROPS

1. Corn

Corn was grown on more acres than any other crop. In 1964, corn occupied 1,880,000 acres or about 20% of the total cropland. The acreage was concentrated in the southern, central, and Thumb regions of Lower Michigan (Fig. 15). Lenawee County led the state in corn acreage.

While some corn was grown in most areas of the state, the 8 leading corn growing counties of southern Michigan had over 30% of the acreage and the 25 principal corn-growing counties had 3/4 of all the acreage. Counties having the highest percent of cropland in corn were located in south central Lower Michigan, except for Isabella County (Fig. 16).

Total corn acreage declined about 4% in the 1959-64 period (Fig. 17). The Thumb area and some central Michigan counties, as well as many northern counties of the Lower Peninsula, increased in acreage while most corn-growing areas of southern Lower Michigan experienced some decrease in acreage. This in part reflects government feed grain acreage restrictions.

FIGURE 15. CORN ACREAGE (ALL PURPOSES) (IN THOUSANDS) BY COUNTIES, MICHIGAN, 1964

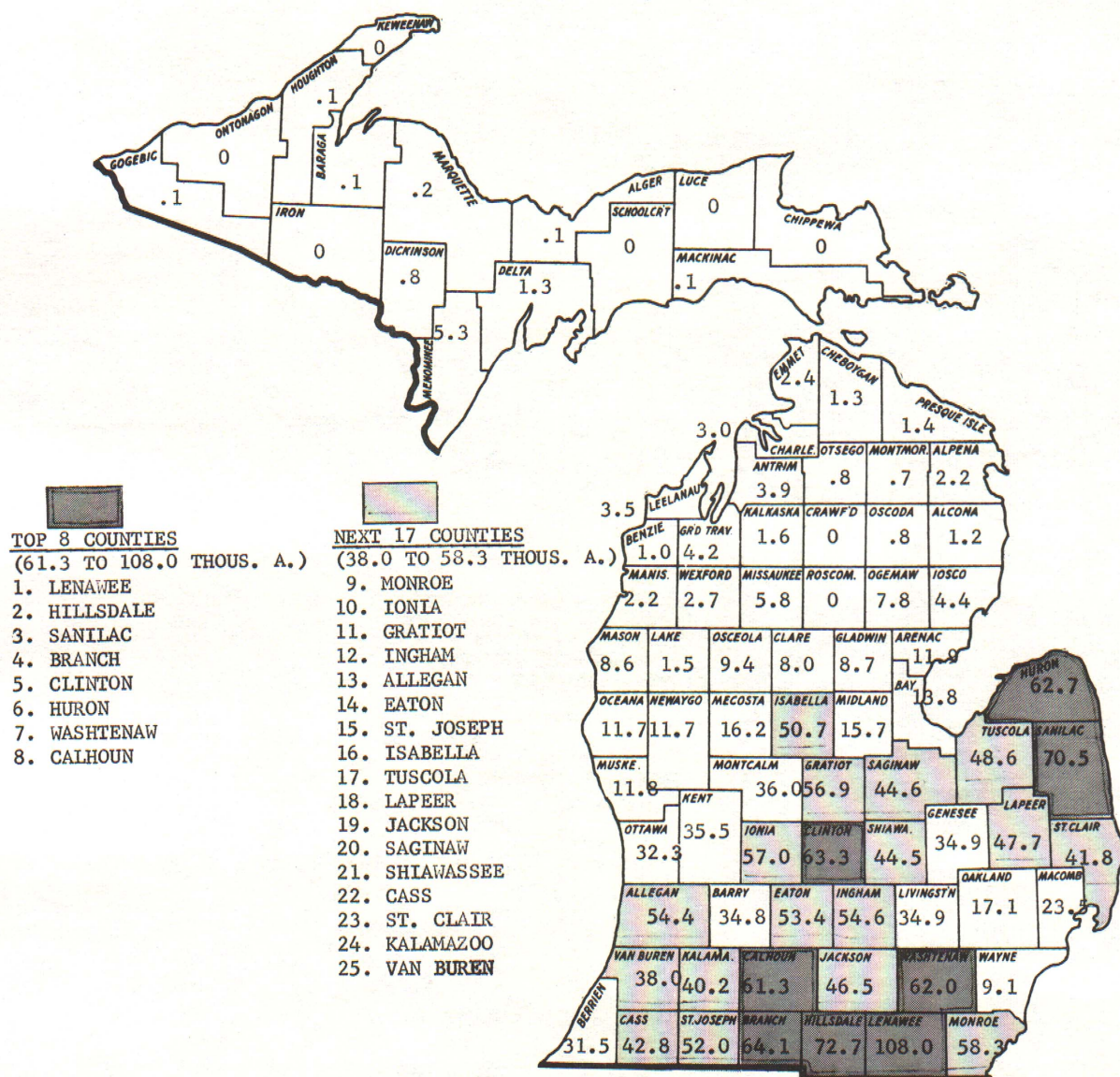


FIGURE 16. CORN ACREAGE AS A PERCENTAGE OF TOTAL CROPLAND BY COUNTIES, MICHIGAN, 1964

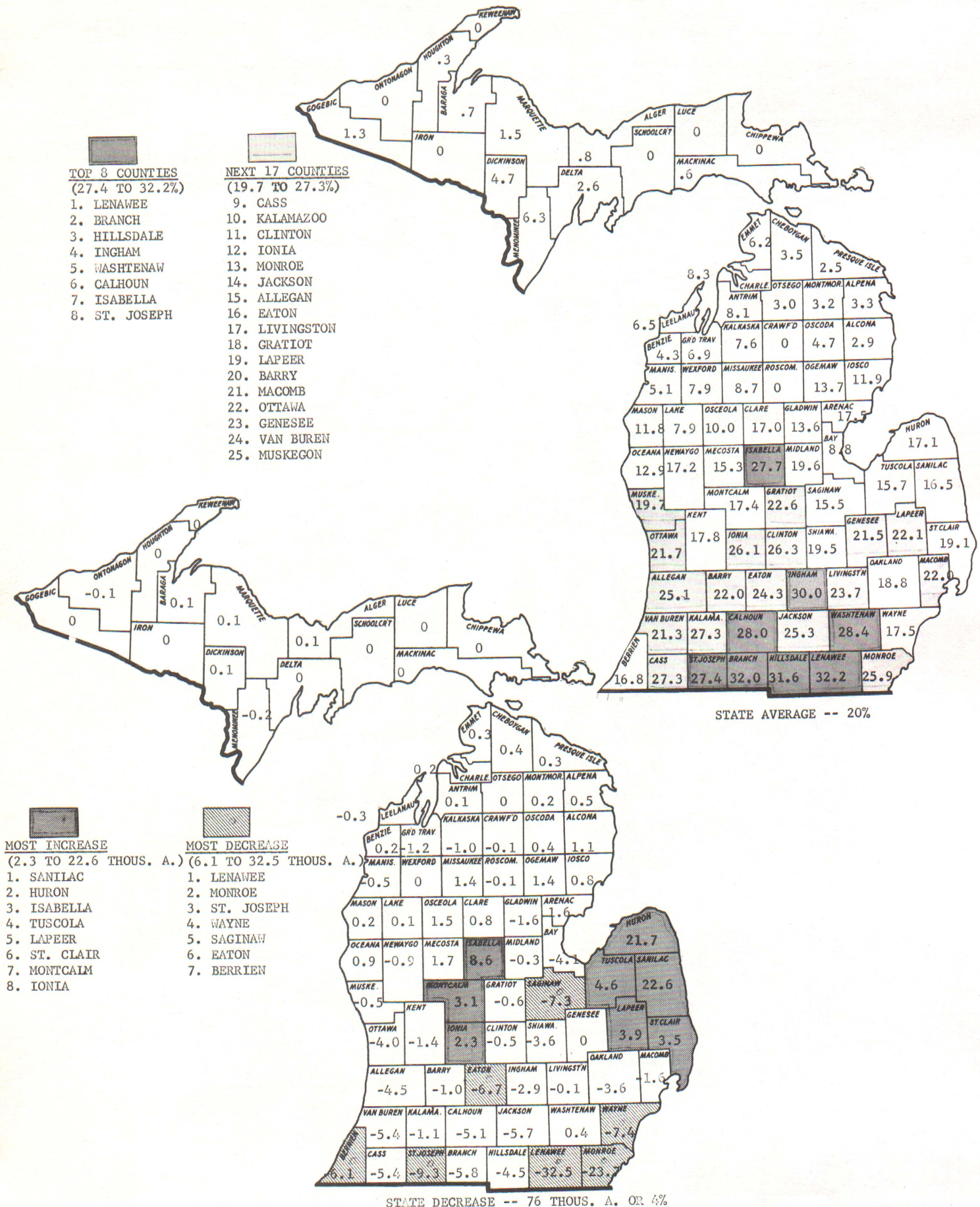


FIGURE 17. CHANGE IN CORN ACREAGE (IN THOUSANDS) BY COUNTIES, MICHIGAN, 1959 TO 1964

2. Oats

Oats were grown on 638,000 acres or about 7% of the state's cropland.

Oat acreage was greatest in the Thumb and south central regions of Michigan. The 8 leading oat growing counties (Fig. 18) had 30% of the state's oat acreage. The 25 leading counties had 68% of the acreage. They were all located in southern Michigan.

The percentage of cropland used for oats was highest in the Upper Peninsula and northeastern Lower Michigan (Fig 19). The Thumb area in general had the second highest percent of cropland in oats.

The state's acreage of oats has gone down 25% from 1959 to 1964 -- a reduction of over 200,000 acres. All southern Michigan counties except Sanilac showed a decrease in acreage (Fig. 20), with the greatest shift to other crops occurring in highly productive agricultural counties. Increased acreage or only slight decreases occurred in northern Michigan and the Upper Peninsula counties where oats had a greater comparative advantage.

FIGURE 18. OATS ACREAGE (THOUS. ACRES) BY COUNTIES, MICHIGAN, 1964

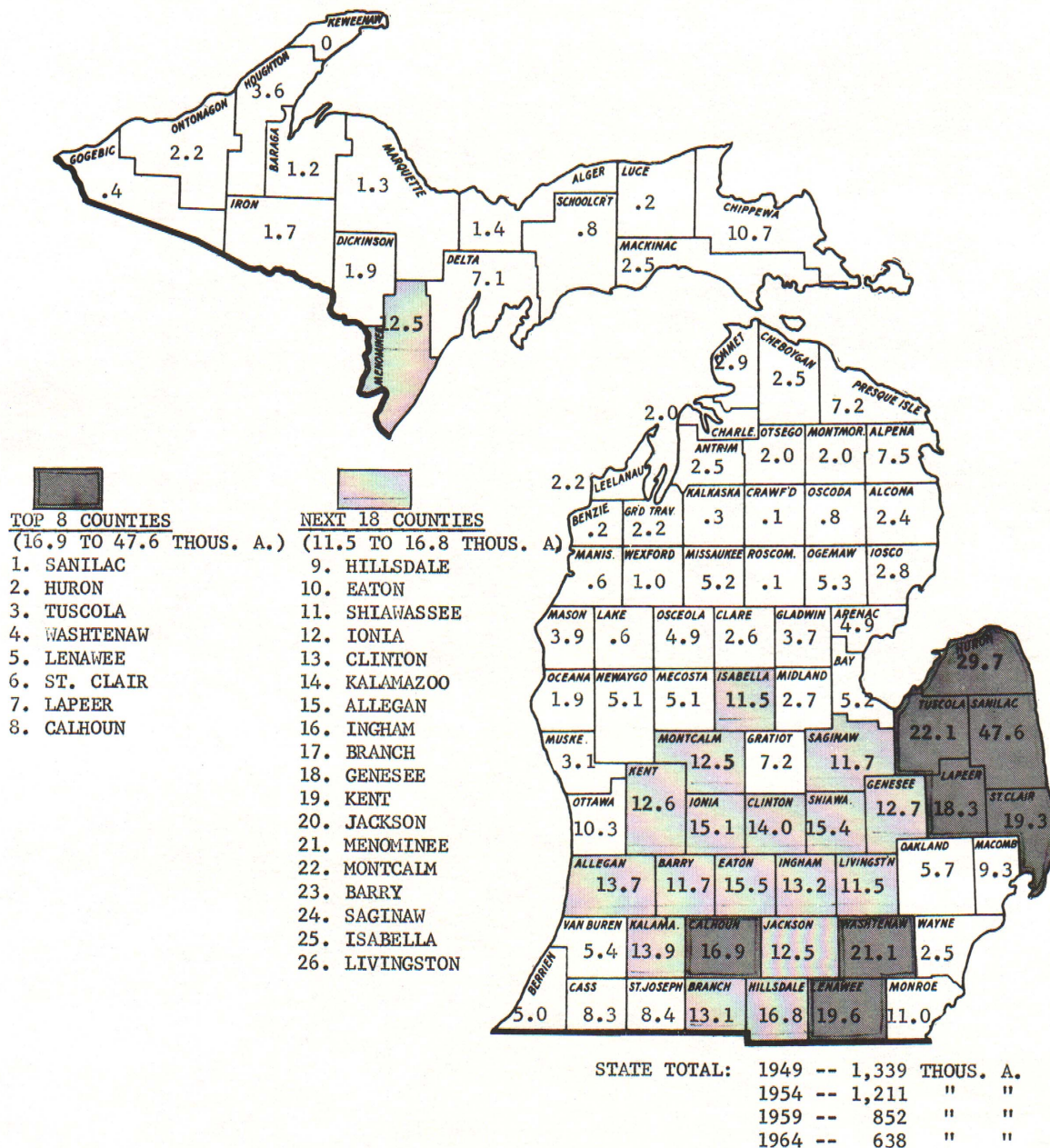


FIGURE 19. OATS ACREAGE AS A PERCENTAGE OF TOTAL CROPLAND, BY COUNTIES, MICHIGAN, 1964

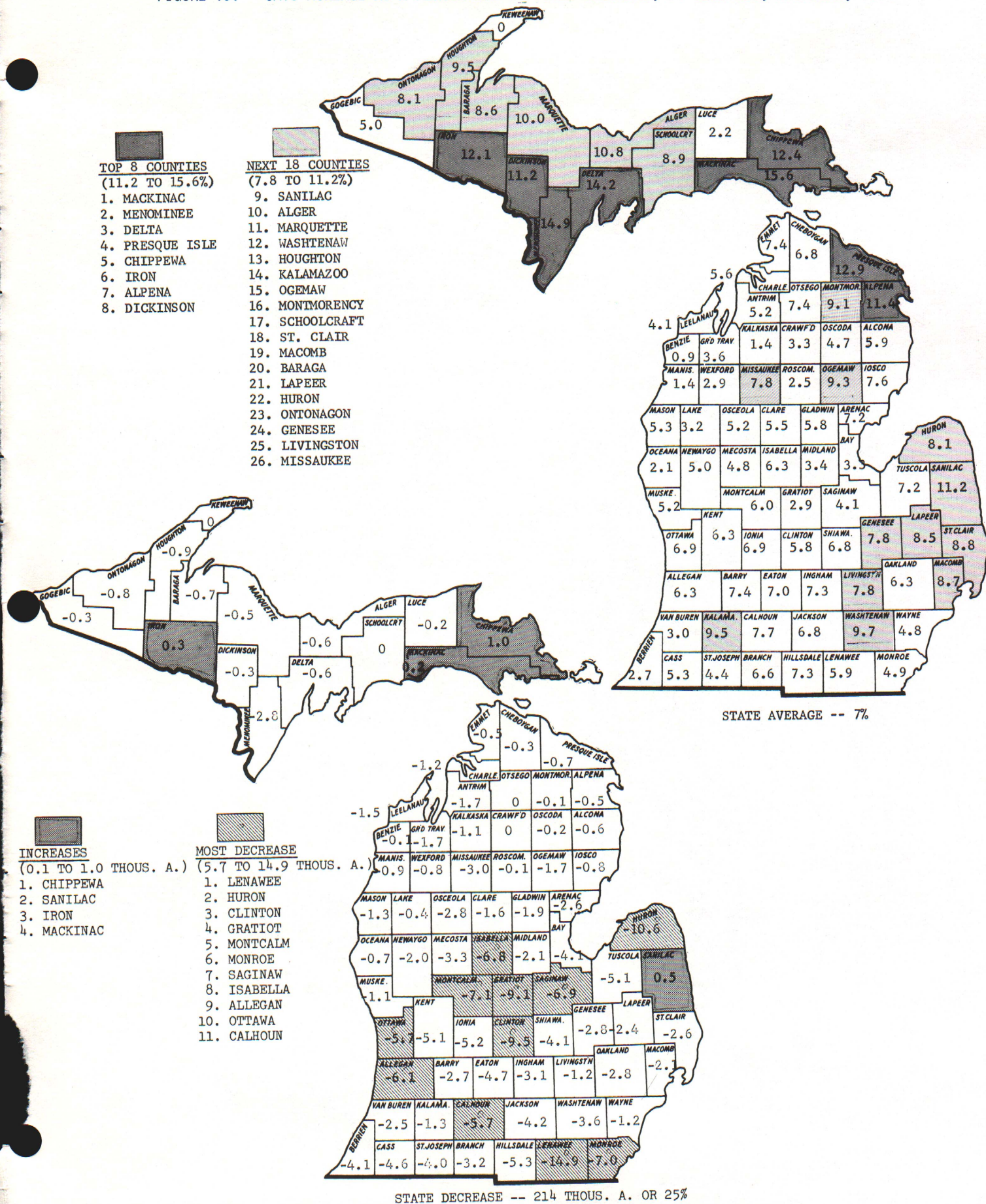


FIGURE 20. CHANGE IN OATS ACREAGE (THOUS. ACRES) BY COUNTIES, MICHIGAN, 1959 TO 1964

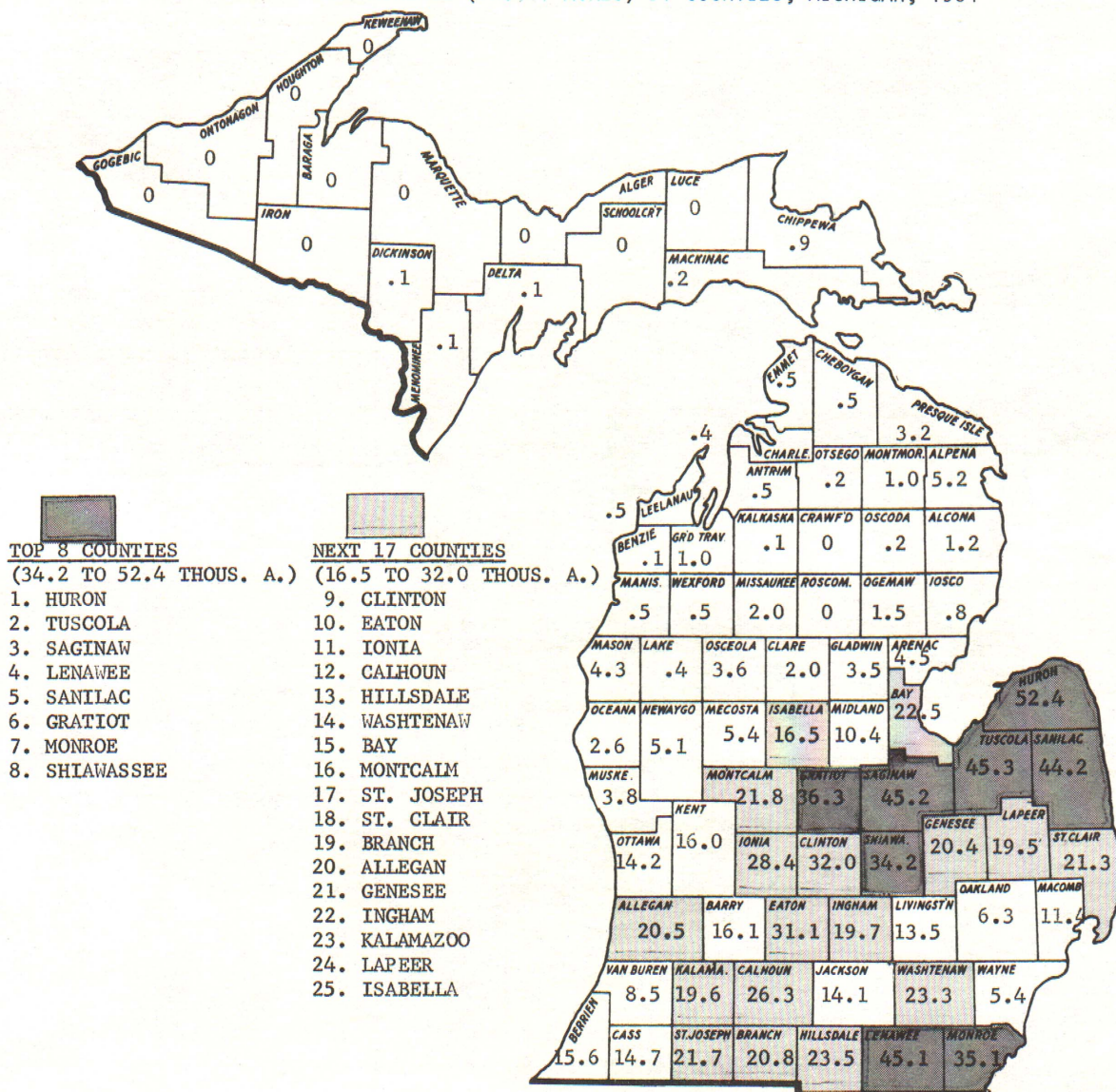
3. Wheat

Wheat was grown on 930,000 acres or about 10% of the state's cropland. The main wheat growing areas are in the Thumb, central and southern parts of Lower Michigan (Fig. 21). The top 8 wheat-growing counties had 36% of the state's wheat acreage while the top 25 had 78% of the total acreage in 1964. This was a slightly higher concentration of acreage than for either corn or oats.

The percentage of cropland in wheat in the 8 most intensive counties ranged from 14 to 16%. These counties were in the Saginaw Valley, except Eaton and Monroe (Fig. 22).

Michigan wheat acreage dropped nearly 14% from 1,076,000 acres to 930,000 acres in the 1959-64 period. Only Lenawee and Monroe Counties in southern Lower Michigan showed increases in wheat acreage, while northern Lower Michigan and the Upper Peninsula maintained a relatively stable acreage (Fig. 23). Most southern Michigan counties had a considerable reduction in wheat acreage with Sanilac, Lapeer, St. Clair, Saginaw, Jackson, Kent, and Isabella having reduction of acreages ranging from 13,100 to 6,300 for a total reduction of about 60,000 acres, accounting for 41% of the total decrease in acreage. An increase in feed crops and land in conservation reserve account in part for the reduction in wheat acreage in these counties.

FIGURE 21. WHEAT ACREAGE (THOUS. ACRES) BY COUNTIES, MICHIGAN, 1964



STATE TOTAL: 1949 -- 1,250 THOUS. A.
 1954 -- 998 " "
 1959 -- 1,076 " "
 1964 -- 930 " "

FIGURE 22. WHEAT ACREAGE AS A PERCENTAGE OF TOTAL CROPLAND, BY COUNTIES, MICHIGAN, 1964

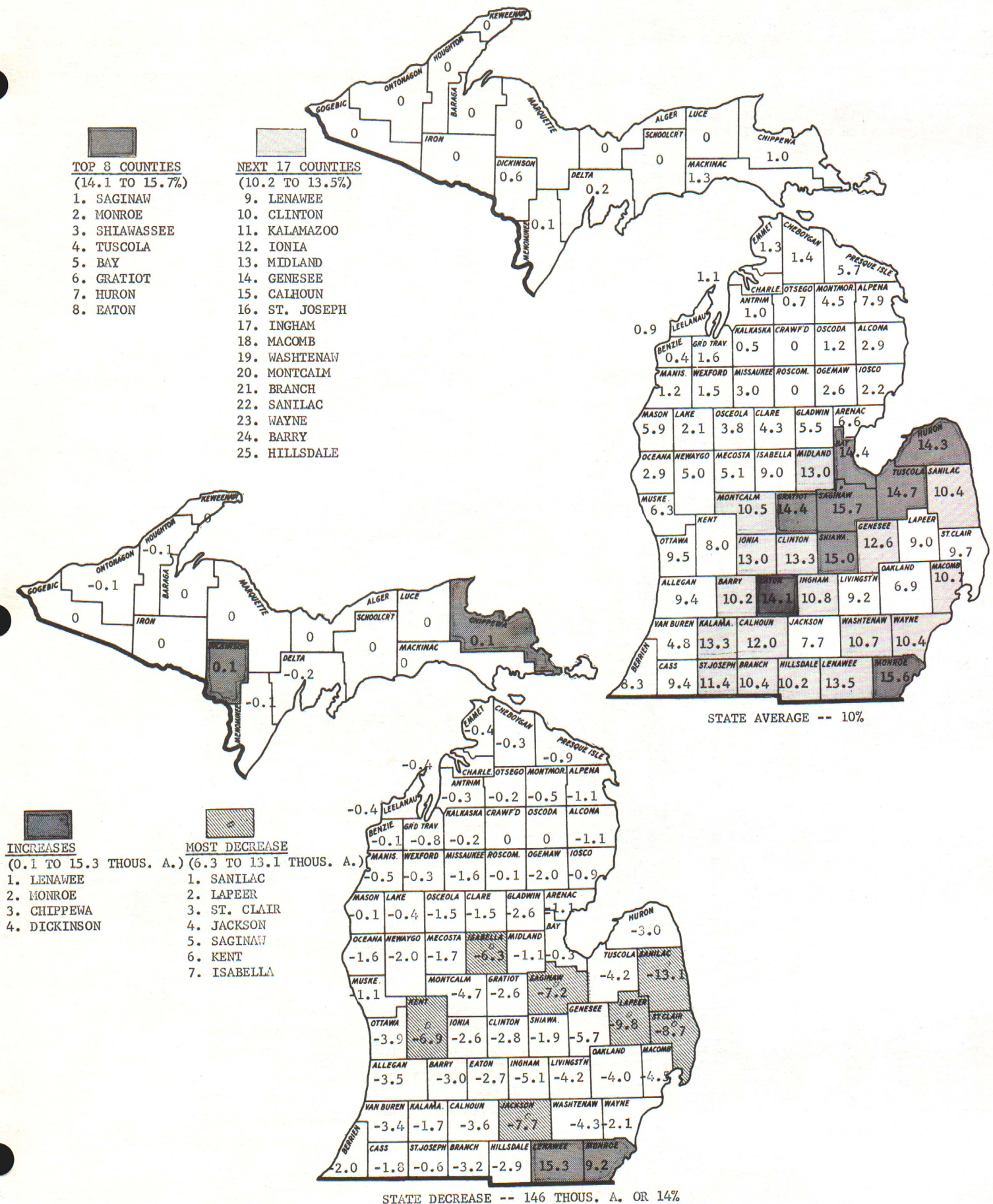


FIGURE 23. CHANGE IN WHEAT ACREAGE (THOUS. ACRES) BY COUNTIES, MICHIGAN, 1959 TO 1964

4. Barley

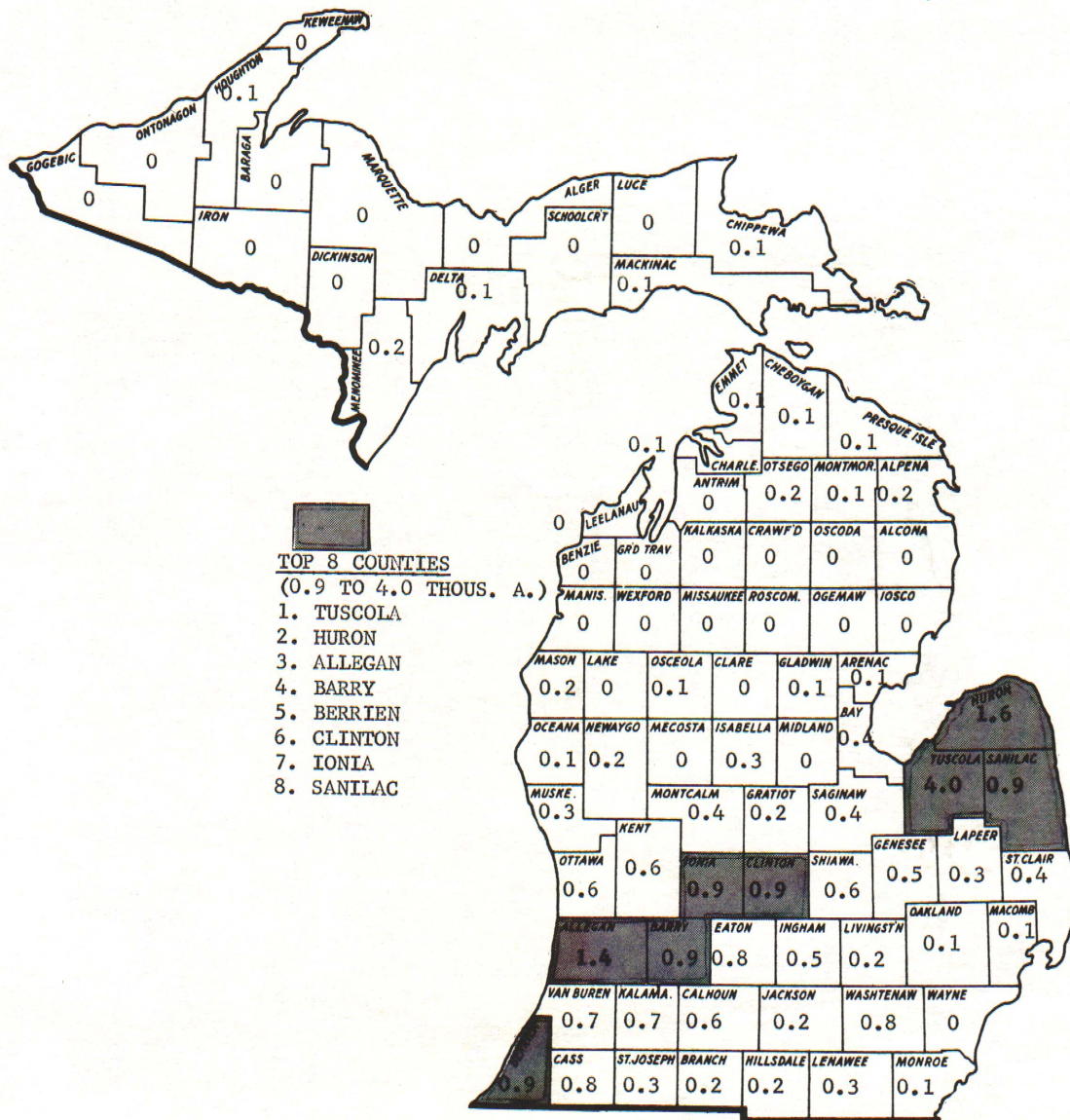
Barley was grown on 26,000 acres in 1964 or on about 0.3% of the state's cropland (Fig. 24). The barley areas are in the Thumb, central, and southwest areas of southern Lower Michigan. Tuscola county had more than twice the acreage of any other county.

The top 8 barley growing counties account for 44% of the state's acreage.

Barley occupied only a small percentage of the cropland of any county (Fig. 25). The most intensive county, Tuscola, had 1.3% of cropland in barley. All other counties had less than 1%.

Barley acreage declined 68% in the 5-year census period 1959-64 (Fig. 26). Only Tuscola and Bay counties in the main spring barley-growing areas have maintained or increased their barley acreage. Cass county in the winter barley-growing area also registered a slight increase in acreage. Many counties in central southern Michigan showed sizeable decreases.

FIGURE 24. BARLEY ACREAGE (THOUS. ACRES) BY COUNTIES, MICHIGAN, 1964



STATE TOTAL:	1949	--	102	THOUS.	A.
	1954	--	68	"	"
	1959	--	82	"	"
	1964	--	26	"	"

FIGURE 25. BARLEY ACREAGE AS A PERCENTAGE OF TOTAL CROPLAND, BY COUNTIES, MICHIGAN, 1964

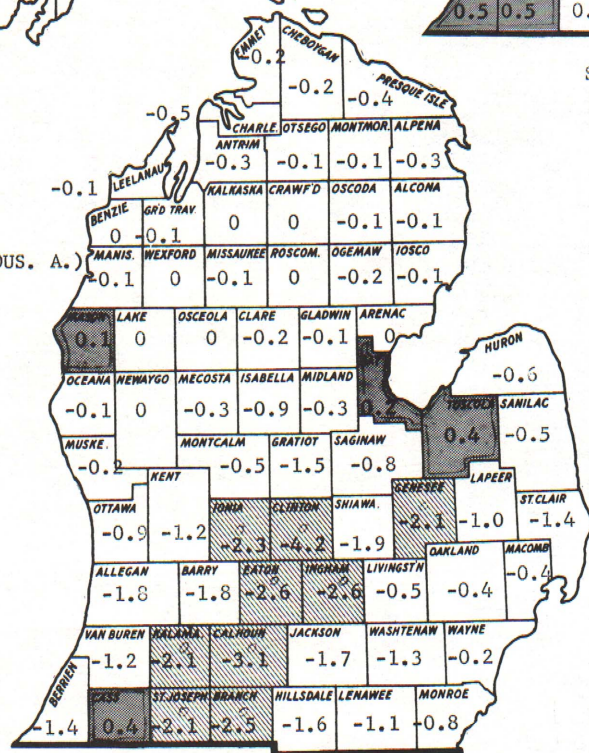
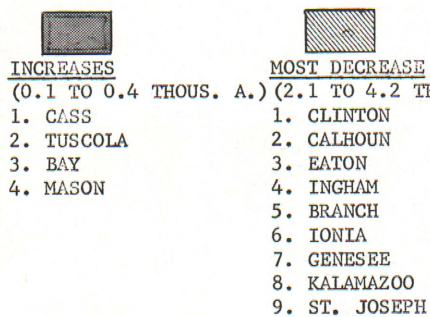
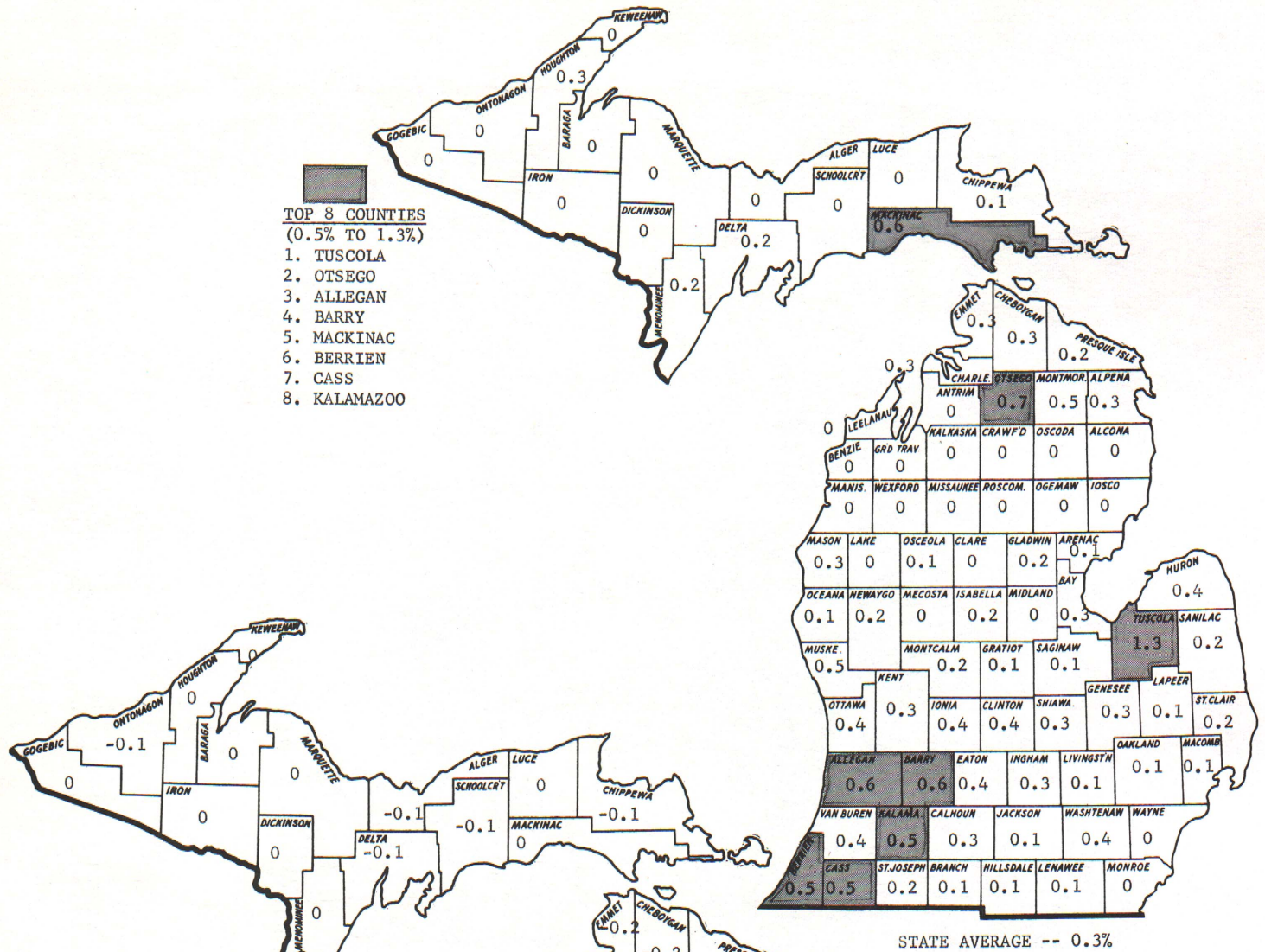


FIGURE 26. CHANGE IN BARLEY ACREAGE (THOUS. ACRES) BY COUNTIES, MICHIGAN, 1959 TO 1964

5. Alfalfa Hay

Alfalfa hay is produced in all counties of Michigan. The 1964 acreage was 1,344,000 (Fig. 27). Alfalfa hay acreage of 14% of the total was second only to corn in harvested acreage.

Sanilac was the leading hay-growing county. Other Thumb and central Lower Michigan counties made up the major hay-producing areas. The top 8 hay acreage counties had about 25%, and the top 25, about 60% of the acreage. The percentage of cropland used for alfalfa hay was highest in the central area of the Upper Peninsula and northeast Lower Michigan (Fig. 28).

Much of southern Lower Michigan, however, has recently experienced net increases in hay acreage (Fig. 29). Sanilac, Ionia, Allegan, Ottawa, Clinton, Lapeer, Livingston, Barry, and St. Clair counties had the largest -- 4,000 to 8,200 acres increase per county in the 1959-64 period.

Bay, Huron, Saginaw, and Gratiot counties have had major shifts of cropland from hay to other uses, mainly to cash-crops and feed grains.

FIGURE 27. ALFALFA HAY ACREAGE (THOUS. ACRES) BY COUNTIES, MICHIGAN, 1964

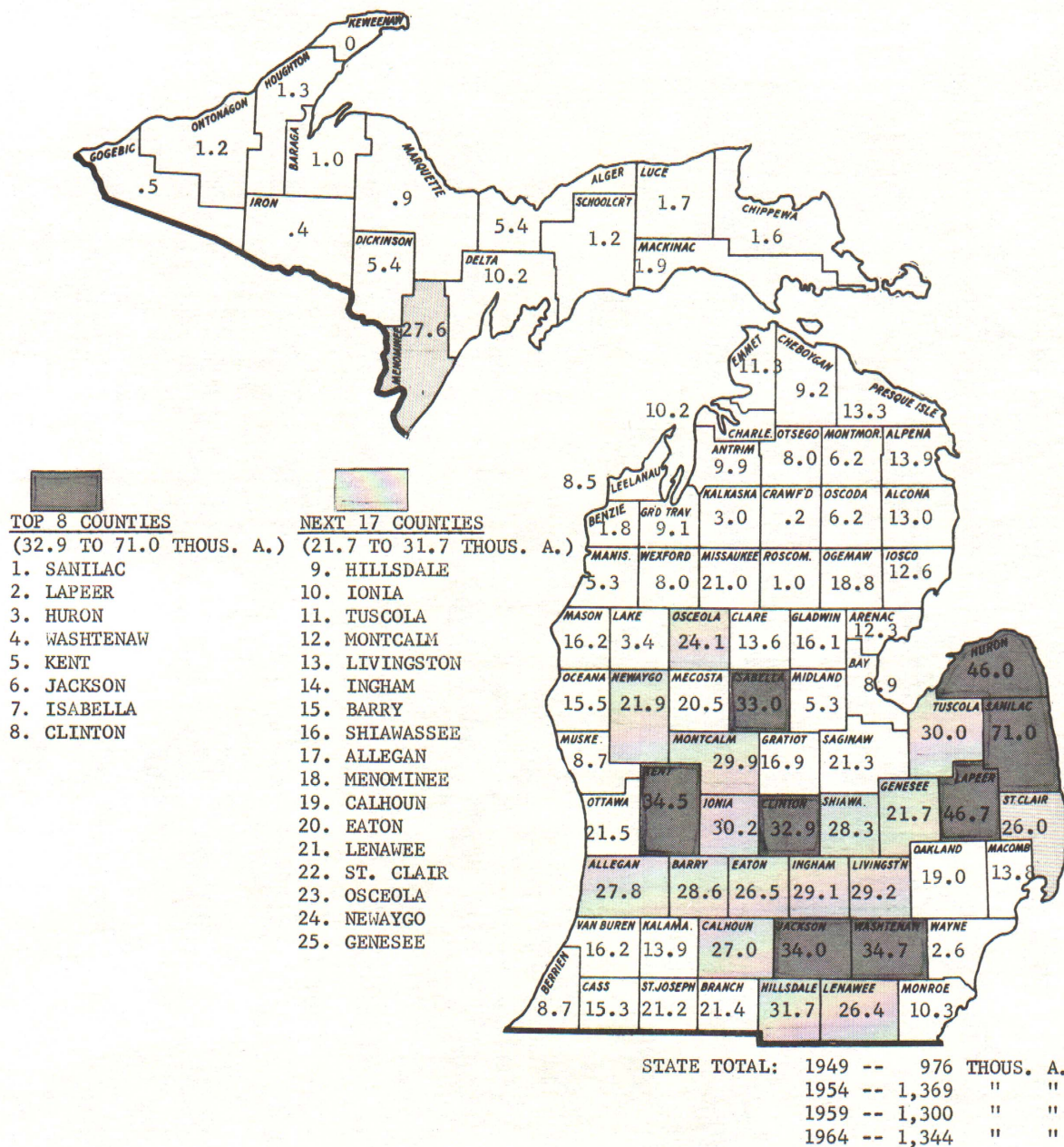
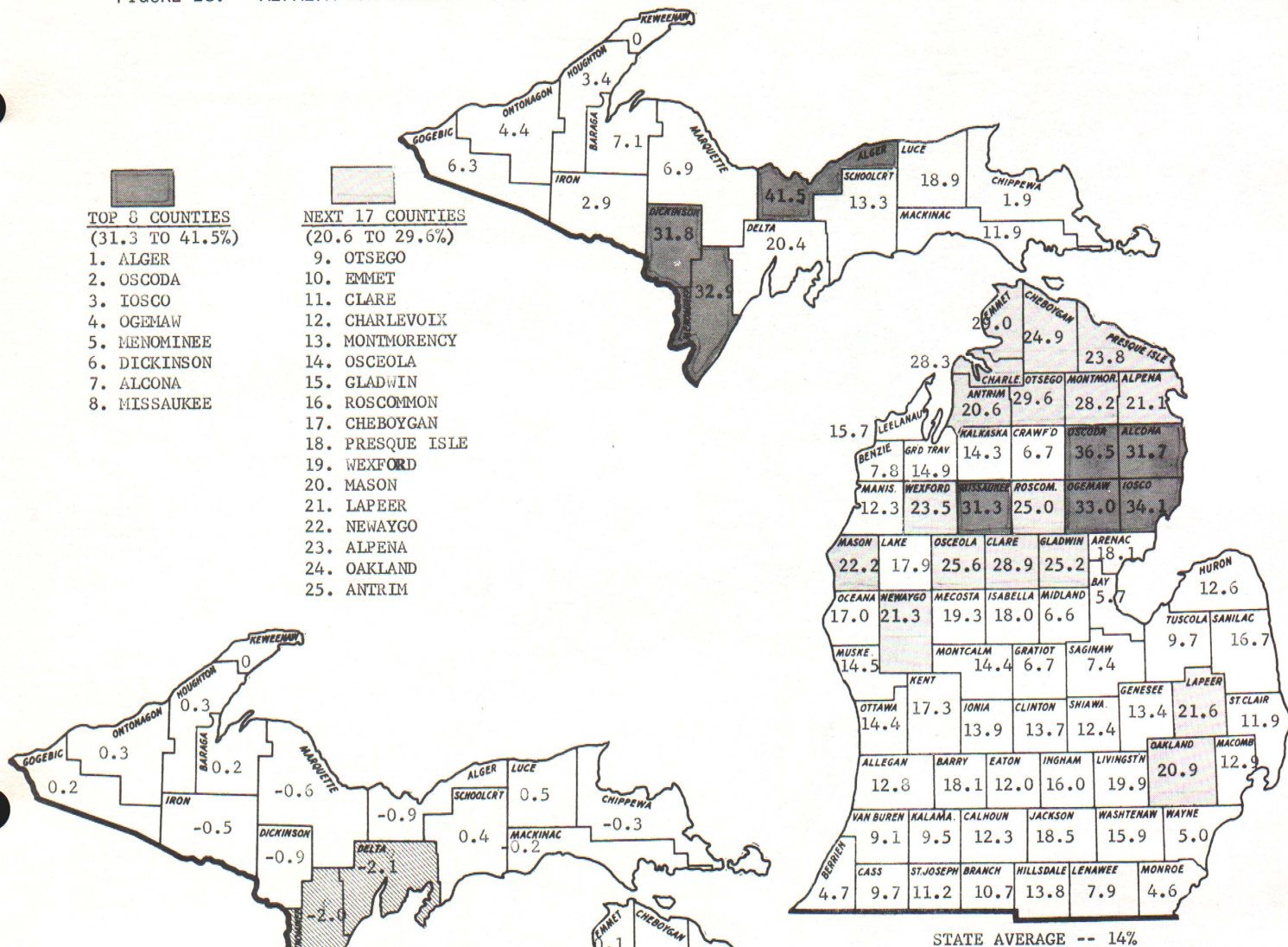


FIGURE 28. ALFALFA HAY ACREAGE AS A PERCENTAGE OF TOTAL CROPLAND, BY COUNTIES, MICHIGAN, 1964



MOST INCREASE

(4.0 TO 8.2 THOUS. A.)

1. SANILAC
2. IONIA
3. ALLEGAN
4. OTTAWA
5. CLINTON
6. LAPEER
7. LIVINGSTON
8. BARRY
9. ST. CLAIR

MOST DECREASE

(2.0 TO 4.9 THOUS. A.)

1. BAY
2. HURON
3. SAGINAW
4. GRATIOT
5. MECOSTA
6. GRAND TRAVERSE
7. MIDLAND
8. DELTA
9. MENOMINEE

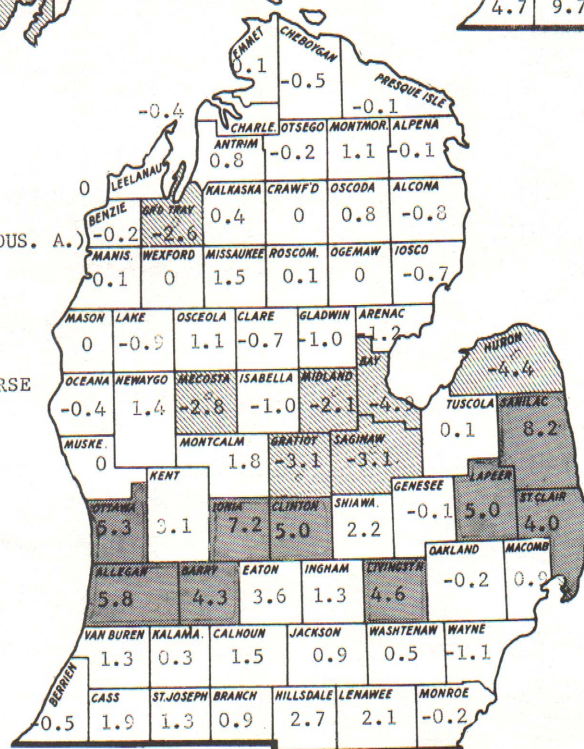


FIGURE 29. CHANGE IN ALFALFA HAY ACREAGE (THOUS. ACRES) BY COUNTIES, MICHIGAN, 1959 TO 1964

6. Field Beans

Michigan is the leading field bean-producing state. Field beans are grown on 591,000 acres, or 6.2% of the state's cropland. Acreage is concentrated in the Thumb and central Lower Michigan (Fig. 30). The top 8 field bean-growing counties had about 80% of the state's acreage.

Gratiot had nearly 30% of its cropland in beans, Huron and Tuscola 27%, and Saginaw 26% (Fig. 31).

Field bean acreage increased almost 100,000 acres, or 20%, from 1959 to 1964 (Fig. 32). Gratiot led the shift to beans with 23,600 additional acres. Bay, Eaton, Tuscola, Saginaw, Montcalm, Clinton, Midland, Isabella, and Ionia all had increases of over 5,000 acres. A few counties had decreases.

FIGURE 30. FIELD BEAN ACREAGE (THOUS. ACRES) BY COUNTIES, MICHIGAN, 1964

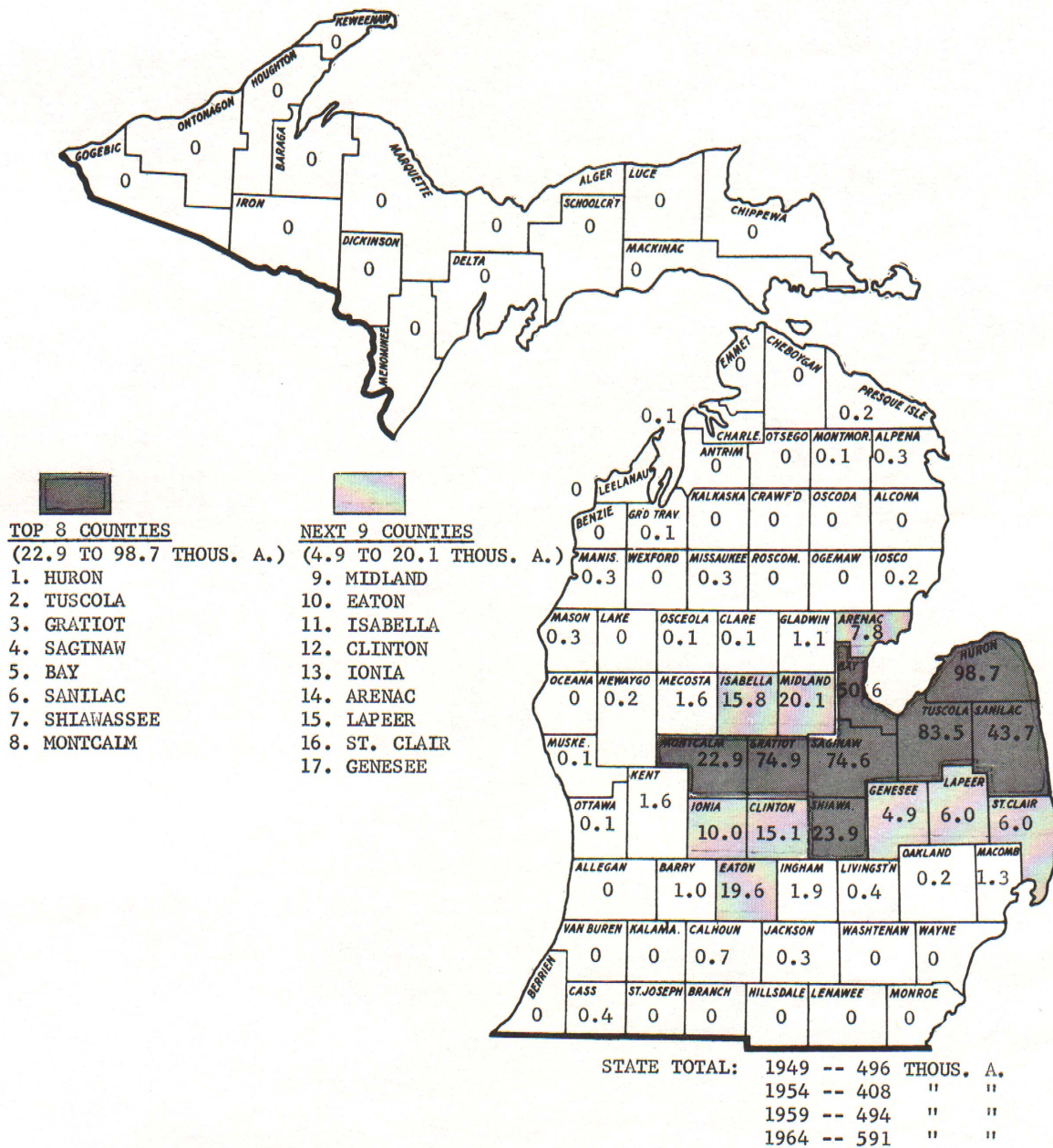


FIGURE 31. FIELD BEAN ACREAGE AS A PERCENTAGE OF TOTAL CROPLAND, BY COUNTIES, MICHIGAN, 1964

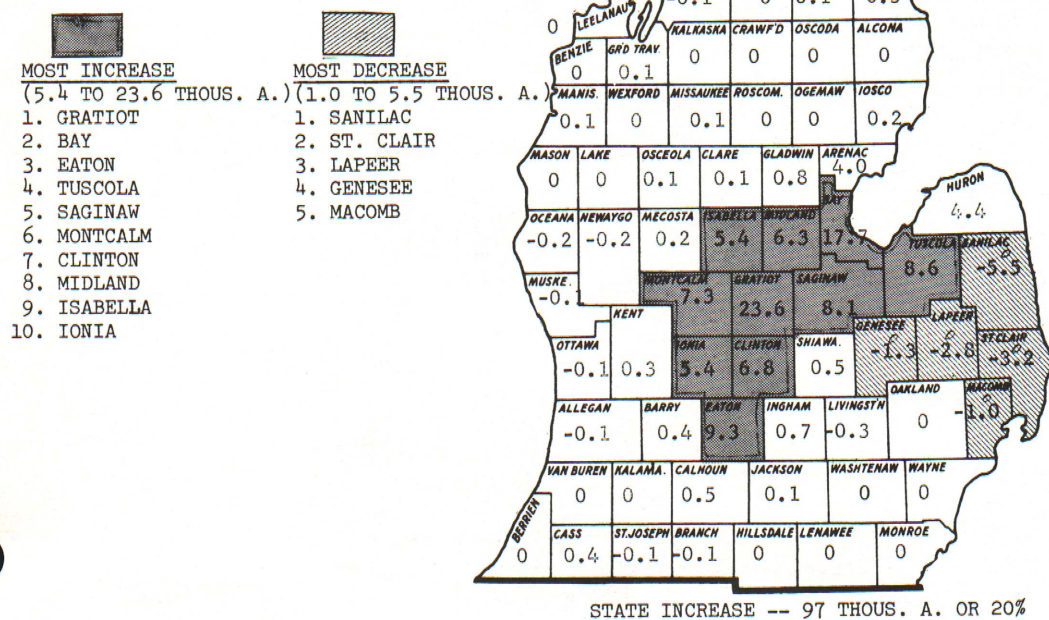
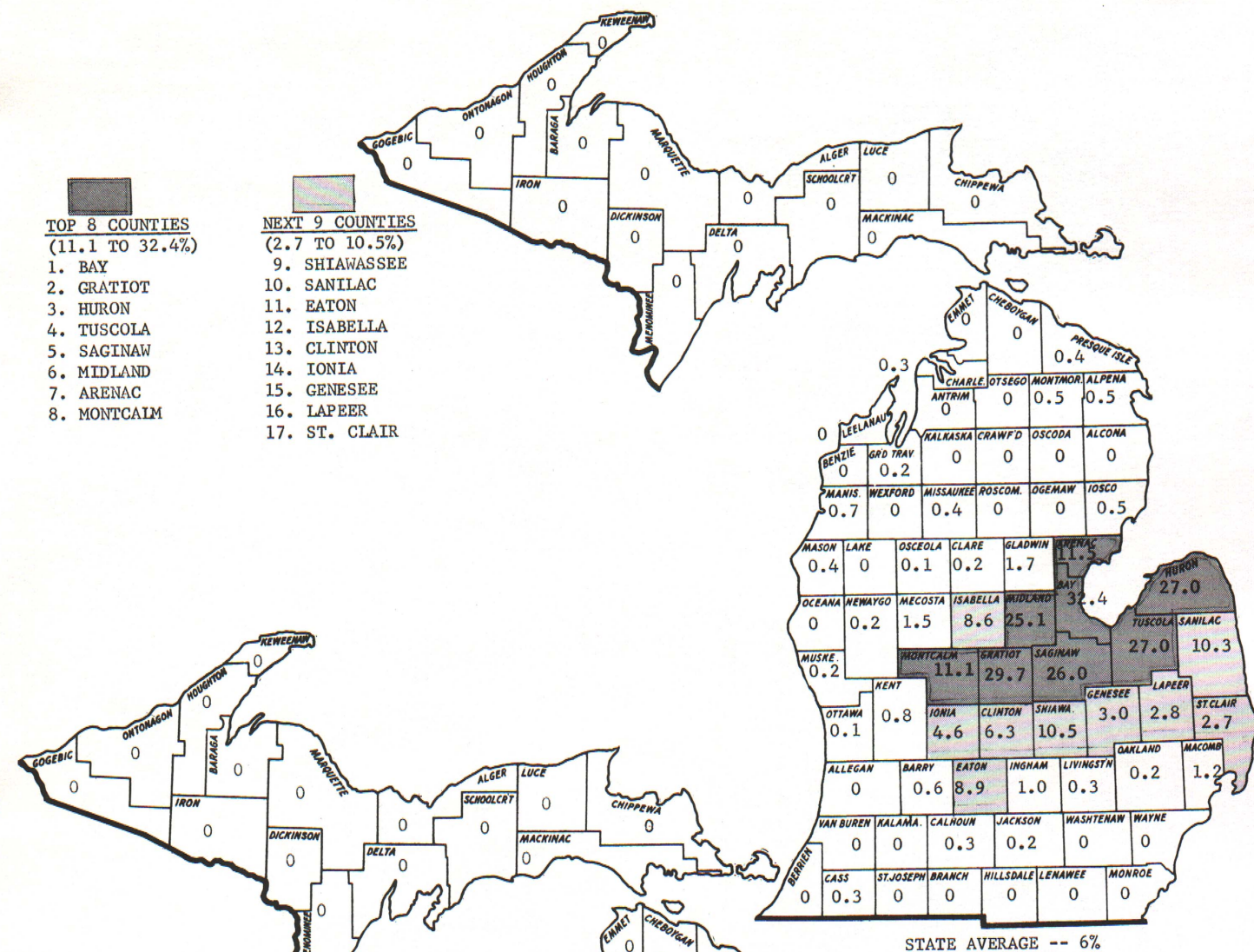


FIGURE 32. CHANGE IN FIELD BEAN ACREAGE (THOUS. ACRES) BY COUNTIES, MICHIGAN, 1959 TO 1964

7. Soybeans

Soybeans were grown on 316,000 acres or 3.3% of the state's cropland in 1964 (Fig. 33). They were concentrated in the Saginaw Valley and southeastern Michigan. Monroe and Lenawee were the leading soybean-acreage counties. The 8 top soybean-acreage counties had nearly 75% of the state's soybean acreage.

Monroe had the largest percentage, about 26% of its cropland in soybeans (Fig. 34). Other counties with over 6% of cropland in soybeans include Wayne, Lenawee, Shiawassee, Saginaw, Genesee, Hillsdale, and Clinton.

Soybean acreage increased about 92,000 acres, or 41% during the 1959-64 period (Fig. 35). Saginaw and Shiawassee counties had the greatest increase, 16,800 and 12,300 acres, respectively. Other counties with increases in soybean acreage of 3,000 acres or more include Branch, Hillsdale, Genesee, Clinton, St. Joseph, Washtenaw, and Calhoun.

FIGURE 33. SOYBEAN ACREAGE (THOUS. ACRES) BY COUNTIES, MICHIGAN, 1964

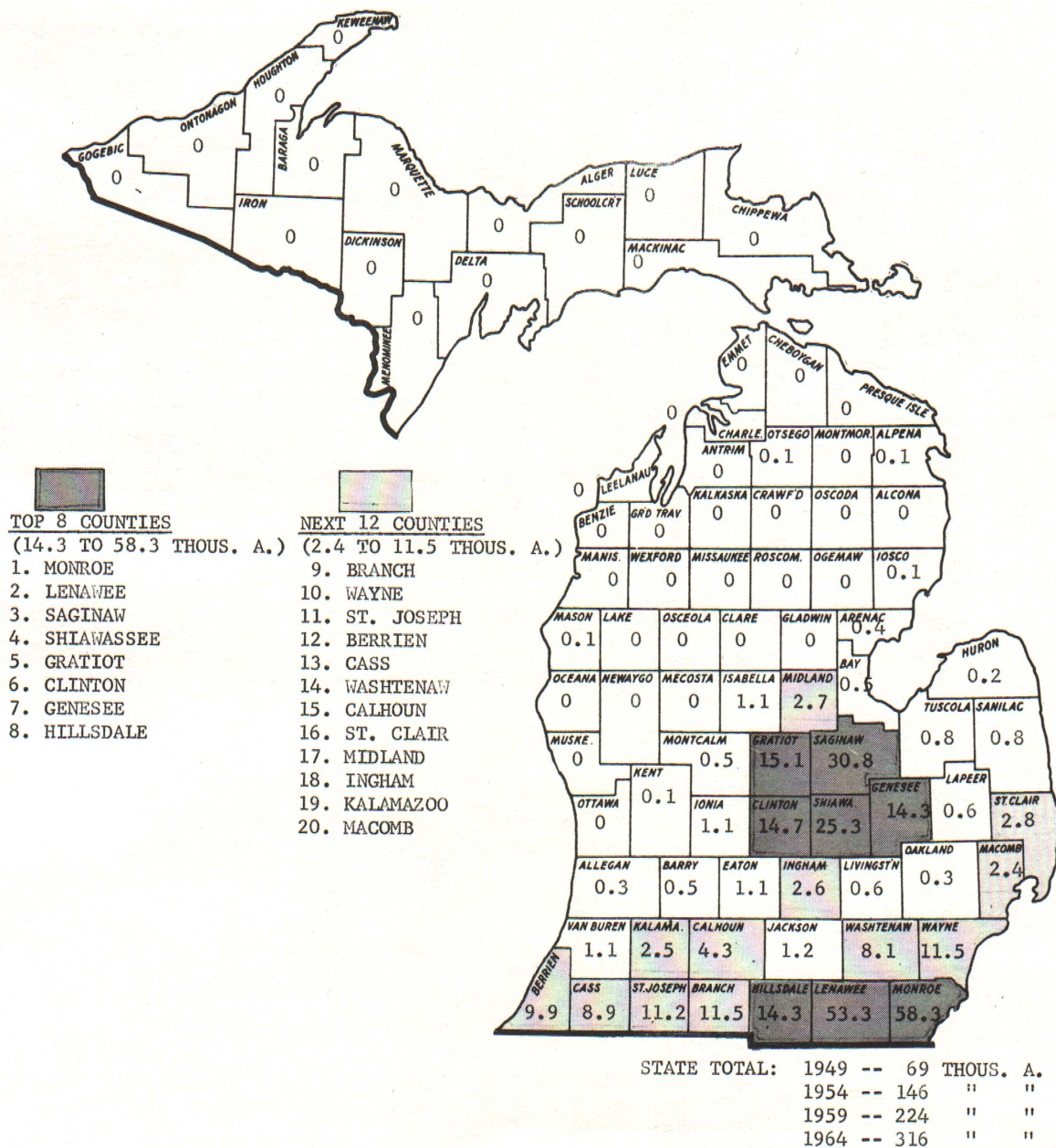


FIGURE 34. SOYBEAN ACREAGE AS A PERCENTAGE OF TOTAL CROPLAND, BY COUNTIES, MICHIGAN, 1964

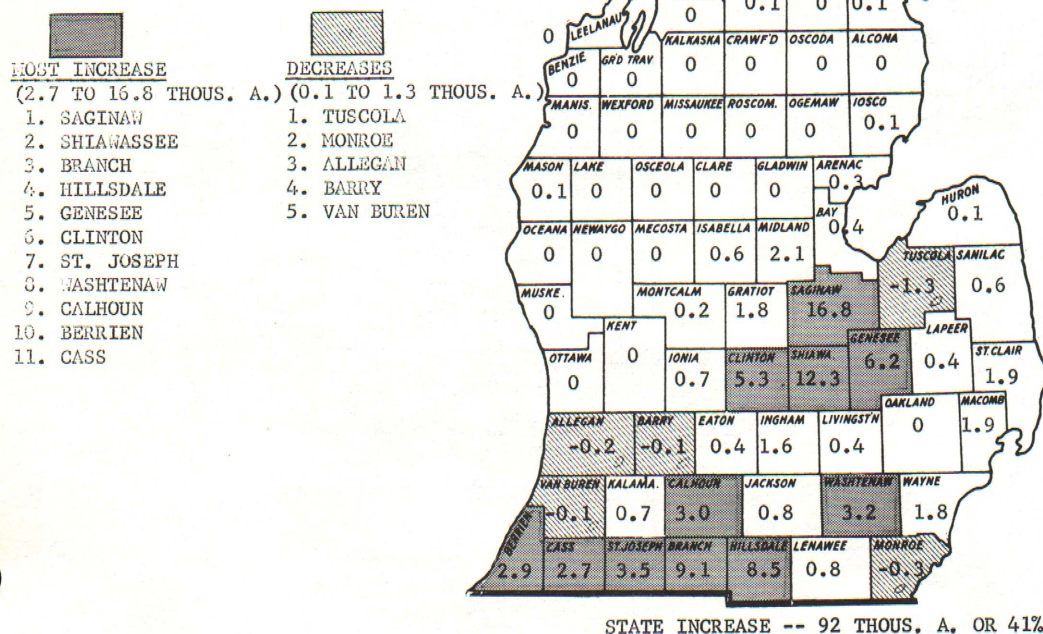
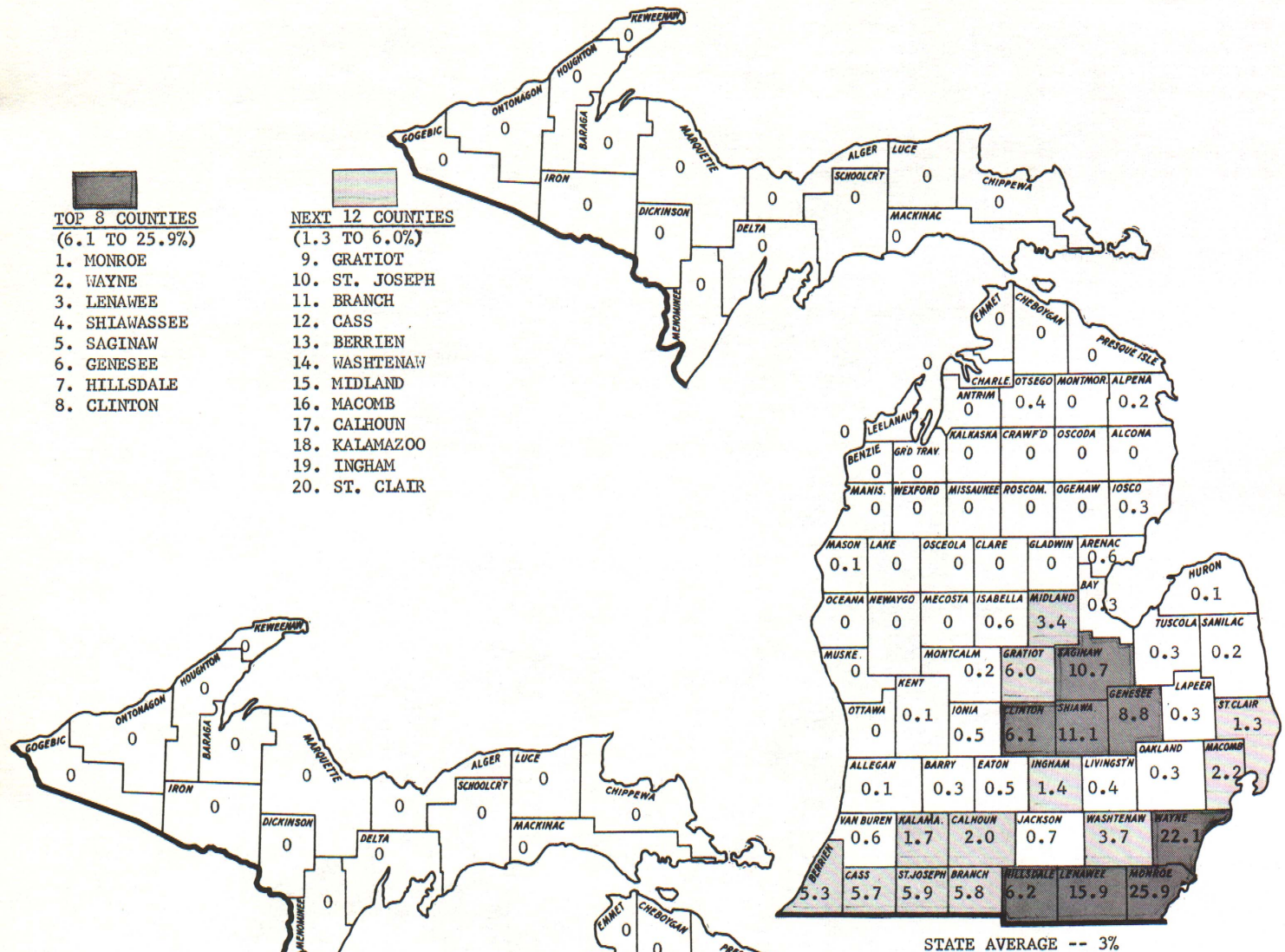


FIGURE 35. CHANGE IN SOYBEAN ACREAGE (THOUS. ACRES) BY COUNTIES, MICHIGAN, 1959 TO 1964

8. Potatoes

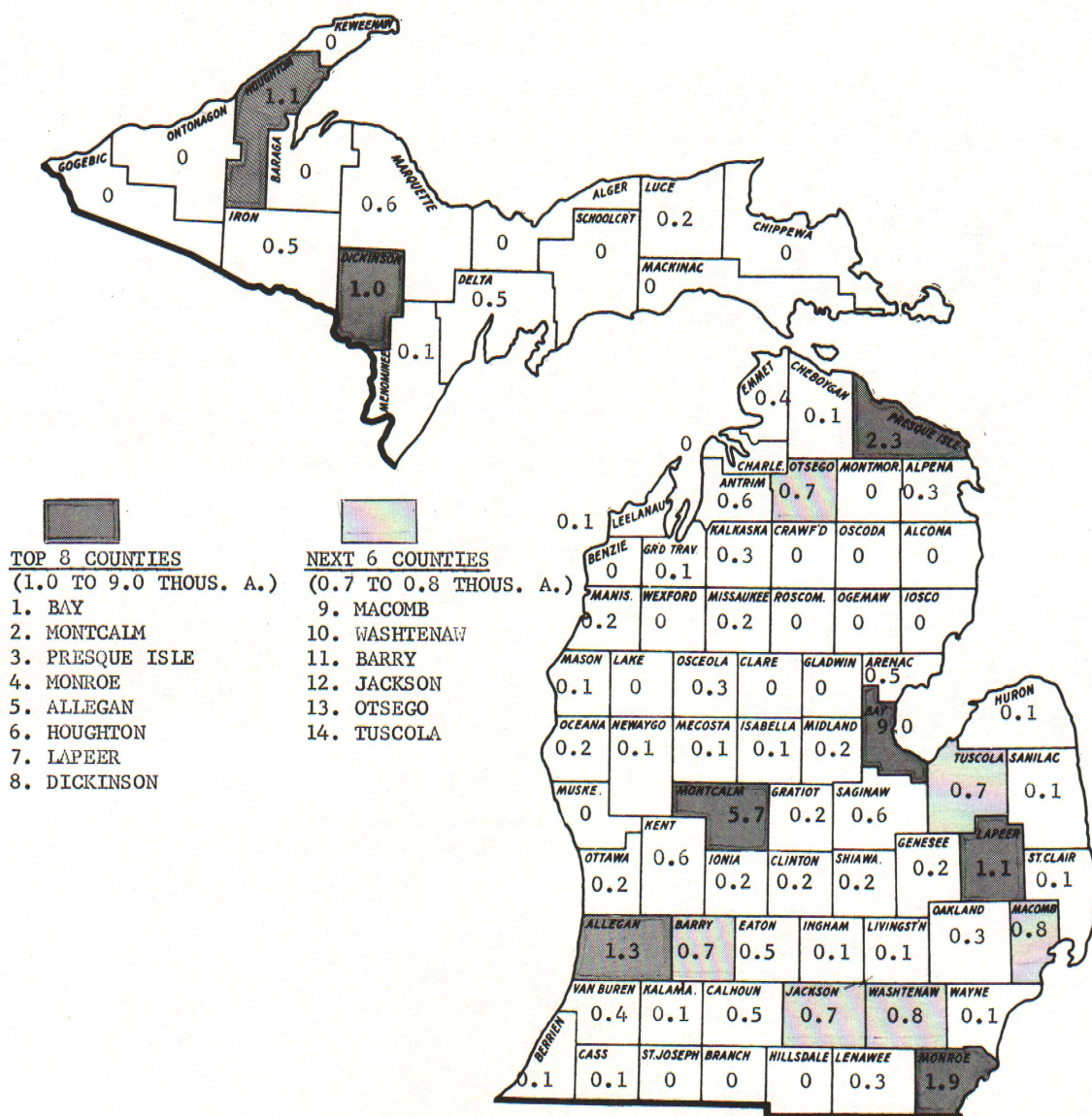
Michigan is a major potato-growing state with 39,000 acres or about 0.4% of its cropland in potatoes (Fig. 36). Bay County with 9,000 acres and Montcalm with 5,700 acres in the 1964 census had the largest acreage. Important potato-producing areas are scattered throughout the state and include counties in the Upper Peninsula, northern Lower Michigan, central and western Upper Michigan, the Thumb area, southeast, and the western, and central areas of southern Lower Michigan.

The relative importance of the potato crop in a county can be seen by the percentage of cropland in potatoes (Fig. 37). Dickinson, with nearly 6% led the state in percentage of cropland devoted to potatoes. Other counties with potatoes on over 2.6% of its cropland include Bay, Marquette, Presque Isle, Iron, Houghton, Montcalm, and Otsego.

While there has been a reduction of 7,000 acres, or 15%, during the 1959-64 period in the state's total acreage, increased acreage occurred in Bay, Tuscola, Monroe, Barry, and Dickinson counties (Fig. 38). Major acreage increase has also taken place in the Montcalm county area since the 1964 Agriculture Census. ^{1/}

^{1/} Michigan Agricultural Statistics, June 1966.

FIGURE 36. POTATO ACREAGE (THOUS. ACRES) BY COUNTIES, MICHIGAN, 1964



STATE TOTAL: 1949 -- 84 THOUS. A.
 1954 -- 53 " "
 1959 -- 46 " "
 1964 -- 39 " "

FIGURE 37. POTATO ACREAGE AS A PERCENTAGE OF TOTAL CROPLAND, BY COUNTIES, MICHIGAN, 1964

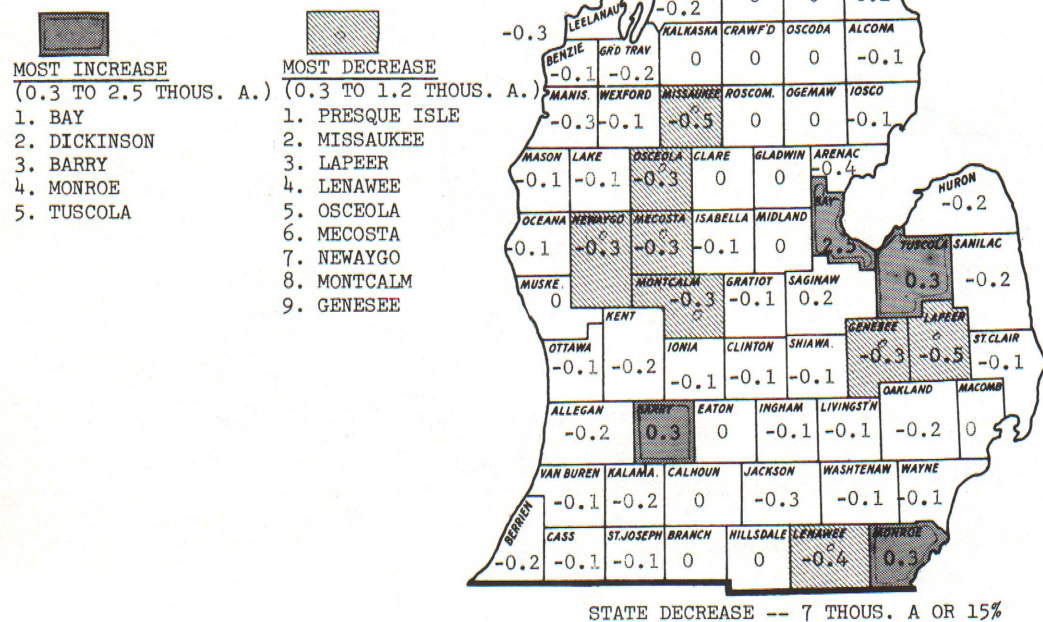
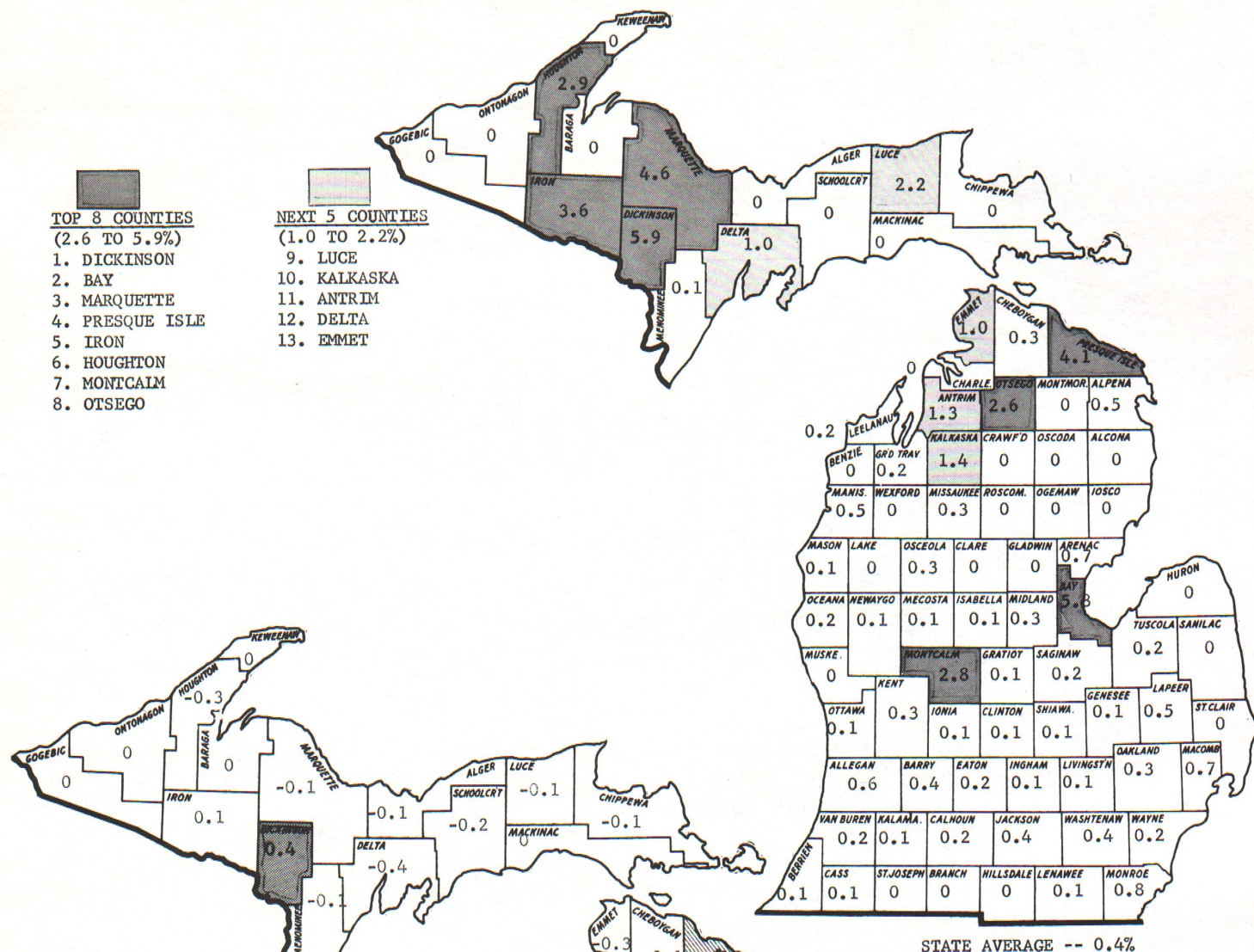


FIGURE 38. CHANGE IN POTATO ACREAGE (THOUS. ACRES) BY COUNTIES, MICHIGAN, 1959 TO 1964

9. Sugar Beets

Michigan is an important sugar beet-producing state. Some 80,000 acres of sugar beets were grown in 1964 (Fig. 39). Acreage was concentrated in the Thumb area. Tuscola, Bay, Saginaw, and Huron counties all had from about 12 to 16,000 acres. Over 90% of the acreage is concentrated in the leading 8 sugar beet-growing counties. Few other counties have any.

The relative importance of the sugar beets is shown by the percentage of land in beets (Fig. 40). Bay county had over 10% in beets. Other counties with over 1% include Tuscola, Saginaw, Huron, Midland, Arenac, Monroe, and Sanilac.

Increases from 1,000 to 4,500 acres of sugar beets occurred in several important sugar beet-producing counties -- Bay, Monroe, Gratiot, and Sanilac (Fig. 41). A few counties had decreases.

FIGURE 39. SUGAR BEET ACREAGE (THOUS. ACRES) BY COUNTIES, MICHIGAN, 1964

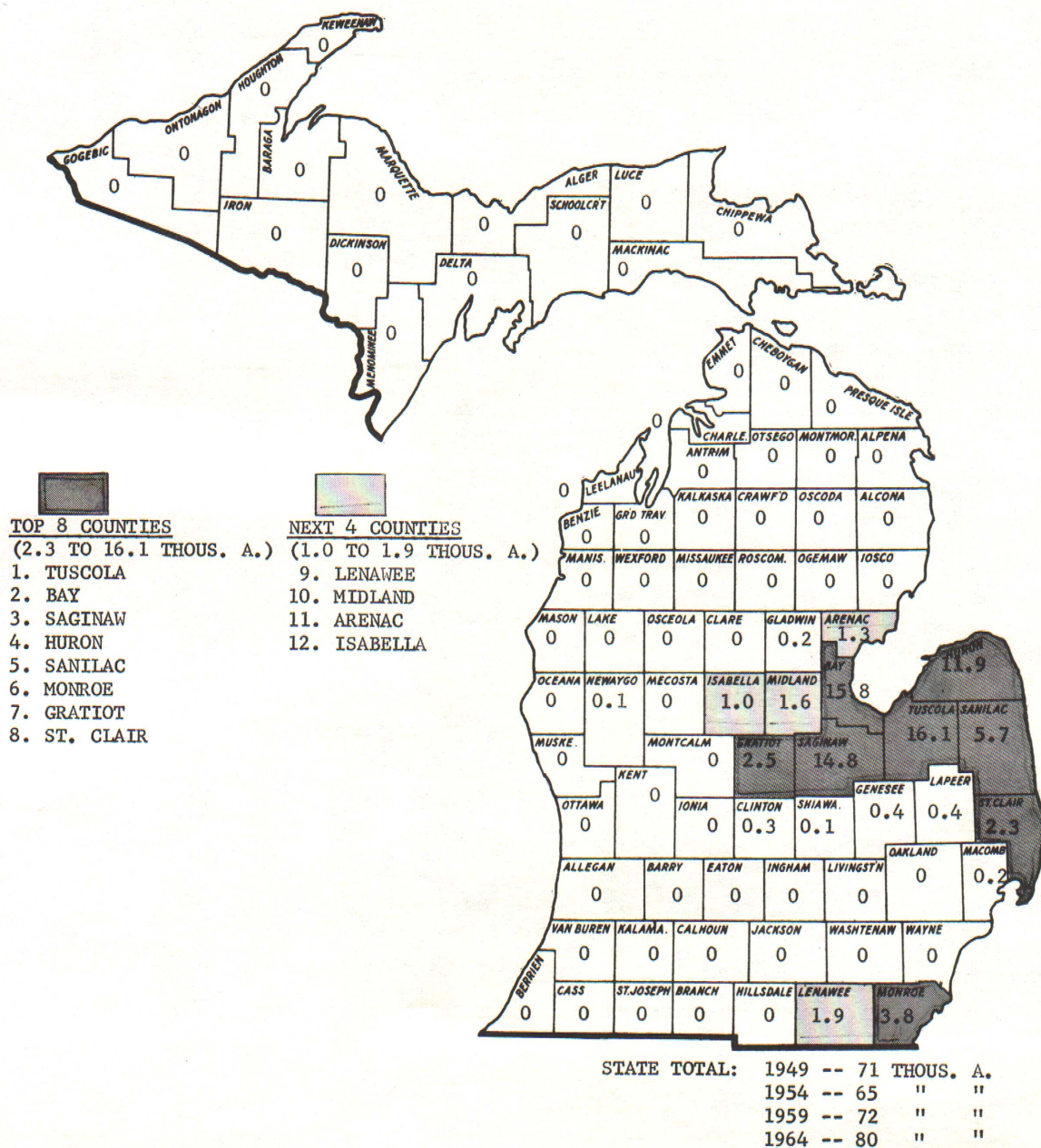


FIGURE 40.

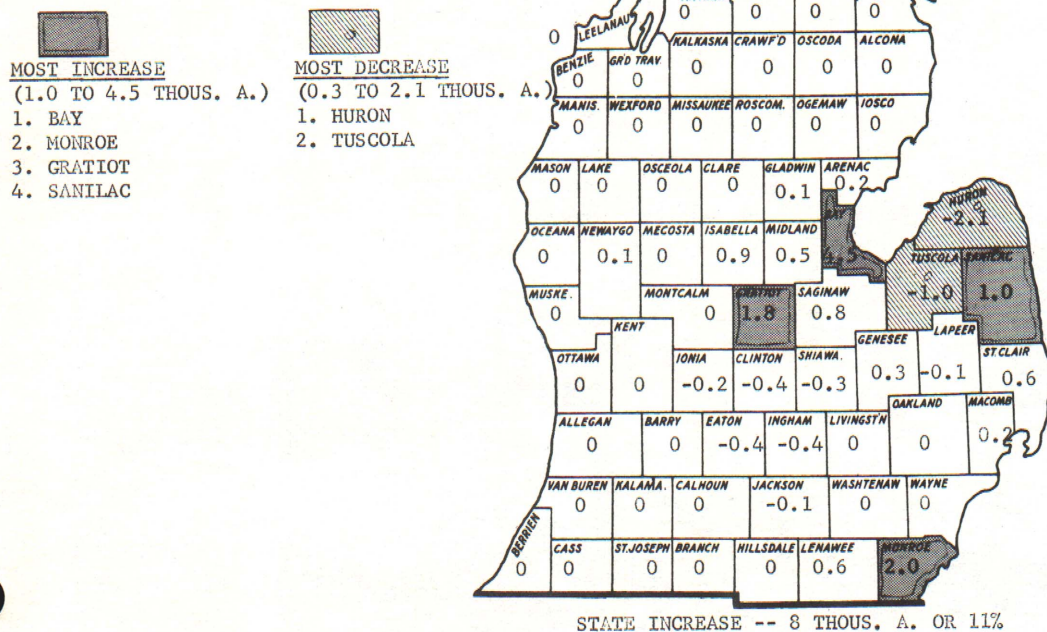
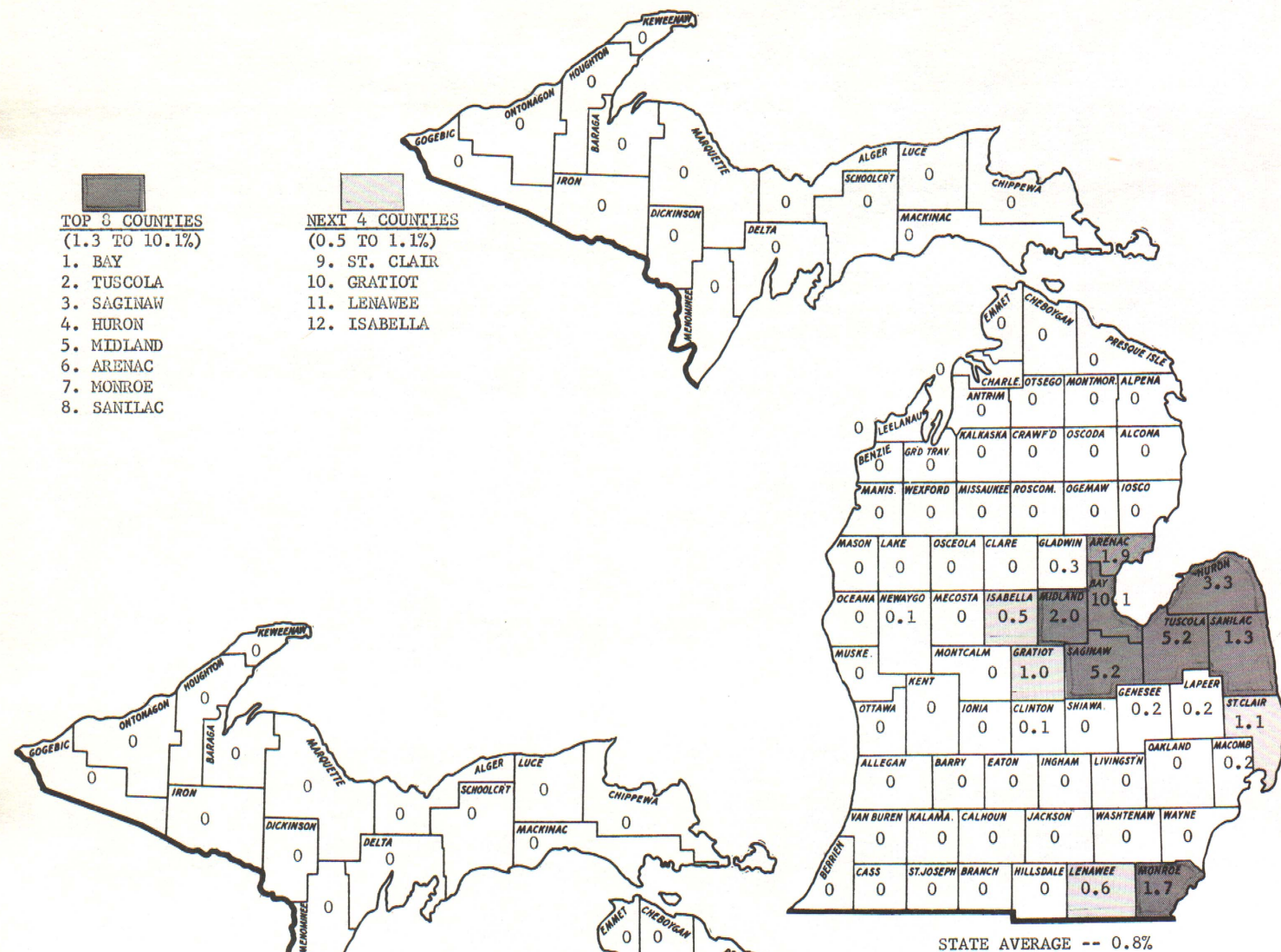


FIGURE 41. CHANGE IN SUGAR BEET ACREAGE (THOUS. ACRES) BY COUNTIES, MICHIGAN, 1959 TO 1964

III. FARM PRODUCT SALES BY SOURCES

1. Total Farm Products

According to the Census reports, total sale of farm products in 1964 for Michigan amounted to \$767 million. The top eight counties had sales totaling \$226 million or 30% of that total (Fig. 42). Of this group of eight, Huron and Sanilac were tops, each having sales in excess of \$30 million. Five of the eight top counties were in the Saginaw Valley. The other three were Lenawee in the southeast corner and Allegan and Berrien in the southwest corner. The top 25 counties had sales of \$526 million or 69% of the total. All of these counties were in the southern half of the Lower Peninsula and were concentrated primarily in the Thumb area, south central, and southwestern Michigan. There are 41 counties in the southern half of the Lower Peninsula, if one includes all those from Bay County west to Oceana. Farm product sales from these 41 counties amounted to 88% of the state's total in 1964.

Farm product sales in 1964 were \$144 million or 23% greater than 1959 sales (Fig. 43). Prices received for all farm products in 1964 averaged 2% more than in 1959. Consequently, actual total volume of output increased roughly the same as the percentage given above. Prices received for some individual products in 1959 and 1964 varied considerably. For instance, cattle and calf prices were 20% lower in 1964 than in 1959 while some other products were 20 or 30% higher.

Michigan's agricultural income increased most rapidly in those counties making a line westward from Huron and Sanilac to Ottawa and Allegan on the west. These counties are largely non-metropolitan. Huron County with its increase of nearly \$12 million over 1959, or about 50%, topped the list of counties in actual dollar increase. Sanilac was runner-up. The aggregate increase in these top 12 counties accounted for 50% of the state's total increase from 1959 to 1964.

Some 11 counties in the northern part of the Lower Peninsula and in the Upper Peninsula had lower total sales in 1964 than in 1959. On the other hand, six counties in this same area had at least one million dollars increase in sales during this 5-year period. It is obvious from this that the direction of the agricultural economy in the various counties varies greatly.

Table I shows the total farm product sales and the relative importance of the major sources of sales for 1964 for all counties with the counties arranged alphabetically by crop-reporting districts, or location in the state.

FIGURE 42. TOTAL FARM PRODUCT SALES (MILLION DOLLARS) BY COUNTIES, MICHIGAN, 1964

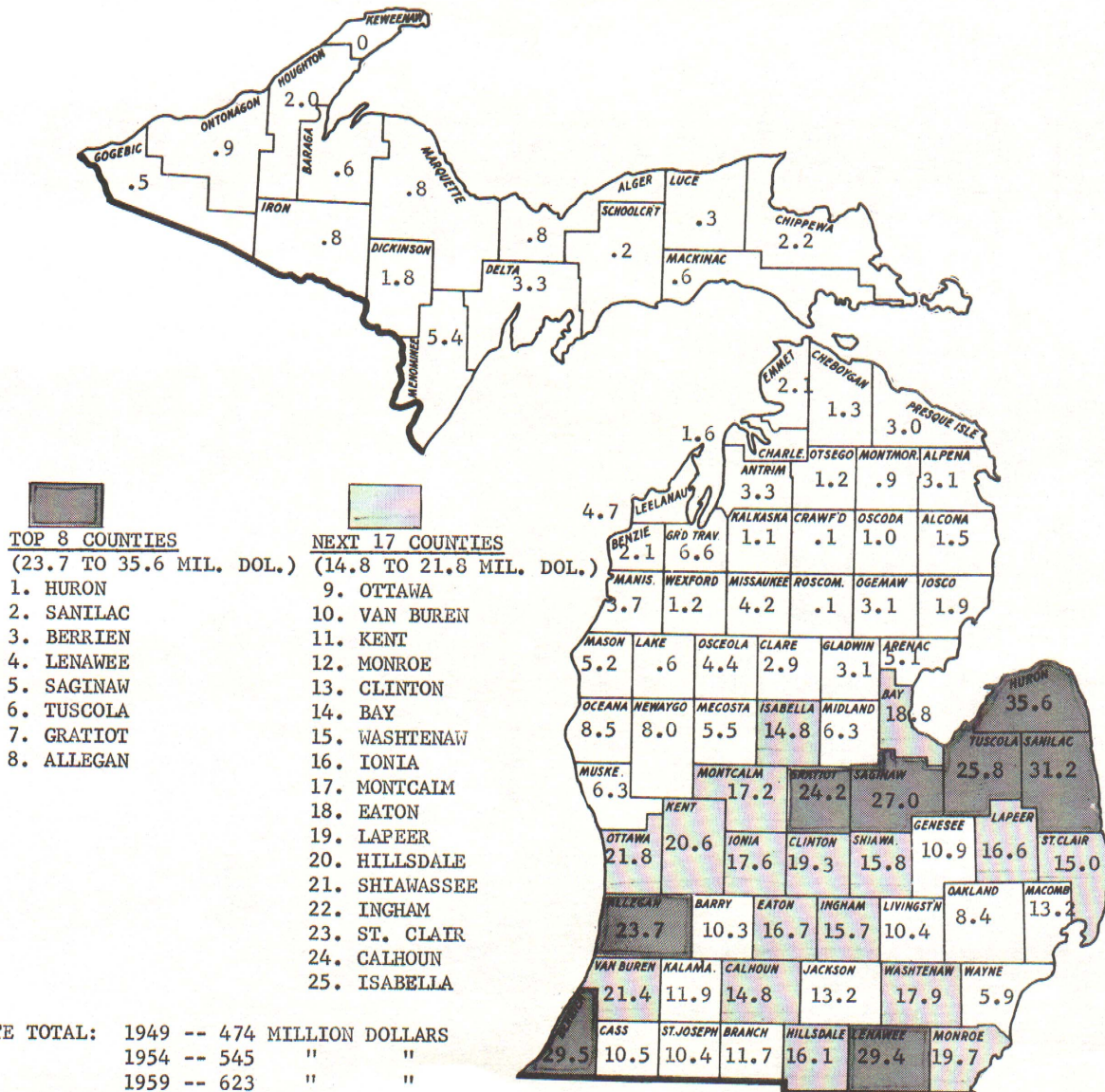
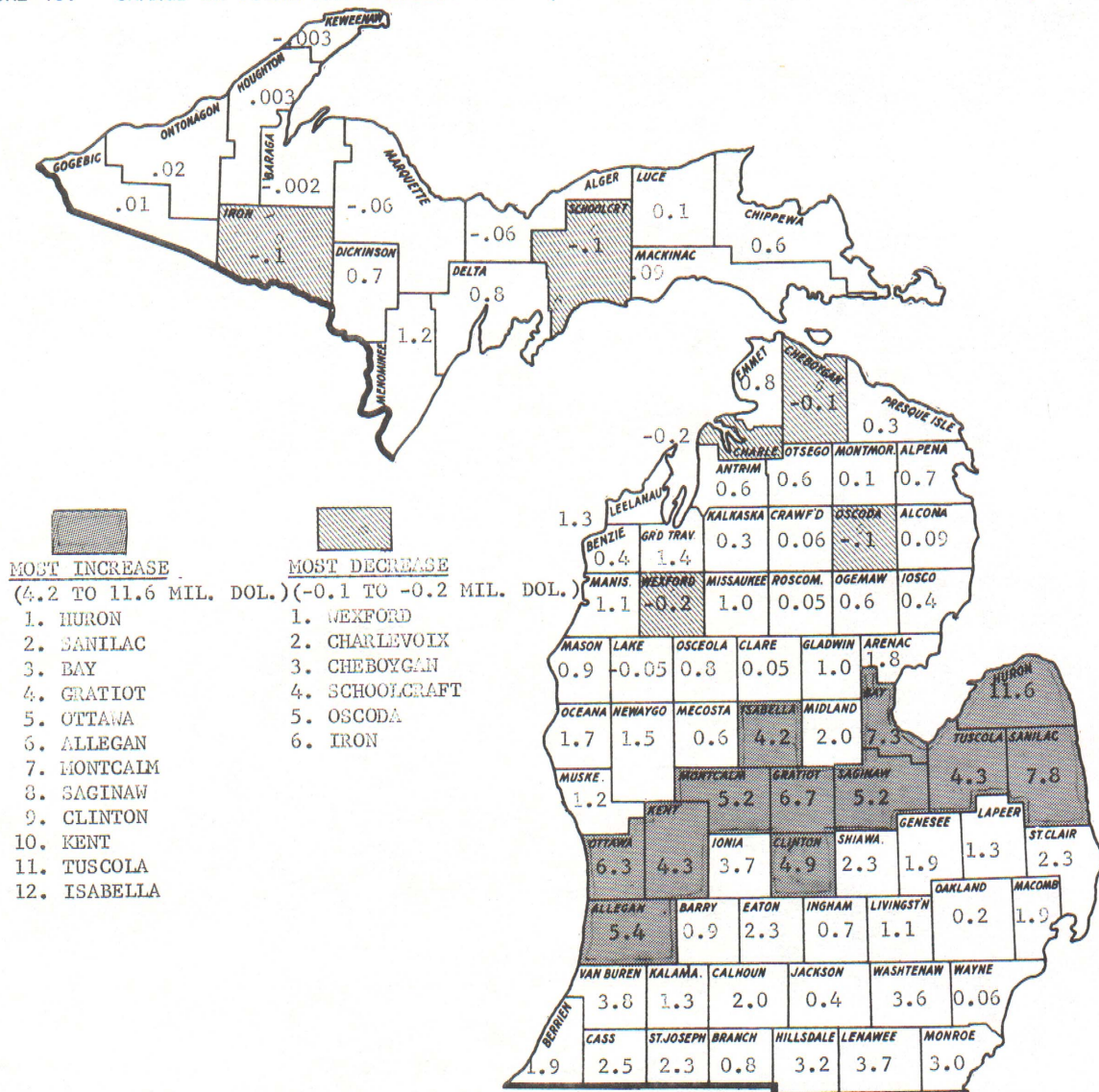


FIGURE 43. CHANGE IN TOTAL FARM PRODUCT SALES (MILLION DOLLARS) BY COUNTIES, MICHIGAN, 1959 TO 1964



STATE INCREASE -- 144 MILLION DOLLARS OR 23%

Table I - Farm Product Sales by Major Sources and Percentage of Total for All Counties by Crop Reporting Districts Michigan, 1964

District and County	Total Product Sales	Livestock and Livestock Products					
		Dairy		Poultry		Other Livestock	
	Dollars	Dollars	%	Dollars	%	Dollars	%
1. U. P.							
Alger	761,095	445,383	58.5	67,090	8.8	140,718	18.5
Baraga	609,747	446,572	73.2	9,319	1.5	85,823	14.1
Chippewa	2,178,090	981,135	45.0	155,886	7.2	579,366	26.6
Delta	3,307,206	1,276,579	38.6	100,276	3.0	1,239,419	37.4
Dickinson	1,802,741	616,650	34.2	9,545	.5	268,950	14.9
Gogebic	484,844	239,901	49.5	21,563	4.4	135,508	27.9
Houghton	2,037,789	955,005	46.8	114,749	5.6	147,664	7.2
Iron	835,811	262,879	31.4	30,660	3.7	154,438	18.5
Keweenaw	11,400	9,894	86.8	582	5.1	901	7.9
Luce	326,909	13,274	4.1	30,159	9.2	90,087	27.5
Mackinac	581,054	371,668	64.0	44,295	7.6	103,709	17.8
Marquette	816,636	263,928	32.3	21,104	2.6	78,452	9.6
Menominee	5,413,736	3,321,581	61.1	83,389	1.5	1,311,280	24.1
Ontonagon	866,138	511,008	59.0	47,163	5.4	206,832	23.9
Schoolcraft	211,630	65,759	31.1	30,354	14.3	56,452	26.7
Total	20,244,826	9,781,216	47.9	766,134	3.8	4,599,599	22.5
2. Northwest							
Antrim	3,254,881	677,010	20.8	601,571	18.5	478,953	14.7
Benzie	2,053,716	112,741	5.5	64,626	3.1	198,826	9.7
Charlevoix	1,620,213	587,830	36.3	116,025	7.2	412,747	25.5
Emmet	2,072,607	651,230	31.4	261,994	12.6	476,191	23.0
Grand Traverse	6,624,885	537,653	8.1	570,446	8.6	1,042,506	15.6
Kalkaska	1,051,026	260,135	24.7	225,105	21.4	189,886	18.1
Leelanau	4,719,192	403,704	8.5	213,967	4.5	516,743	10.9
Manistee	3,719,224	228,758	6.1	154,081	4.1	315,441	8.5
Missaukee	4,249,315	2,374,183	55.8	428,331	10.1	832,550	19.6
Wexford	1,230,605	574,111	46.6	67,300	5.5	237,633	19.3
Total	30,595,664	6,407,355	20.9	2,703,446	8.8	4,701,476	15.4
3. Northeast							
Alcona	1,452,040	525,811	36.2	48,313	3.3	594,650	40.9
Alpena	3,121,264	1,074,602	34.4	313,188	10.0	717,930	23.0
Cheboygan	1,319,155	452,931	34.3	9,009	.7	468,832	35.5
Crawford	88,463	1,386	1.6	54,986	62.1	21,579	24.4
Iosco	1,880,371	710,955	37.8	35,718	1.9	855,362	45.4
Montmorency	929,427	426,338	45.8	32,086	3.4	293,752	31.6
Ogemaw	3,135,130	1,926,935	61.4	16,216	.5	855,187	27.2
Oscoda	1,021,199	340,671	33.4	320,046	31.3	256,848	25.1
Otsego	1,201,869	384,354	32.0	9,929	.8	316,721	26.4
Presque Isl.	2,973,751	886,934	29.8	63,150	2.1	687,118	23.1
Roscommon	134,635	18,329	13.6	404	.3	74,644	55.4
Total	17,257,304	6,749,246	39.1	903,045	5.2	5,142,623	29.8
4. West Central							
Lake	585,011	279,565	47.8	9,828	1.7	168,503	28.8
Mason	5,163,223	1,842,780	35.6	205,479	4.0	771,315	14.9
Muskegon	6,267,610	1,703,540	27.0	282,839	4.5	963,968	15.3
Newaygo	8,022,890	2,953,891	36.6	626,615	7.8	1,048,286	13.0
Oceana	8,535,254	1,403,341	16.4	257,344	3.0	879,196	10.3
Total	28,573,988	8,183,117	28.6	1,382,105	4.7	3,831,268	13.4
5. Central							
Clare	2,886,366	1,349,570	46.7	100,291	3.5	1,026,343	35.5
Gladwin	3,142,790	1,281,040	40.7	34,003	1.1	1,120,353	35.6
Gratiot	24,175,073	3,209,989	13.2	1,629,970	6.7	4,355,978	17.9
Isabella	14,753,285	5,257,977	35.2	428,161	2.9	3,959,029	26.5
Mecosta	5,484,274	2,359,665	42.9	463,724	8.4	1,194,240	21.7
Midland	6,316,852	658,555	10.4	308,580	4.9	1,258,652	19.9
Montcalm	17,219,868	4,694,059	27.2	841,566	4.9	2,066,762	12.0
Osceola	4,421,865	2,510,621	56.7	92,439	2.1	1,036,819	23.4
Total	78,400,373	21,321,476	27.2	3,898,734	5.0	16,018,176	20.4
6. East Central							
Arenac	5,099,102	1,894,234	37.1	388,302	7.6	687,865	13.5
Bay	18,842,436	1,724,583	9.1	362,994	1.9	1,126,903	6.0
Huron	35,613,045	9,075,254	25.4	2,983,984	8.4	6,018,047	16.9
Saginaw	27,010,635	4,528,412	16.8	665,888	2.5	2,555,498	9.5
Sanilac	31,221,190	15,477,361	49.5	343,887	1.1	4,401,213	14.1
Tuscola	25,799,995	5,446,223	20.7	1,145,193	4.4	2,552,143	9.7
Total	143,586,403	38,146,067	26.7	5,890,248	4.1	17,341,669	12.1

Table I -- (continued)

District and County	Total	Dairy		Poultry		Other Livestock	
	(dols)	(dols)	%	(dols)	%	(dols)	%
7. Southwest							
Allegan	23,738,781	5,614,477	23.6	5,702,238	23.9	3,901,555	16.4
Berrien	29,500,838	1,606,320	5.3	549,214	1.8	2,001,366	6.6
Cass	10,532,971	1,732,214	16.3	933,997	8.8	4,369,084	41.1
Kalamazoo	11,898,945	1,817,104	15.3	619,482	5.2	3,407,757	28.6
Kent	20,582,511	5,520,137	26.5	1,311,458	6.3	2,656,574	12.8
Ottawa	21,806,086	5,242,790	23.6	5,994,139	27.0	2,106,680	9.5
Van Buren	21,360,932	2,104,293	9.9	814,696	3.7	2,451,402	11.3
Total	139,421,064	23,637,335	17.0	15,925,224	11.4	20,894,418	15.0
8. Southern							
Barry	10,299,351	3,675,611	35.7	1,217,388	11.8	2,588,567	25.1
Branch	11,726,453	3,822,323	32.5	473,863	4.0	3,473,380	29.5
Calhoun	14,823,197	4,380,924	29.4	717,006	4.8	4,360,405	29.2
Clinton	19,258,718	6,356,045	32.4	553,170	2.8	4,704,269	24.0
Eaton	16,697,992	5,016,985	29.6	1,362,802	8.0	3,558,562	21.0
Hillsdale	16,137,541	5,361,967	32.7	1,208,845	7.4	3,713,262	22.7
Ingham	15,711,968	6,342,172	40.0	376,802	2.4	4,136,939	26.1
Ionia	17,602,557	6,080,205	34.0	561,589	3.1	4,496,051	25.2
Jackson	13,166,789	4,638,223	34.8	406,192	3.0	3,169,220	23.8
St. Joseph	10,440,683	2,618,171	24.9	540,856	5.1	3,889,456	36.9
Shiawassee	15,838,641	5,338,995	33.6	541,450	3.4	2,103,386	13.3
Total	161,703,890	53,631,621	33.2	7,959,963	4.9	40,193,497	24.9
9. Southeast							
Genesee	10,869,773	3,217,892	29.3	321,611	2.9	2,622,313	23.9
Lapeer	16,606,543	8,095,075	48.6	451,730	2.7	2,816,973	16.9
Lenawee	29,409,070	5,091,462	17.3	1,110,476	3.8	10,441,673	35.5
Livingston	10,447,106	5,217,046	49.6	353,149	3.4	2,207,288	21.0
Macomb	13,224,530	3,488,819	26.2	688,010	5.2	1,092,574	8.2
Monroe	19,650,761	1,368,927	6.8	908,427	4.5	3,234,521	16.2
Oakland	8,435,157	1,993,925	23.5	555,192	6.6	1,710,479	20.2
St. Clair	14,995,008	5,753,721	38.0	1,008,586	6.7	2,949,866	19.5
Washtenaw	17,862,477	5,742,454	31.6	584,223	3.2	5,603,372	30.8
Wayne	5,903,909	464,989	7.8	220,549	3.7	458,234	7.7
Total	147,404,334	40,434,310	27.4	6,201,953	4.2	33,137,293	22.5
State Total	767,187,846	208,291,743	27.2	45,630,852	5.9	145,860,019	19.0

Table I -- (continued)

District and County	Crops							
	Field		Fruits and		Nursery and		Forest	
	Crops	Vegetables	Nuts	Greenhouse	Products			
	Dollars %	Dollars %	Dollars %	Dollars %	Dollars %	Dollars %	Dollars %	Dollars %
1. U. P.								
Alger	59,813 7.9	200 ---	18,970 2.5	D D	19,507 2.6			
Baraga	19,032 3.1	1,910 .3	17,378 2.8	D D	22,629 3.7			
Chippewa	380,580 17.5	3,729 .2	3,805 .2	49,670 2.3	17,461 .8			
Delta	408,217 12.3	35,097 1.1	1,258 ---	101,835 3.1	141,916 4.3			
Dickinson	766,872 42.5	14,512 1.8	276 ---	90,574 5.0	27,631 1.5			
Gogebic	14,773 3.0	900 .2	263 .1	56,400 1.6	14,036 2.9			
Houghton	609,156 29.8	10,473 .5	105,061 5.1	55,947 2.7	39,708 1.9			
Iron	359,356 43.0	126 ---	1,018 .1	12,688 1.5	14,018 1.7			
Keweenaw	---	---	23 .2	D	---			
Luce	122,381 37.4	8,015 2.5	10,799 3.3	41,155 12.6	10,915 3.3			
Mackinac	37,132 6.4	---	464 .1	D	16,471 2.8			
Marquette	322,969 39.5	18,376 2.2	3,581 .4	57,877 7.1	48,363 5.9			
Menominee	291,395 5.4	6,172 .1	2,265 ---	71,500 1.3	321,854 5.9			
Ontonagon	38,849 4.5	500 .1	2,253 .3	D	49,324 5.7			
Schoolcraft	31,323 14.8	305 .1	231 .1	D	22,722 10.7			
Total	3,461,848 17.0	100,315 .5	167,645 .8	537,646 2.7	766,555 3.8			
2. Northwest								
Antrim	507,073 15.6	120,250 3.7	759,027 23.3	41,758 1.3	53,965 1.7			
Benzie	39,964 1.9	46,913 2.3	1,516,509 73.7	25,100 1.2	3,940 .2			
Charlevoix	172,706 10.7	48,165 3.0	218,692 13.5	15,740 1.0	38,084 2.3			
Emmet	382,456 18.4	55,832 2.7	15,751 .8	166,137 8.0	40,288 1.9			
Grand Traverse	303,766 4.6	21,395 .3	4,016,243 60.2	44,127 .7	83,350 1.2			
Kalkaska	268,877 25.6	336 ---	3,757 .4	8,065 .8	91,030 8.7			
Leelanau	202,473 4.3	24,932 .5	3,288,033 69.4	10,656 .2	55,811 1.2			
Manistee	239,485 6.4	95,546 2.6	2,482,596 66.5	48,751 1.3	153,161 4.1			
Missaukee	524,124 12.3	18,415 .4	5,258 .1	1,365 ---	63,499 1.5			
Wexford	115,102 9.3	7,551 .6	27,452 2.2	117,343 9.5	83,093 6.7			
Total	2,756,026 9.0	439,335 1.4	12,333,318 40.3	479,042 1.6	666,221 2.2			

Table I -- (continued)

District and County	Field Crops		Vegetables		Fruits and Nuts		Nursery and Greenhouse		Forest Products	
	(dols)	%	(dols)	%	(dols)	%	(dols)	%	(dols)	%
3. Northeast										
Alcona	195,920	13.5	2,650	.2	9,633	.7	17,107	1.2	53,473	3.7
Alpena	633,938	20.3	10,027	.3	312,735	10.0	13,150	.4	39,995	1.3
Cheboygan	146,422	11.1	8,391	.6	74,378	5.6	40,450	3.1	114,389	8.7
Crawford	5,915	6.7	500	.6	42	---	D	D	390	.4
Iosco	241,779	12.8	876	---	4,290	.2	D	D	17,558	.9
Montmorency	121,945	13.1	410	---	1,147	.1	4,391	.5	40,896	4.4
Ogemaw	294,678	9.4	---	---	2,441	.1	D	D	24,018	.8
Oscoda	54,068	5.3	112	---	2,178	.2	3,615	.4	39,875	3.9
Otsego	459,663	38.2	237	---	2,553	.2	D	D	25,994	2.2
Presque Isle	1,253,311	42.1	727	---	14,591	.5	D	D	63,419	2.1
Roscommon	20,388	15.1	78	.1	6,467	4.8	6,775	5.0	7,371	5.5
Total	3,428,027	19.9	24,008	.1	430,455	2.5	85,488	.5	427,378	2.5
4. West Central										
Lake	45,881	7.8	6,773	1.2	3,763	.6	D	D	68,799	11.8
Mason	489,693	9.5	78,183	1.5	1,568,722	30.3	142,635	2.8	61,077	1.2
Muskegon	539,463	8.6	960,556	15.3	1,226,168	19.5	553,240	8.8	34,631	.6
Newaygo	886,126	11.0	1,419,035	17.6	952,922	11.8	44,790	.6	86,842	1.1
Oceana	637,729	7.5	716,221	8.4	4,057,546	47.5	42,473	.5	209,710	2.5
Total	2,598,892	9.1	3,180,768	3.2	7,809,121	27.3	783,138	2.7	461,059	3.4
5. Central										
Clare	343,758	11.9	310	---	1,222	---	D	D	51,046	1.8
Gladwin	621,630	19.8	4,155	.1	1,868	.1	D	D	21,896	.7
Gratiot	14,548,450	59.6	218,969	.9	67,520	.3	83,804	.3	60,196	.2
Isabella	4,765,638	31.9	195,277	1.3	51,591	.3	47,160	.3	45,402	.3
Mecosta	942,966	17.2	218,970	4.0	144,617	2.6	101,075	1.8	56,932	1.0
Midland	3,886,913	61.4	87,836	1.4	17,352	.3	62,263	1.0	36,702	.6
Montcalm	8,719,630	50.6	389,452	2.3	322,701	1.9	58,205	.3	110,375	.6
Osceola	613,142	13.9	5,371	.1	20,254	.5	44,660	1.0	98,289	2.2
Total	34,442,127	43.9	1,120,340	1.4	627,125	.8	397,167	.5	480,838	.6
6. East Central										
Arenac	1,933,217	37.9	167,473	3.3	2,617	.1	7,853	.2	17,188	.3
Bay	14,626,093	77.5	667,666	3.5	18,396	.1	308,689	1.6	6,814	---
Huron	17,395,971	48.7	6,039	---	8,723	---	61,677	.2	61,518	.2
Saginaw	17,987,074	66.6	453,917	1.7	154,307	.6	514,774	1.9	78,968	.3
Sanilac	10,214,118	35.2	534,763	1.7	131,863	.4	21,205	.1	87,262	.3
Tuscola	16,234,547	61.7	187,332	.7	64,276	.2	71,076	.3	87,616	.3
Total	78,391,020	54.6	2,017,190	1.4	380,182	.3	985,274	.7	339,366	.2
7. Southwest										
Allegan	3,146,308	13.2	1,360,509	5.5	3,352,479	14.1	508,837	2.1	117,567	.5
Berrien	2,654,154	8.8	1,920,442	6.3	18,018,063	59.5	2,641,314	8.7	55,813	.2
Cass	2,358,718	22.2	265,746	2.5	683,685	6.4	103,664	1.0	81,098	.8
Kalamazoo	2,506,944	21.1	143,231	1.2	917,781	7.7	2,432,583	20.4	40,140	.3
Kent	2,754,832	13.2	1,674,896	8.0	4,983,737	23.9	1,511,512	7.3	156,753	.8
Ottawa	1,723,272	7.8	1,694,632	7.6	3,174,829	14.3	1,647,417	7.4	211,028	.9
Van Buren	1,802,293	8.3	1,512,209	7.0	11,820,001	54.4	759,131	3.5	79,820	.4
Total	16,946,521	12.2	8,571,665	6.1	42,950,575	30.8	9,604,458	6.9	742,219	.5
8. Southern										
Barry	2,466,785	23.9	148,641	1.4	56,395	.5	57,538	.6	82,968	.8
Branch	3,465,887	29.5	32,592	.3	116,370	1.0	271,690	2.3	59,387	.5
Calhoun	3,906,389	26.2	622,376	4.2	161,334	1.1	571,238	3.8	95,258	.6
Clinton	7,184,960	36.6	231,638	1.2	93,467	.5	45,400	.2	79,824	.4
Eaton	5,970,671	35.2	460,472	2.7	22,692	.1	155,247	.9	145,911	.9
Hillsdale	5,495,743	33.5	7,033	---	130,581	.8	150,616	.9	64,061	.4
Ingham	3,597,114	22.7	549,655	3.5	95,222	.6	518,194	3.3	81,879	.5
Ionia	4,798,935	26.9	445,283	2.5	997,270	5.6	114,064	.6	93,172	.5
Jackson	3,293,138	24.7	949,203	7.1	273,861	2.1	238,379	1.8	58,127	.4
St. Joseph	2,521,998	24.0	162,871	1.5	165,257	1.6	455,984	4.3	72,332	.7
Shiawassee	7,557,868	47.6	35,205	.2	50,933	.3	132,513	.8	59,388	.4
Total	50,259,488	31.1	3,644,969	2.3	2,163,382	1.3	2,710,863	4.4	892,307	.6
9. Southeast										
Genesee	3,894,051	35.4	92,414	.8	283,063	2.6	324,113	2.9	42,934	.4
Lapeer	3,663,206	22.0	968,348	5.8	297,899	1.8	223,013	1.3	52,346	.3
Lenawee	12,026,511	40.9	376,515	1.3	180,301	.6	127,975	.4	35,486	.1
Livingston	2,047,834	19.5	177,508	1.7	158,646	1.5	183,654	1.7	92,695	.9
Macomb	2,432,839	18.2	1,596,359	12.0	642,365	4.8	3,250,611	24.4	17,201	.1
Monroe	10,975,495	54.9	1,764,413	8.8	153,971	.8	1,219,258	6.1	14,837	.1
Oakland	1,185,959	14.0	151,158	1.8	474,641	5.6	2,240,474	26.4	50,048	.6
St. Clair	4,098,203	27.0	746,768	4.9	72,369	.5	302,157	2.0	43,974	.3
Washtenaw	4,680,208	25.7	280,024	1.5	234,692	1.3	668,297	3.7	56,636	.3
Wayne	1,239,920	21.0	667,912	11.3	133,460	2.3	2,702,904	45.7	6,470	.1
Total	46,244,226	31.4	6,821,419	4.6	2,631,407	1.8	11,242,456	7.6	412,627	.3
State Total	238,528,175	31.1	25,920,009	3.4	69,493,210	9.1	26,825,532	3.5	5,188,570	.7

2. Dairy

Dairy farming is the leading farm business in Michigan. In 1964 there were over \$200 million of dairy product sales, representing 27% of the state's agricultural income. In addition, it is estimated that \$50 million of the state's livestock sales can be attributed to dairy cattle. Thus, the dairy farm business represents around \$250 million of annual sales or about 33% of the state's 1964 farm product sales.

Sanilac was the leading dairy county of the state (Fig. 44). In 1964 its dairy product sales amounted to \$15.5 million. There were over 1,300 specialized dairy farms in the county (Table 2). Three other Thumb area counties and four south central Michigan counties made up the top 8 dairy producing counties of the state. They had 30% of the state's total dairy production sales (Table 2). The 25 top dairy counties, all located in southern Michigan, accounted for 70% of the total dairy product farm sales.

The income from the sale of dairy products went up 25% from 1959 to 1964. The top 8 dairy counties (Table 2) had increases in sales of 38% during this period. Three counties, Huron, Clinton, and Ionia, had dairy product sales 50% higher in 1964 than in 1959. Sanilac led all counties with the greatest increase in total income of sales of dairy products. Other counties with sizeable increases in dairy product sales in order of increase were: Huron, Clinton, Ionia, Allegan, Washtenaw, Lenawee and Ottawa (Fig. 45). Several counties in the Upper Peninsula and northwestern Michigan had decreases.

Table 2 - DAIRY PRODUCT SALES, NUMBER OF MILK COWS AND DAIRY FARMS, AND DAIRY SALES PER FARM, BY COUNTIES, MICHIGAN, 1959 & 1964

County, and its rank*	Dairy Product Sales				No. of Milk Cows		No. Specialized Dairy Farms		No. Farms Reporting Milk & Cream Sales		Milk Sales		Dairy Prod. Sales per Farm Reporting Sales	
	1964		% '64 of '59		% '64 of '59		% '64 of '59		% '64 of '59		% '64 of '59		% '64 of '59	
	1964		1959		1964		1964		1964		1964		1964	
	(thous\$)				(thous)				(mil.lbs.)				(dollars)	
1. Sanilac	15,477	145	50	45	39	108	1,359	91	1,668	78	372	124	9,279	187
2. Huron	9,075	164	25	23	24	109	782	105	1,352	80	217	138	6,712	207
3. Lapeer	8,095	113	49	47	20	95	624	71	708	64	190	98	11,434	176
4. Clinton	6,356	152	33	29	16	107	474	94	672	65	152	127	9,458	233
5. Ingham	6,342	118	40	36	15	100	437	76	514	69	150	111	12,339	171
6. Ionia	6,080	151	35	29	16	114	507	99	696	74	144	136	8,736	206
7. St. Clair	5,754	121	38	38	16	89	660	76	795	68	135	102	7,238	178
8. Washtenaw	5,742	141	32	28	14	93	410	73	515	71	134	123	11,150	200
Total or Av. % of state	62,921 30	138	38	34	160 28	103	5,253 26	86	6,920	72	1,494 30	119	9,093 123	190
9. Allegan	5,614	149	24	21	15	100	592	102	731	71	139	136	7,680	210
10. Kent	5,520	118	27	29	15	94	522	69	690	63	136	111	8,000	188
11. Tuscola	5,446	126	21	20	14	93	477	77	666	66	131	108	8,177	189
12. Hillsdale	5,362	125	33	33	14	88	517	85	747	69	129	108	7,178	181
13. Shiawassee	5,339	123	34	32	13	93	416	76	541	68	128	110	9,869	181
14. Isabella	5,258	130	36	38	14	100	475	80	650	69	129	115	8,089	189
15. Ottawa	5,243	138	24	24	14	100	546	81	698	67	129	122	7,511	205
16. Livingston	5,217	128	50	43	13	108	372	83	419	70	123	122	12,451	183
17. Lenawee	5,091	141	17	14	12	92	361	94	469	53	120	124	10,855	267
18. Eaton	5,017	117	30	30	12	86	431	77	608	60	121	98	8,252	193
19. Montcalm	4,694	132	27	30	13	93	523	89	761	66	115	111	6,168	199
20. Jackson	4,638	115	35	32	12	92	308	67	415	59	108	105	11,176	195
21. Saginaw	4,528	114	17	18	12	80	397	84	635	55	109	103	7,131	208
22. Calhoun	4,381	126	30	27	12	92	351	75	491	62	105	111	8,923	204
23. Branch	3,822	111	33	31	10	83	381	91	585	72	92	102	6,533	155
24. Barry	3,676	116	36	34	10	91	360	85	459	64	88	105	8,009	182
25. Macomb	3,489	125	26	25	9	90	340	70	384	66	82	112	9,086	189
Total or Av. % Top 25 of State**	82,336 70	125 (130)	29 (32)	28 (30)	214 65	93 (97)	7,369 62	81 (83)	9,106 16,026	59 (64)	1,984 69	112 (115)	9,041 (9,064)	212 (203)
State total or Average	208,292	125	27	27	574	93	20,230	82	28,176	65	5,013	113	7,392	194

*Rank in 1964 Dairy Product Sales.

**Figures in parenthesis are averages for the 25 counties for the respective columns

Table 2 -- (continued)

County, and its rank	Dairy Product Sales				No. of Milk No. Specialized				No. Farms		Reporting Milk &		Milk Sales		Dairy Prod. Sales per Farm	
	% of Total Sales				Cows Dairy Farms				Cream Sales						Reporting Sales	
	1964	% '64	1964	1959	1964	% '64	1964	% '64	1964	% '64	1964	% '64	1964	% '64	1964	% '64
	(thous\$)				(thous)						(mil. lbs)				(dollars)	
26. Menominee	3,322	118	61	67	11	92	489	76	593	71	89	95	5,602	166		
27. Genesee	3,218	130	30	28	8	89	239	72	294	61	76	113	10,946	213		
28. Gratiot	3,210	124	13	15	9	90	238	83	445	51	79	114	7,213	242		
29. Newaygo	2,954	121	37	38	9	100	351	91	526	70	73	116	5,616	174		
30. St. Joseph	2,618	169	25	19	7	88	257	125	401	78	63	147	6,529	217		
31. Osceola	2,511	128	57	53	8	100	356	91	442	66	61	124	5,681	194		
32. Missaukee	2,374	148	56	50	6	100	265	88	318	65	58	132	7,465	229		
33. Mecosta	2,360	126	43	38	8	100	325	84	460	64	57	119	5,130	198		
34. Van Buren	2,104	101	10	12	6	75	229	85	368	58	51	94	5,717	173		
35. Oakland	1,994	98	24	25	5	83	145	60	178	54	47	94	11,202	179		
36. Ogemaw	1,927	155	61	49	6	100	228	97	284	74	47	138	6,785	208		
37. Arenac	1,894	158	37	36	6	120	212	87	277	66	45	132	6,838	240		
38. Mason	1,843	116	36	37	5	83	244	88	349	66	45	110	5,281	177		
39. Kalamazoo	1,817	106	15	16	5	83	138	66	210	57	45	100	8,652	186		
40. Cass	1,732	150	16	14	5	83	154	110	282	65	42	140	6,142	229		
41. Bay	1,725	102	9	15	5	71	187	75	348	59	41	87	4,957	172		
42. Muskegon	1,704	94	27	36	5	100	149	66	189	58	42	91	9,016	162		
43. Berrien	1,606	77	5	8	5	83	139	70	234	51	39	78	6,863	151		
44. Oceana	1,403	112	16	18	4	80	156	61	232	48	34	106	6,047	236		
45. Monroe	1,369	104	7	8	4	80	117	71	173	59	32	97	7,913	176		
46. Clare	1,350	107	47	44	4	100	175	79	237	60	32	100	5,696	178		
47. Gladwin	1,281	154	41	38	4	80	197	98	269	68	31	155	4,762	227		
48. Delta	1,277	94	39	54	5	83	208	69	266	60	35	90	4,801	157		
49. Alpena	1,075	156	34	29	4	100	173	89	246	53	25	167	4,370	291		
50. Chippewa	981	127	45	49	4	100	172	91	244	76	25	119	4,020	168		
51. Houghton	955	89	47	53	4	80	198	72	275	71	26	87	3,473	124		
52. Presque Isle	887	114	30	29	4	100	143	95	298	67	19	112	2,977	171		
53. Iosco	711	103	38	46	2	67	98	74	131	58	17	94	5,427	179		
54. Antrim	677	96	21	27	2	67	98	62	163	44	16	94	4,153	220		
55. Midland	659	122	10	13	2	67	67	84	273	90	16	123	2,414	137		
56. Emmet	651	167	31	30	2	67	85	89	158	57	14	200	4,120	292		
57. Dickinson	617	98	34	57	2	100	79	72	96	58	16	84	6,427	169		
58. Charlevoix	588	86	36	38	2	67	72	58	143	44	14	93	4,112	195		
59. Wexford	574	111	47	36	2	100	96	86	134	46	14	117	4,284	241		
60. Gr. Traverse	538	96	8	11	2	100	66	73	118	48	13	100	4,559	200		
61. Alcona	526	107	36	36	2	67	83	64	135	48	12	100	3,896	223		
62. Ontonagon	511	103	59	58	2	67	115	96	165	75	14	108	3,097	137		
63. Wayne	465	79	8	10	1	50	26	40	37	33	10	67	12,568	240		
64. Cheboygan	453	89	34	35	2	100	67	60	135	54	10	100	3,356	166		
65. Baraga	447	103	73	71	2	100	92	83	128	69	12	100	3,492	150		
66. Alger	445	94	58	58	2	100	68	111	80	79	12	92	5,563	119		
67. Montmorency	426	130	46	41	1	100	60	80	80	47	10	125	5,325	278		
68. Leelanau	404	90	9	13	2	100	54	72	144	46	9	100	2,806	196		
69. Otsego	384	159	32	38	2	100	61	122	111	72	9	180	3,459	222		
70. Mackinac	372	162	64	47	1	100	61	122	88	73	10	167	4,227	221		
71. Oscoda	341	120	33	25	1	100	53	96	75	63	8	100	4,547	193		
72. Lake	280	87	48	51	1	50	43	51	77	47	7	88	3,636	187		
73. Marquette	264	86	32	35	1	100	31	86	52	44	7	78	5,077	197		
74. Iron	263	71	31	40	1	50	68	75	102	63	7	64	2,578	112		
75. Kalkaska	260	76	25	47	1	100	40	49	71	45	6	75	3,662	169		
76. Gogebic	240	81	49	63	1	100	48	74	64	64	6	75	3,750	126		
77. Manistee	229	84	6	11	1	50	45	60	114	51	5	100	2,009	166		
78. Benzie	113	209	6	3	0	0	23	460	47	55	2	200	2,404	379		
79. Schoolcraft	66	50	31	42	0	0	15	43	21	32	2	50	3,143	154		
80. Roscommon	18	300	13	7	0	0	4	0	15	300	0	0	1,222	100		
81. Luce	13	68	4	9	0	0	2	40	5	26	0	0	2,655	260		
82. Keweenaw	11	0	91	0	0	0	4	0	5	0	0	0	1,979	0		
83. Crawford	1	0	1	0	0	0	0	0	3	0	0	0	466	0		

FIGURE 44. DAIRY PRODUCT SALES (MILLION DOLLARS) BY COUNTIES, MICHIGAN, 1964

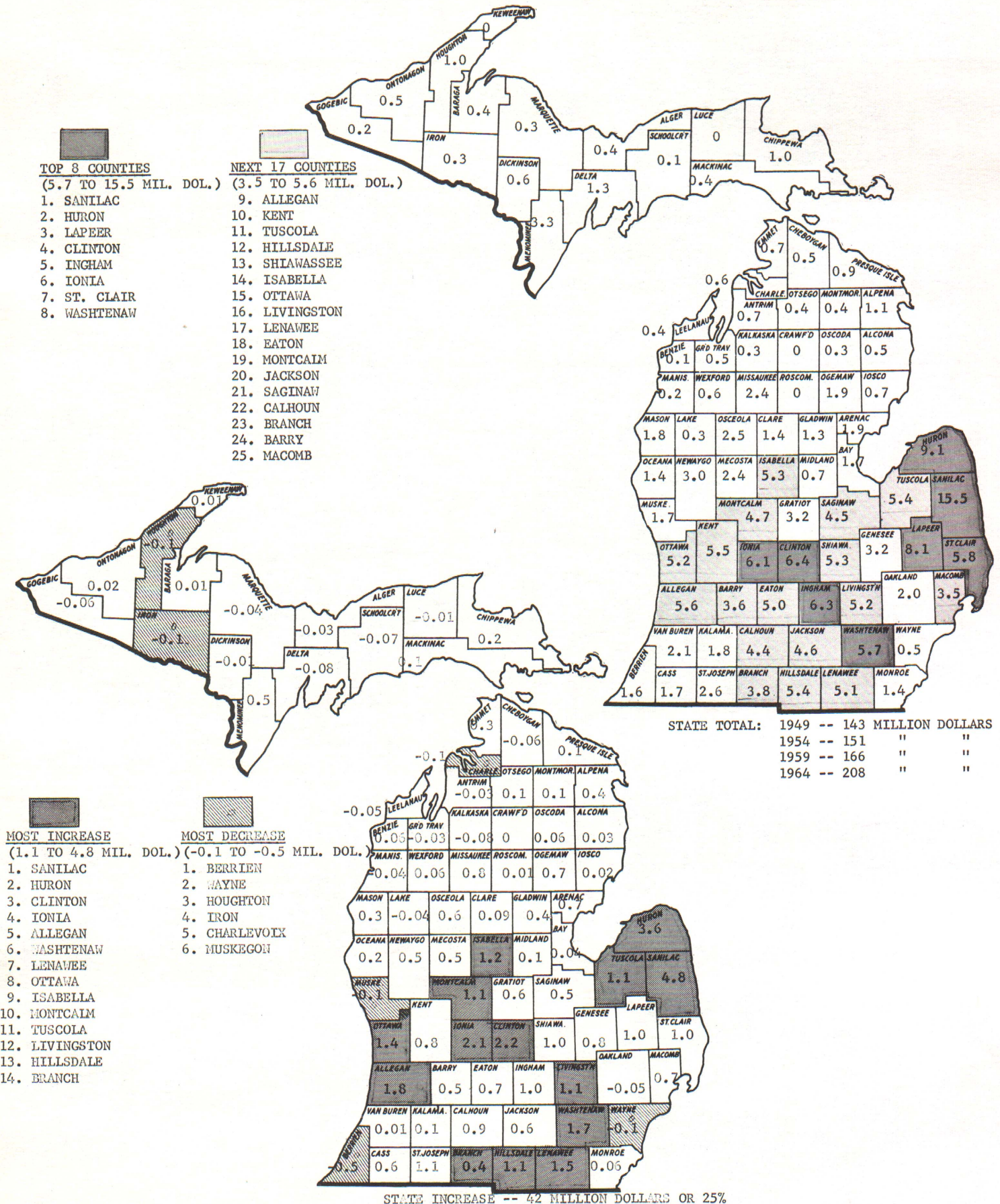


FIGURE 45. CHANGE IN DAIRY PRODUCT SALES (MILLION DOLLARS) BY COUNTIES, MICHIGAN, 1959 TO 1964

3. Cattle, Hogs and Sheep

Farm sales of cattle, hogs, and sheep amounted to \$145,861,000 in 1964 or 19% of the total state farm product sales. An estimated \$50 million of these sales came from surplus and cull dairy cattle and calves. Hog sales are estimated to have been around \$40 million, sheep and lamb sales \$4 to \$5 million, and beef cattle sales around \$50 million.

The major livestock producing-area of Michigan is in the southern grain-producing area of the state. Sixty-nine per cent of the livestock is raised in the counties that produce 75% of the state's corn crop (Table 3). Lenawee with over \$10 million of livestock sales had \$4 million more of livestock business than Huron, the next biggest producer of livestock (Fig. 46). Eight other counties had livestock sales of over \$4 million in 1964. The top 25 counties each exceeded \$2.6 million of livestock sales.

Major cattle feeding areas are located in the southern, central and Thumb regions of Michigan (Fig. 50). Cattle sales in northern Michigan originate primarily from beef cow-calf, and dairy herds. Major hog-producing areas are in the southern, southwestern and south central parts of the state (Fig. 51).

Washtenaw is by far the largest sheep-producing county (Fig. 53). Other important sheep-producing counties are in the south and south-central areas.

The state's livestock industry is on the increase. Total sales from livestock have increased \$10 million during the 1959-64 period in spite of the fact that the 1964 prices for meat animals were about 12% less than in 1959 (Fig. 47).

All of the state did not share in the increase, as the livestock industry appeared to be concentrating in certain counties during the 1959-64 period (Fig. 47). The 8 counties showing the greatest increase in livestock sales accounted for 75% of the state's increase.

The cattle industry is responsible for the major increase in Michigan's livestock business. There was an increase of 30% in the number of cattle sold from 1959 to 1964 (Fig. 49). Huron led all counties in the increase in numbers of cattle sold.

The number of cattle sold in the state that were fattened on grain and concentrates (available in 1964 Census only) amounted to 270,000 head (Fig. 50). Leading cattle feeding counties in order were Lenawee, Huron, Washtenaw, Gratiot, Isabella, Ionia, Calhoun, Clinton, Monroe, and Kalamazoo. They ranged from 326 to 81 thousand head per county in 1964.

The swine industry from the standpoint of total numbers sold amounted to 1,167,000 in 1964 (Fig. 51). The top 10% or 8 leading hog-producing counties in order were Cass, Lenawee, St. Joseph, Hillsdale, Allegan, Branch, Clinton, and Calhoun. Hogs and pigs sold increased 9% from 1959 to 1964 (Fig. 52). Hogs were marketed from nearly 40% fewer farms in 1964 than in 1959 (Table 3). Some counties had sizeable increases in hog numbers while others had major decreases. St. Joseph, Allegan, Lenawee, Huron, Cass, and Monroe had increases of 21,900 to 9,100 head sold, while Jackson and several other central Michigan counties had large decreases (Fig. 52). Thus, we find concentration of swine production into fewer counties, and on fewer farms, but into larger, more specialized units with a higher total production.

The number of sheep sold declined 15%, or from 287,000 in 1959 to 243,001 in 1964 (Fig. 53). A large number of sheep-producing counties showed some decrease in sheep numbers (Fig. 54). However, the major sheep-producing counties in south-central Michigan have in general maintained their sheep and lamb production during the 5-year 1959-64 period.

FIGURE 46. TOTAL CATTLE, HOGS AND SHEEP SALES (MILLION DOLLARS) BY COUNTIES, MICHIGAN, 1964

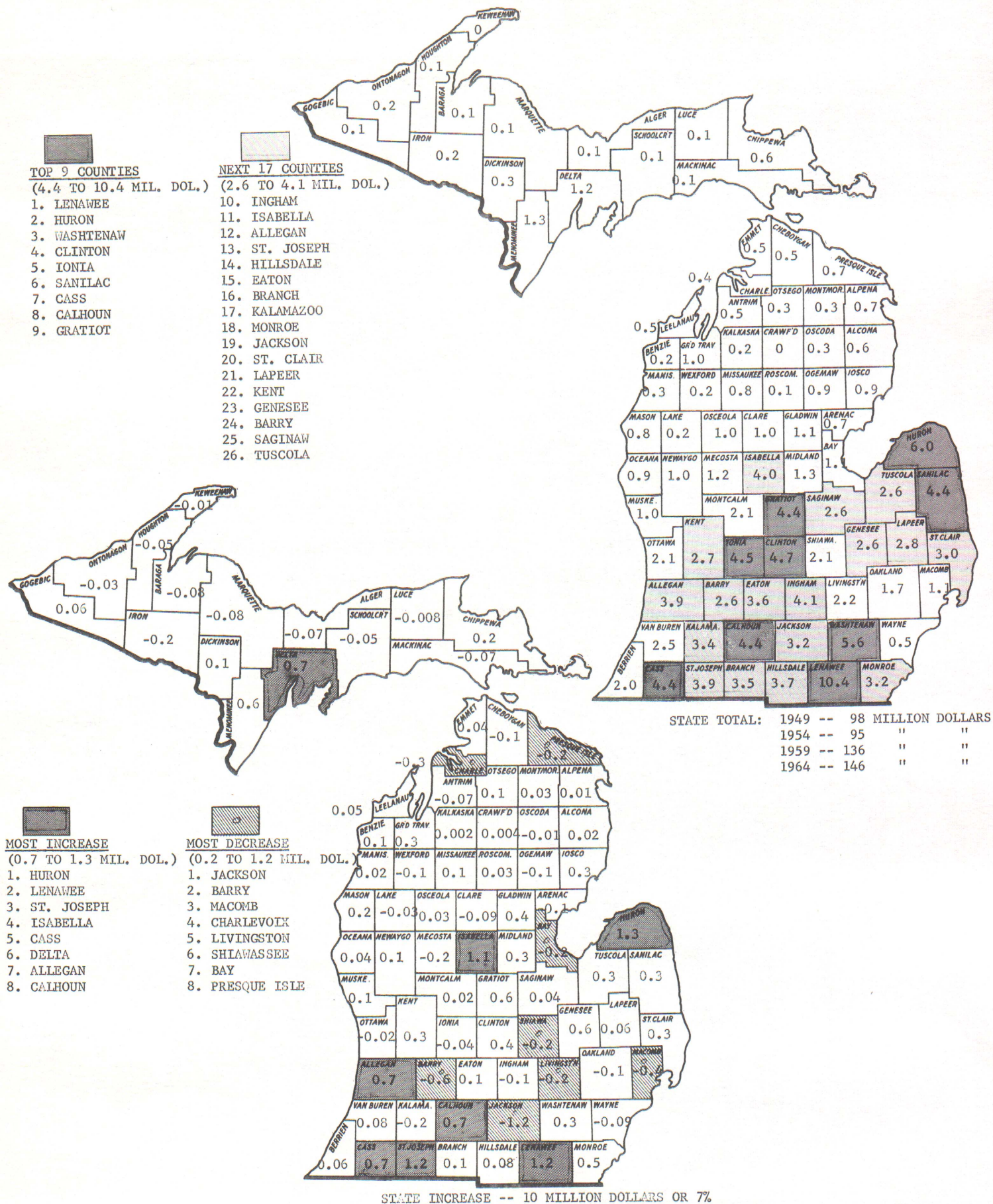


FIGURE 47. CHANGE IN TOTAL CATTLE, HOG AND SHEEP SALES (MILLION DOLLARS) BY COUNTIES, MICHIGAN, 1959 TO 1964

Table 3 CATTLE, HOG AND SHEEP SALES AND NUMBER OF FARMS SELLING, BY COUNTIES, MICHIGAN, 1964 AND 1959

County and its rank*	Cattle, Hog & Sheep Income				No. Spec. Cattle		Number of Farms Selling								No. Cattle		Acres of Corn	
	1964 % '64 of Total				Hog & Sheep Farms		Cattle**				Hogs & Pigs				Fattened on		for Grain	
	of '59 Income				1964 % '64		1964 % '64				1964 % '64				Grain & Conc.		1964 % '64	
	1964	1959			1964	% '64	1964	% '64	1964	% '64	1964	% '64	1964	% '64	1964		1964	% '64
	(thous.\$)					of '59		of '59		of '59		of '59		of '59	(hundred)		(thous.)	
1. Lenawee	10,442	113	36	36	403	78	906	88	693	62	252	78			326		95	73
2. Huron	6,018	129	17	19	157	112	1,711	105	341	74	27	44			179		46	153
3. Washtenaw	5,603	106	31	37	293	69	832	81	490	68	485	95			124		51	96
4. Clinton	4,704	109	24	30	246	78	1,084	94	630	63	208	58			92		53	95
5. Ionia	4,496	99	26	33	285	73	1,089	99	528	65	177	53			96		46	100
6. Sanilac	4,401	108	14	17	189	143	2,055	94	199	70	72	53			70		45	155
7. Cass	4,369	121	41	45	289	76	507	99	490	59	112	86			37		38	86
8. Calhoun	4,360	118	29	29	270	99	853	91	515	57	158	79			92		52	87
9. Gratiot	4,356	115	18	22	150	68	696	81	402	64	87	79			115		51	98
Total or Av. % of state	48,749 33	113	26	30	2,482 28	89	9,733 24	93	4,288 27	63	1,578 33	73			1,131 42		477 32	95
10. Ingham	4,137	97	26	28	207	69	763	82	369	62	169	79			75		43	86
11. Isabella	3,959	139	27	27	182	93	900	93	371	68	64	128			98		38	112
12. Allegan	3,902	121	16	18	268	107	1,144	91	603	61	63	90			72		45	87
13. St. Joseph	3,889	143	37	34	264	100	620	99	553	81	148	72			60		45	78
14. Hillsdale	3,713	102	23	28	303	89	995	99	707	70	217	92			51		66	93
15. Eaton	3,559	104	21	24	217	92	966	89	428	60	174	85			63		45	83
16. Branch	3,473	103	30	31	238	86	727	83	582	74	166	70			49		58	87
17. Kalamazoo	3,408	96	29	33	173	80	439	76	287	53	70	51			81		35	92
18. Monroe	3,235	119	16	16	156	81	412	84	425	71	92	74			86		54	68
19. Jackson	3,169	73	24	34	241	80	739	85	390	54	183	68			45		39	87
20. St. Clair	2,950	110	20	21	190	96	1,173	89	182	44	89	94			69		30	111
21. Lapeer	2,817	102	17	18	186	89	1,063	88	209	56	94	70			46		33	97
22. Kent	2,657	114	13	14	187	110	1,048	88	302	56	69	60			40		28	97
23. Genesee	2,622	130	24	23	139	68	603	74	206	49	102	73			59		27	90
24. Barry	2,589	82	25	34	218	85	742	86	364	55	161	56			43		29	91
25. Saginaw	2,555	102	9	12	104	108	930	80	402	53	44	63			52		39	83
Total or Av. % Top 25 of state	52,634 69	106	22	25	3,273 64	88	13,264 (88)	87	6,380 57	63	1,905 73	73			989 78		654 75	88
State Total or Av.	145,861	107	19	22	8,725	89	40,623	89	15,683	61	4,771	73			2,701		1,500	90
26. Tuscola	2,552	112	10	11	129	129	1,000	100	315	69	44	147			51		40	108
27. Van Buren	2,451	103	11	14	155	91	532	89	453	71	37	93			32		33	83
28. Livingston	2,207	90	21	26	143	82	683	91	171	52	164	73			41		25	86
29. Ottawa	2,107	99	10	14	137	86	976	98	335	66	23	115			29		24	86
30. Shiawassee	2,103	92	13	17	119	85	774	77	314	66	134	61			27		37	88
31. Montcalm	2,067	101	12	17	148	106	944	93	279	62	58	105			34		30	111
32. Berrien	2,001	103	7	7	107	66	409	79	419	62	34	57			34		29	83
33. Oakland	1,710	95	20	22	109	92	356	79	111	51	71	56			37		13	76
34. Menominee	1,311	192	24	16	39	229	605	100	20	67	5	100			4		0	0
35. Midland	1,259	132	20	22	87	97	315	84	179	85	25	83			37		14	93
36. Delta	1,239	243	37	20	47	118	322	95	17	283	3	60			1		0	93
37. Mecosta	1,194	88	22	28	81	95	566	105	141	56	25	50			18		12	109
38. Bay	1,127	86	6	11	24	96	384	108	167	68	6	120			29		11	73
39. Gladwin	1,120	156	36	33	93	98	416	100	124	48	57	67			17		6	75
40. Macomb	1,093	76	8	13	74	70	503	82	128	46	43	78			14		18	90
41. Newaygo	1,048	117	13	14	92	123	667	104	171	61	19	63			9		13	87
42. Gr. Trav.	1,043	134	16	15	53	62	204	64	76	45	6	24			11		2	67
43. Osceola	1,037	103	23	27	89	110	553	86	93	55	52	102			7		4	100
44. Clare	1,026	92	36	39	67	85	291	86	79	42	58	98			14		4	80
45. Muskegon	964	117	15	16	44	72	292	82	65	41	9	900			15		8	80
46. Oceana	879	104	10	12	86	156	399	72	113	59	8	800			17		8	100
47. Iosco	855	148	45	39	65	112	208	82	39	59	30	45			16		2	100
48. Ogemaw	855	87	27	39	68	91	352	108	67	62	60	85			5		3	100
49. Missaukee	833	121	20	21	41	60	343	81	67	66	41	91			2		2	100
50. Mason	771	131	15	14	54	106	420	86	69	86	6	120			14		5	83
51. Alpena	718	102	23	30	92	84	385	82	52	40	25	56			6		0	83
52. Arenac	688	84	13	25	41	82	353	110	54	60	14	93			15		6	86
53. Pres. Isle	687	80	23	32	82	115	372	86	114	64	15	37			3		0	86
54. Alcona	595	104	41	42	87	101	219	82	14	25	42	69			1		0	86
55. Chippewa	579	135	27	27	75	300	354	100	14	28	37	74			1		0	86
56. Leelanau	517	110	11	14	39	71	237	101	94	57	3	60			9		2	100
57. Antrim	479	88	15	21	42	82	236	78	59	40	8	160			4		2	100
58. Emmet	476	109	23	33	45	78	228	85	56	69	12	34			2		1	100
59. Cheboygan	469	79	36	41	53	85	194	76	39	32	13	52			1		0	100
60. Wayne	458	84	8	9	29	81	101	59	115	47	15	50			5		8	50
61. Charlevoix	413	60	25	38	61	79	217	69	52	45	3	30			3		1	100
62. Otsego	317	185	26	27	36	300	157	130	31	52	6	600			3		0	100
63. Manistee	315	108	8	11	33	94	182	95	85	61	10	200			3		1	50
64. Montmorency	294	109	32	34	34	76	131	100	14	40	16	107			1		0	50
65. Dickinson	269	224	15	11	13	260	118	103	5	500	1	20			0		0	50
66. Oscoda	257	95	25	24	30	86	119	91	18	50	16	100			1		0	50

Table 3 -- (continued)

County, and its rank*	Cattle,Hog & Sheep Income				No. Spec. Cattle,		Number of Farms Selling						No. Cattle	Acres of Corn	
	1964 % '64 % of Total				Hog & Sheep Farms		Cattle **		Hogs & Pigs		Sheep&Lambs		Fattened on	for Grain	
	of '59 Income				1964 % '64		1964 % '64		1964 % '64		1964 % '64		Grain & Conc.	1964 % '64	
	(thous.\$)	1964	1959		of '59		of '59		of '59		of '59		1964	of '59	
67. Wexford	238	69	19	24	26	87	162	62	48	63	4	80	(hundred)	1	50
68. Ontonagon	207	88	24	28	26	118	186	90	5	100	1	100	1	0	50
69. Benzie	199	246	10	5	22	147	68	91	36	180	0	0	2	0	50
70. Kalkaska	190	101	18	26	22	129	77	65	20	77	0	0	2	1	100
71. Lake	169	86	29	31	25	119	95	67	28	56	12	60	1	1	100
72. Iron	154	48	18	34	20	77	132	75	4	80	1	17	0	0	100
73. Houghton	148	74	7	10	11	73	232	75	4	400	3	300	1	0	100
74. Alger	141	67	19	26	14	70	100	100	7	140	2	40	0	0	100
75. Gogebic	136	189	28	15	5	50	75	71	2	200	0	0	1	0	100
76. Mackinac	104	60	18	35	7	64	84	70	8	20	3	50	0	0	100
77. Luce	90	92	28	45	13	118	24	73	4	200	2	200	0	0	100
78. Baraga	86	88	14	16	5	118	131	72	1	20	0	0	0	0	100
79. Marquette	78	50	10	18	5	71	69	57	4	15	4	400	0	0	100
80. Roscommon	75	179	56	48	13	130	24	160	8	80	1	20	0	0	100
81. Schoolcraft	56	52	26	34	8	80	38	76	6	30	0	0	0	0	100
82. Crawford	22	122	25	55	5	80	10	100	2	200	1	7	0	0	100
83. Keweenaw	1	8	9	86	0	80	2	40	0	0	0	0	0	0	100

FIGURE 48. NUMBER OF CATTLE SOLD, EXCEPT CALVES (THOUS.) BY COUNTIES, MICHIGAN, 1964

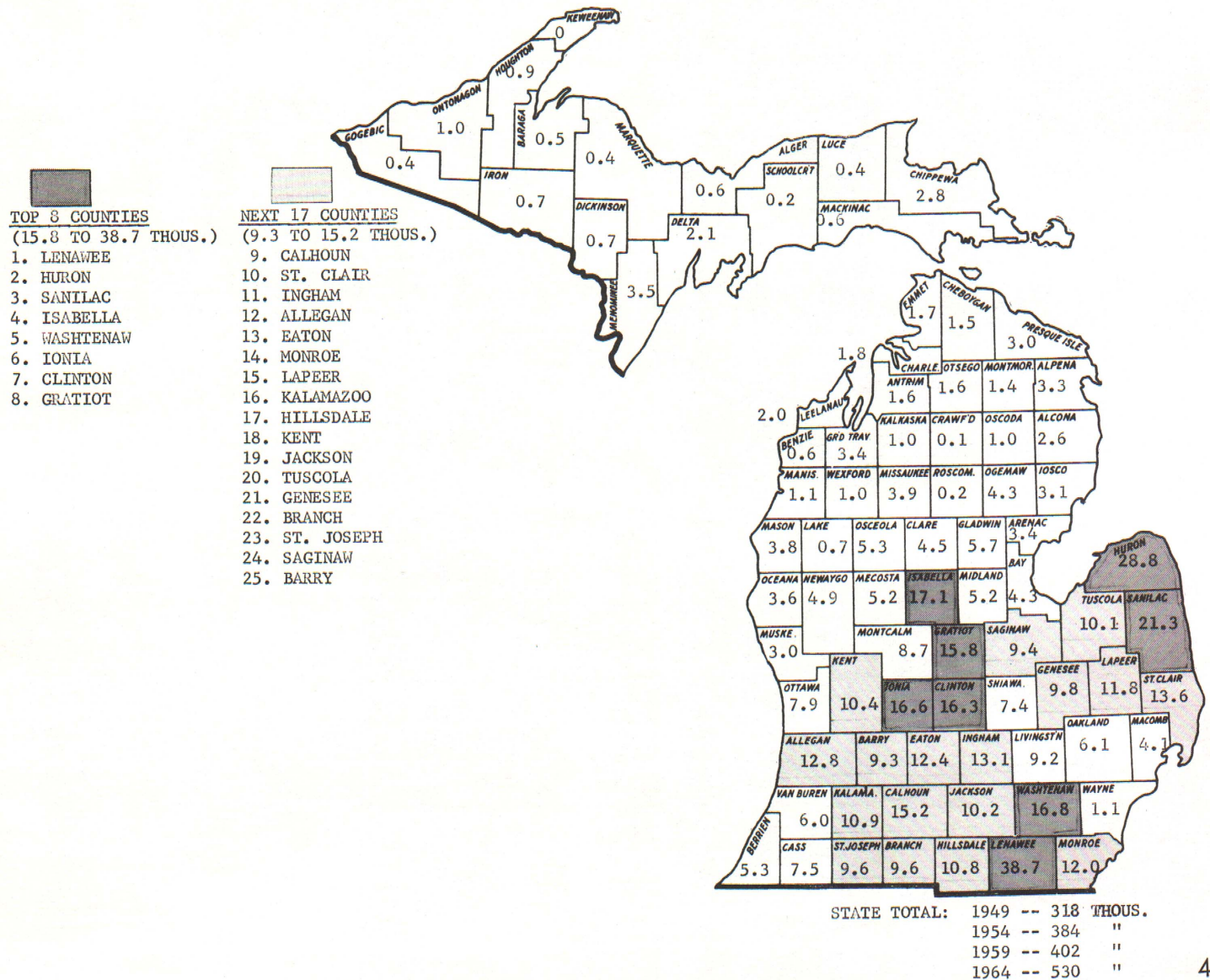
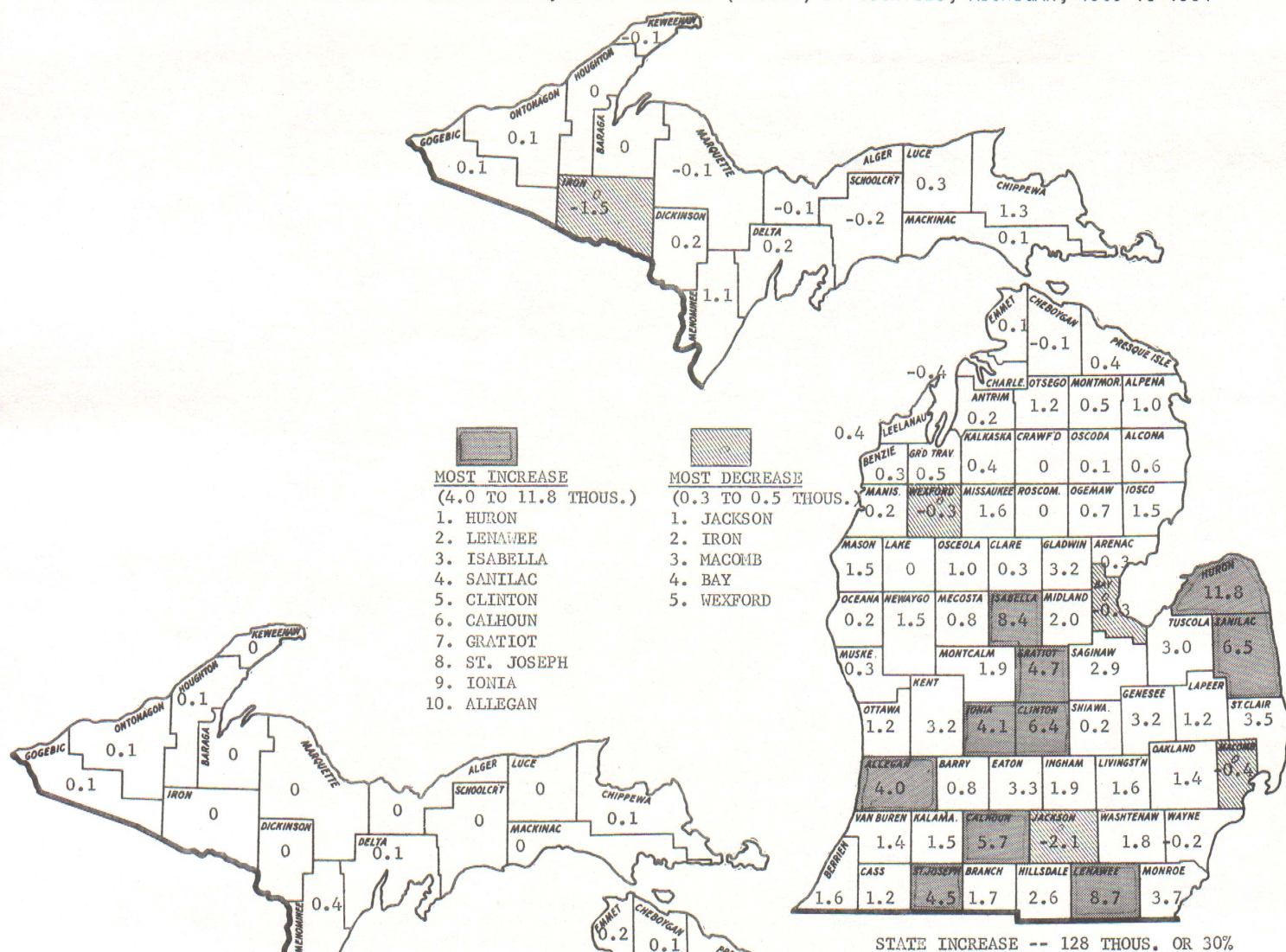


FIGURE 49. CHANGE IN NUMBER OF CATTLE SOLD, EXCEPT CALVES (THOUS.) BY COUNTIES, MICHIGAN, 1959 TO 1964



- TOP 8 COUNTIES**
(9.2 TO 32.6 THOUS.)
1. LENAWEE
 2. HURON
 3. WASHTENAW
 4. GRATIOT
 5. ISABELLA
 6. IONIA
 7. CALHOUN
 8. CLINTON
- NEXT 17 COUNTIES**
(4.1 TO 8.6 THOUS.)
9. MONROE
 10. KALAMAZOO
 11. INGHAM
 12. ALLEGAN
 13. SANILAC
 14. ST. CLAIR
 15. EATON
 16. ST. JOSEPH
 17. GENESEE
 18. SAGINAW
 19. HILLSDALE
 20. TUSCOLA
 21. BRANCH
 22. LAPEER
 23. JACKSON
 24. BARRY
 25. LIVINGSTON

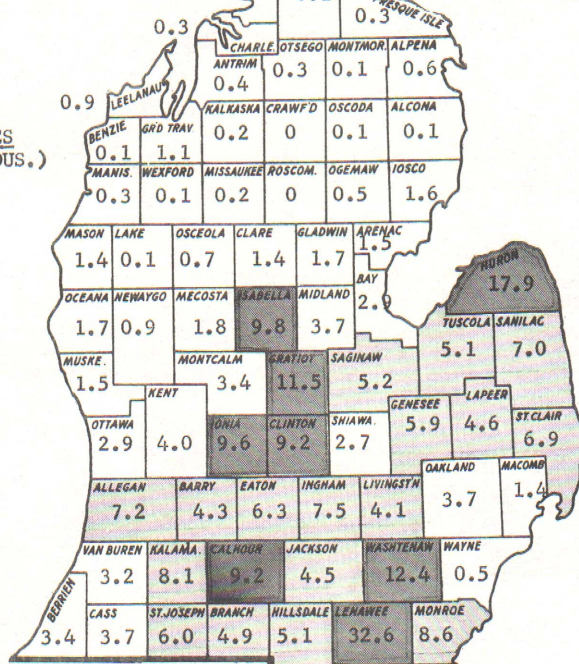


FIGURE 50. NUMBER OF CATTLE SOLD, FATTENED ON GRAIN & CONCENTRATES (THOUS.) BY COUNTIES, MICHIGAN, 1964

FIGURE 51. NUMBER OF HOGS AND PIGS SOLD (THOUS.) BY COUNTIES, MICHIGAN, 1964

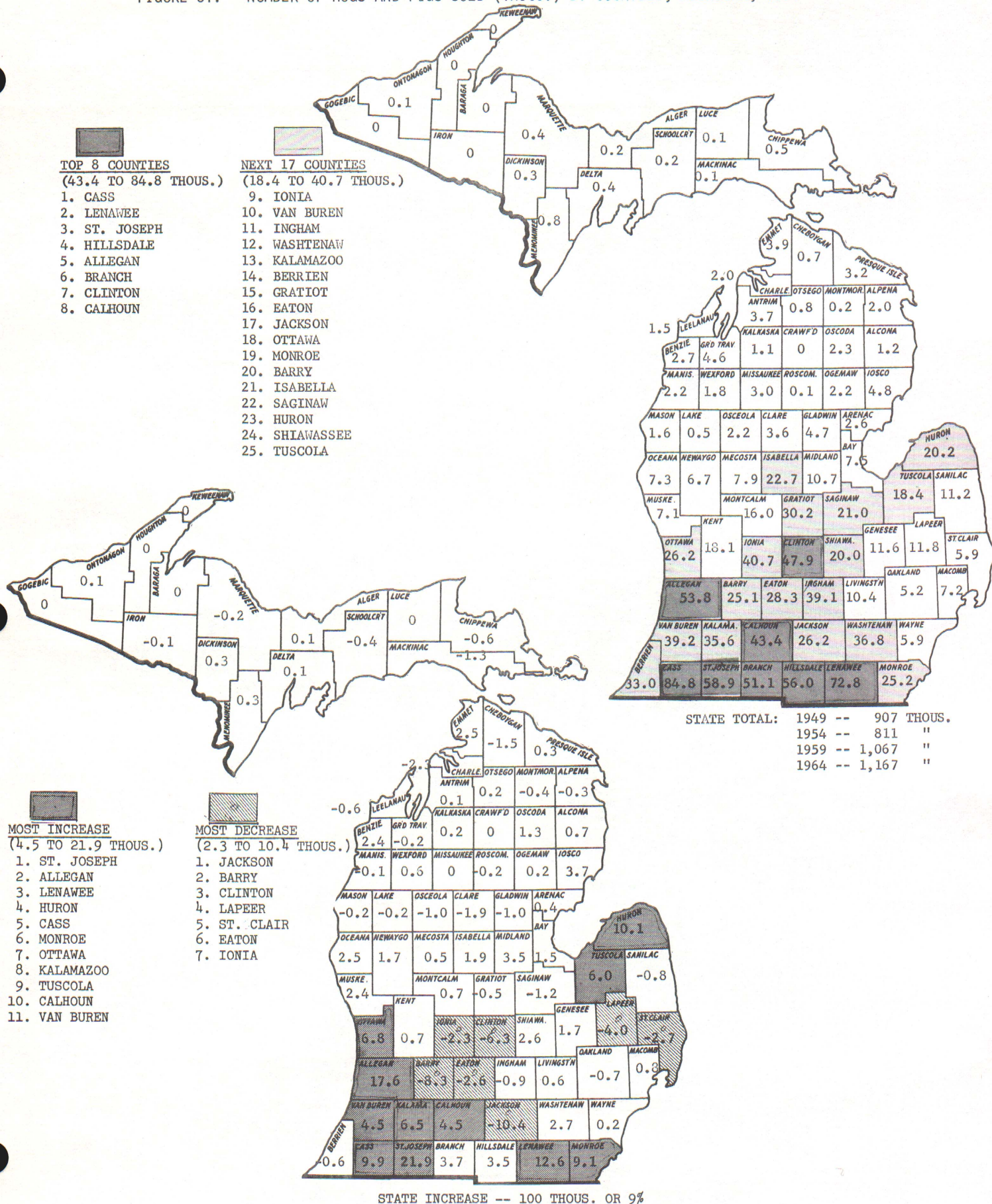
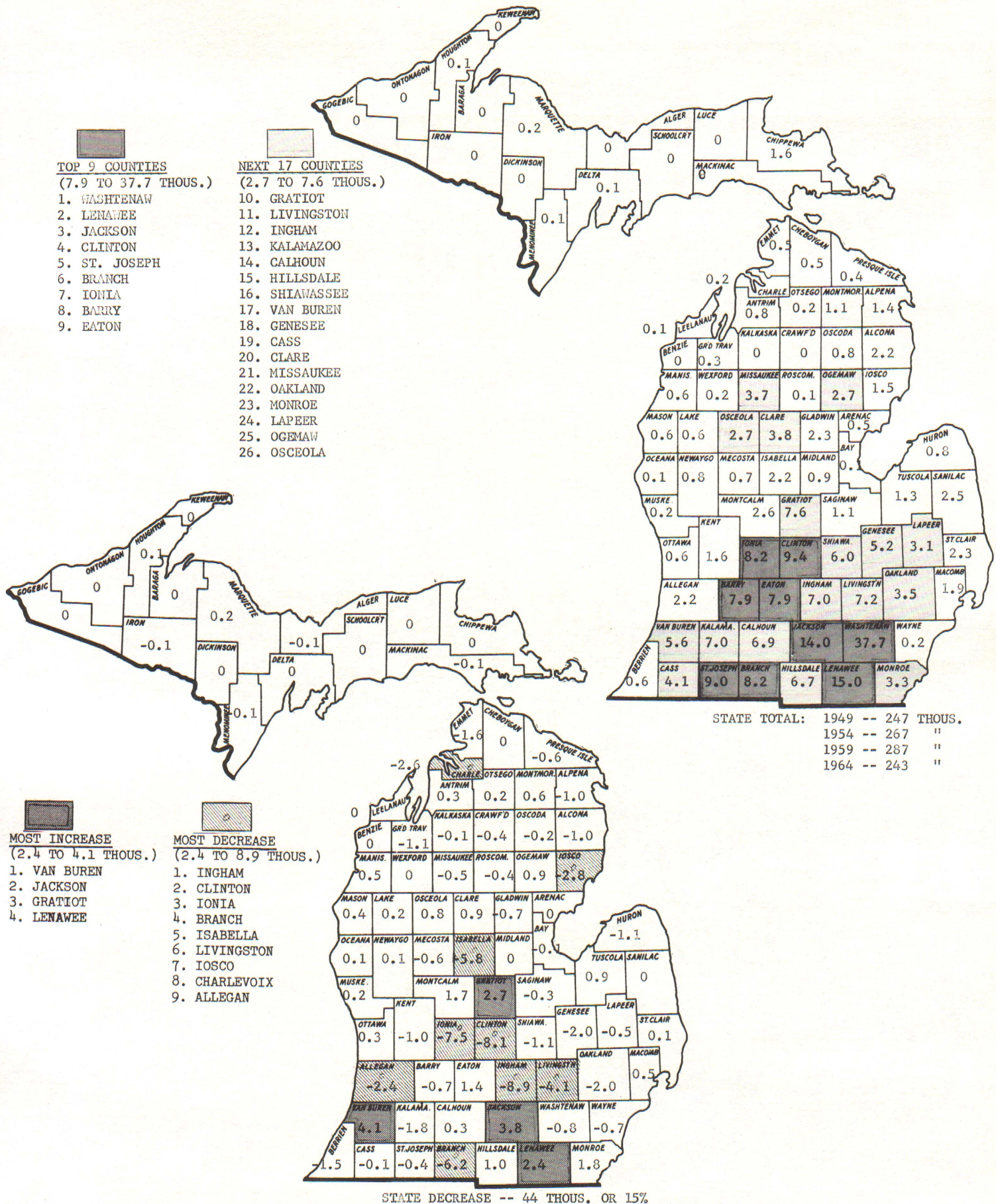


FIGURE 52. CHANGE IN NUMBER OF HOGS AND PIGS SOLD (THOUS.) BY COUNTIES, MICHIGAN, 1959 TO 1964

FIGURE 53. NUMBER OF SHEEP AND LAMBS SOLD (THOUS.) BY COUNTIES, MICHIGAN, 1964



4. Poultry and Poultry Products

Sales of poultry and poultry products in 1964 amounted to \$46 million or about 6% of the state's total from all products (Fig. 55). Some \$21 million or 47%, of this was accounted for by the top eight counties headed by Ottawa and followed by Allegan, Huron, Gratiot, Eaton, Kent, Barry, and Hillsdale. Thus, there was a fairly heavy concentration in the Ottawa-Allegan area.

The next 17 counties had a total of about \$13 million of sales of poultry and poultry products so the top 25 accounted for 75% of the state's total. With the exception of Antrim and Grand Traverse counties, these 17 were widely scattered over the southern half of Lower Michigan.

The total dozens of eggs sold increased 31% from 1959 to 1964, and the total sales of poultry and poultry products increased 41%, with egg prices in 1964 being 3 cents a dozen higher than in 1959 (Table 4). Turkey production increased 11%, with a very sharp increase in Ottawa county, which in 1964 produced nearly one half the state's turkey crop. During this time the number of farms reporting chickens declined over 50%, while the number of specialized poultry farms dropped only 18% and the number of layers only 7%.

From the standpoint of change in total poultry income from 1959 to 1964, Huron topped the list with an increase of over \$2 million (Fig. 56). Allegan was a close second with exactly \$2 million increase. Ottawa was third with \$1.8 million increase. Sizeable increases were also registered in Eaton, Gratiot, and Cass counties. Several counties showed rather sharp decreases, with Saginaw particularly sharp. Thus, we see concentration of poultry production into fewer counties and on fewer farms, but more specialized, with a higher total production. The concentration into particular counties or areas is primarily due to a prime mover, non-producer, selling a program in the area.

FIGURE 55. POULTRY AND POULTRY PRODUCT SALES (MILLION DOLLARS) BY COUNTIES, MICHIGAN, 1964

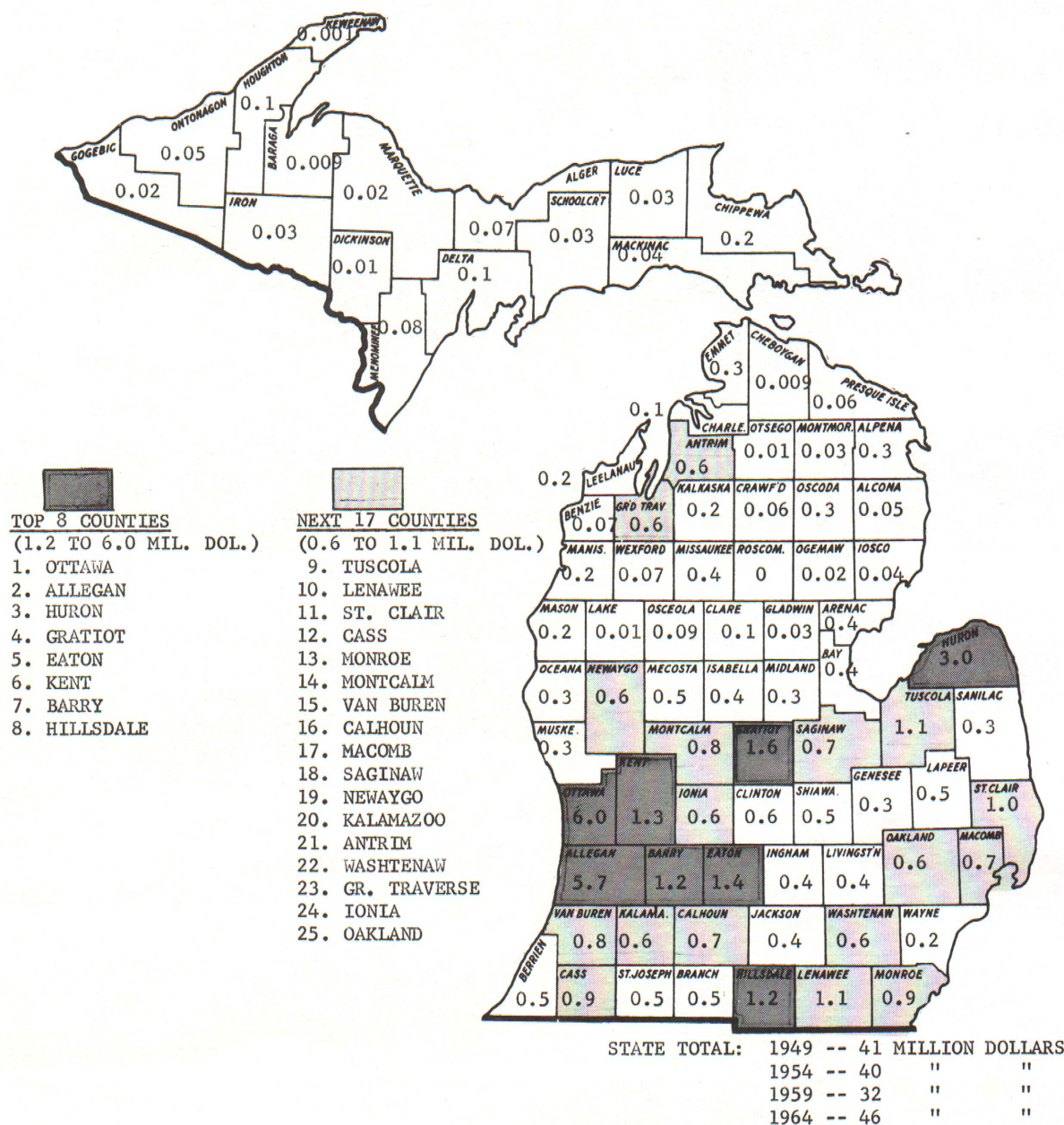


FIGURE 56. CHANGE IN POULTRY AND POULTRY PRODUCT SALES (MILLION DOLLARS) BY COUNTIES, MICHIGAN, 1959 TO 1964

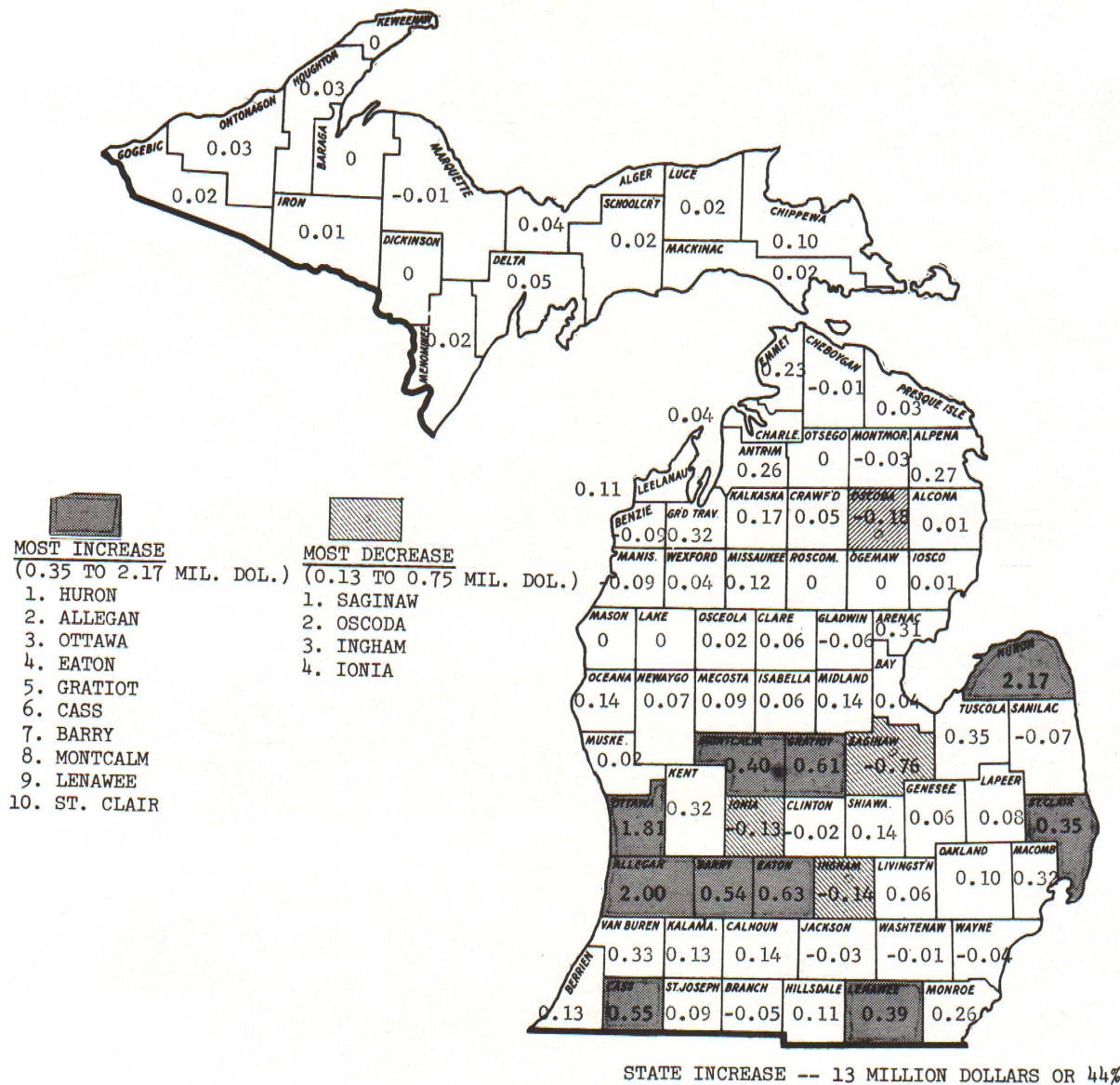


Table 4 -- POULTRY AND POULTRY PRODUCT SALES, NUMBER OF CHICKENS AND POULTRY FARMS

BY COUNTIES, MICHIGAN 1959 AND 1964

County, and its rank*	Poul. & Poul. Product Sales				No. of Chickens		No. of Specialized		No. of Farms		Dozens of		Turkeys	
	1964	% '64 of '59	% Total		4 months+		Poultry Farms		Reporting Chickens		Eggs Sold		Raised	
			Sales		1964	% '64 of '59	1964	% '64 of '59	4 months+		1964	% '64 of '59	1964	% '64 of '59
			'64	'59					1964	% '64 of '59				
	(thous.\$)				(thous.)						(thous.)		(hund.)	
1. Ottawa	5,994	143	27	27	574	93	209	88	608	51	6,467	106	6,097	184
2. Allegan	5,702	154	24	20	913	100	261	76	736	46	11,672	114	194	298
3. Huron	2,984	364	8	3	575	198	52	173	771	49	6,940	304	2	15
4. Gratiot	1,630	160	7	6	193	112	32	70	379	39	2,719	187	244	55
5. Eaton	1,363	186	8	5	159	76	31	89	459	47	2,036	115	25	44
6. Kent	1,311	132	6	6	177	69	45	64	540	51	2,298	92	323	59
7. Barry	1,217	179	12	7	131	86	43	108	396	46	1,590	119	100	152
8. Hillsdale	1,209	110	7	9	208	88	53	70	463	45	3,034	117	320	79
Total or Av. (8)	21,410	162	13	10	2,930	103	726	83	4,352	47	36,756	130	7,305	149
% of state	47				38		42		19		38		53	
9. Tuscola	1,145	143	4	4	225	94	28	78	656	55	3,133	140	120	104
10. Lenawee	1,110	153	4	3	218	95	39	156	538	45	2,861	138	242	244
11. St. Clair	1,009	154	7	5	207	88	32	103	750	52	2,330	115	6	13
12. Cass	934	245	9	5	158	161	34	170	333	47	2,077	290	109	84
13. Monroe	908	141	5	4	200	85	29	53	623	47	2,561	124	36	157
14. Montcalm	842	191	5	4	109	102	18	113	340	44	1,872	223	464	122
15. Van Buren	815	167	4	3	166	115	45	82	423	38	2,033	175	159	136
16. Calhoun	717	124	5	5	151	85	36	103	483	46	1,992	128	87	118
17. Macomb	688	187	5	3	102	73	32	58	412	47	1,193	102	4	50
18. Saginaw	666	47	2	7	166	62	35	76	864	47	1,789	86	54	102
19. Newaygo	627	112	8	9	112	75	31	41	316	49	1,566	101	6	46
20. Kalamazoo	619	126	5	5	103	84	27	87	278	43	1,501	131	54	53
21. Antrim	602	177	18	13	58	166	16	160	131	44	623	230	62	119
22. Washtenaw	584	98	3	4	139	72	25	125	587	53	1,585	90	13	22
23. Gr. Traverse	570	225	9	5	89	139	18	90	130	39	1,523	233	61	---
24. Ionia	562	82	3	5	99	73	15	48	397	45	1,069	85	241	37
25. Oakland	555	121	7	6	87	109	31	86	245	44	1,267	164	270	110
Total or Av. (17)	12,953	131	5	4	2,389	90	491	82	7,506	47	30,975	133	1,988	92
% Top 25 of state**	75	(149)	(8)	(7)	68	(97)	70	(82)	51	(47)	70	(131)	67	131
State Total or Av.	45,631	141	6	5	7,774	93	1,734	83	23,216	47	96,825	131	13,835	111
26. Clinton	553	96	3	4	118	65	16	160	515	47	1,561	95	26	43
27. Berrien	549	131	2	2	133	92	28	70	561	44	1,608	144	4	15
28. St. Joseph	541	119	5	6	136	90	25	83	416	56	1,240	93	4	133
29. Shiawassee	541	133	3	3	136	87	23	77	450	48	1,514	119	18	106
30. Branch	474	91	4	5	104	67	25	50	408	46	1,361	89	1	8
31. Mecosta	464	124	8	8	51	104	7	58	217	41	691	178	370	67
32. Lapeer	452	121	3	2	92	68	23	66	453	44	1,257	111	2	67
33. Isabella	428	116	3	3	92	88	15	100	322	41	1,180	140	49	22
34. Missaukee	428	137	10	10	59	174	15	136	134	44	774	273	301	61
35. Jackson	406	93	3	3	100	73	15	50	411	43	1,046	89	19	16
36. Arenac	388	504	8	2	93	238	19	190	188	47	840	335	0	0
37. Ingham	377	73	2	3	84	53	17	85	318	43	1,081	71	9	35
38. Bay	363	113	2	3	85	71	12	60	464	53	959	102	2	29
39. Livingston	353	120	3	3	71	66	19	63	344	53	1,020	110	1	6
40. Sanilac	344	83	1	2	92	54	16	46	611	45	961	76	12	35
41. Genesee	322	124	3	3	83	80	23	230	421	42	915	140	23	32
42. Oscoda	320	64	31	45	31	148	13	62	64	74	235	123	51	6
43. Alpena	313	711	10	2	64	221	17	340	196	42	941	667	0	100
44. Midland	309	180	5	4	60	136	10	100	311	62	924	341	1	1
45. Muskegon	283	108	5	5	48	84	16	64	198	51	637	132	201	139
46. Emmet	262	749	13	3	50	294	11	110	142	46	773	966	0	0
47. Oceana	257	212	3	2	61	165	10	100	213	43	777	295	0	0
48. Kalkaska	225	402	21	8	44	275	4	100	53	46	621	330	0	100
49. Wayne	221	84	4	4	49	51	24	80	315	48	474	70	124	146
50. Leelanau	214	200	5	3	46	100	10	200	192	52	606	171	0	100
51. Mason	205	102	4	5	46	79	11	73	220	55	365	64	71	229
52. Chippewa	156	260	7	4	33	110	8	80	177	53	482	247	0	100
53. Manistee	154	63	4	9	34	170	7	700	150	57	311	273	32	7
54. Charlevoix	116	155	7	4	21	84	7	140	116	38	311	150	9	90

* Rank in 1964 Poultry and Poultry Product Sales.

** Figures in parenthesis are averages for the 25 counties for the respective columns.

Table 4 -- (continued)

County and its rank*	Poul. & Poul. Product Sales				No. of Chickens		No. of Specialized		No. of Farms		Dozens of		Turkeys	
	1964	% '64 of '59	% Total		4 months +		Poultry Farms		Reporting Chickens		Eggs Sold		Raised	
			Sales		1964	% '64 of '59	1964	% '64 of '59	4 months +		1964	% '64 of '59	1964	% '64 of '59
			'64	'59										
	(thous.\$)				(thous.\$)						(thous.)			
55. Houghton	115	135	6	4	26	93	15	140	98	52	345	127	0	0
56. Clare	100	233	3	2	26	153	2	40	132	43	295	388	1	17
57. Delta	100	204	3	2	25	96	4	40	152	52	241	153	1	---
58. Osceola	92	124	2	2	24	83	5	40	228	44	282	184	1	2
59. Menominee	83	136	2	1	32	86	4	80	266	51	224	120	0	-100
60. Wexford	67	258	5	2	14	93	3	20	85	33	195	257	1	0
61. Alger	67	209	9	4	17	131	4	80	59	72	199	186	0	0
62. Benzie	65	43	3	9	14	82	3	60	70	60	192	126	0	-100
63. Presque Isle	63	170	2	1	23	74	2	60	311	64	190	167	1	---
64. Crawford	55	1833	3	9	1	100	1	60	8	50	161	1789	0	0
65. Alcona	48	130	3	3	13	68	2	60	145	46	144	119	0	0
66. Ontonagon	47	261	5	2	11	122	3	30	56	45	144	244	0	0
67. Mackinac	44	176	8	5	9	75	2	30	54	41	133	162	0	0
68. Iosco	36	133	2	2	11	73	1	30	91	38	103	123	0	0
69. Gladwin	34	37	1	4	13	43	4	80	225	52	90	48	1	0
70. Montmorency	32	55	3	7	9	45	2	40	62	40	91	59	0	0
71. Iron	31	182	4	2	10	111	2	40	72	58	93	169	0	0
72. Luce	30	300	9	5	6	150	1	40	14	40	94	303	0	0
73. Schoolcraft	30	200	14	5	8	133	2	40	24	38	94	200	0	0
74. Gogebic	22	1100	5	0	5	250	2	40	26	60	64	1280	0	0
75. Marquette	21	66	3	4	7	50	1	40	40	33	61	59	0	0
76. Ogemaw	16	84	1	1	8	53	2	40	144	44	49	82	0	0
77. Lake	10	83	2	2	3	38	1	40	61	37	30	81	0	0
78. Otsego	10	71	1	2	6	50	2	40	108	56	24	55	2	---
79. Dickinson	10	83	1	1	4	57	0	40	51	53	28	72	0	0
80. Cheboygan	9	45	1	1	6	38	0	0	134	47	27	42	0	100
81. Baraga	9	69	1	2	4	80	1	20	47	64	28	64	0	0
82. Keweenaw	1	100	9	7	0	0	0	20	2	67	2	50	0	0
83. Roscommon	0	0	0	3	0	0	0	20	13	38	1	13	0	0

5. Field Crops

The total value of field crops produced in 1964 was about \$377 million. A considerable amount of this was fed and shows up as livestock sales. Actual sales of field crops in 1964, about \$240 million, was 31% of the total farm product sales. Saginaw Valley and Thumb counties, along with Lenawee and Monroe were the top counties in field crop sales (Fig. 57). The top eight counties provided nearly one half the state's total sales of these crops (Table 5). The next 17 counties were located mostly in central southern Michigan. Total sales of field crops from the top 25 counties amounted 82% of the total sales. Leading crops in dollar sales were wheat, field beans, corn, soybeans, sugar beets, potatoes, and hay.

Field crop sales increased 29% from 1959 to 1964 (prices were only slightly higher) (Table 5). Corn sales of 45 million bushels in 1964 were 6% over 1959. Wheat sales of about 36 million bushels were 11% higher. Alfalfa hay sales of 800 thousand tons were a 185% increase over 1959. Field bean sales of about 7-1/2 million bags in 1964 were a 27% increase. Soybean sales of 7 million cwt. was an increase of 31%. While potato sales of nearly 7-1/2 million cwt. was a 7% increase.

In total sales of field crops, the counties showing the greatest increase were in and around the Saginaw Valley and Thumb (Fig. 58). The increase in sales in these top 10 counties amounted to 64% of the total increase in that state. Increases in field crop sales were fairly general throughout the state, except for ten counties, eight of which were in southern Michigan. Reduction in corn sales appears to have been the main reason for the decline in the eight counties.

Table 5 -- FIELD CROPS SOLD OR HARVESTED BY COUNTIES, MICHIGAN, 1959 AND 1964

County, and its rank*	Field Crop Sales				Corn Sold		Wheat Sold		Alf. Hay		Field Beans		Soybeans		Potatoes	
									Sold		Har.		Har.		Har.	
	1964	% '64	% of Total		1964	% '64	1964	% '64	1964	% '64	1964	% '64	1964	% '64	1964	% '64
		of '59	Sales			of '59		of '59		of '59		of '59		of '59		of '59
			'64	'59												
	(thous.\$)				(thous.bu.)		(thous.bu.)		(thous.T.)		(thous.cwt.)		(thous.bu.)		(thous.cwt.)	
1. Saginaw	17,987	139	67	59	1,789	125	2,091	116	14	200	1,053	115	688	207	100	233
2. Huron	17,396	135	49	54	1,352	217	2,288	120	19	238	1,351	122	5	250	17	89
3. Tuscola	16,235	118	63	64	1,446	102	2,095	125	17	155	1,042	104	16	800	85	170
4. Bay	14,626	200	78	64	435	95	1,007	134	5	167	777	189	10	1,000	1,443	173
5. Gratiot	14,548	154	60	54	2,637	141	1,636	114	11	275	1,078	157	351	109	37	71
6. Lenawee	12,027	111	41	42	4,267	79	1,696	230	26	325	0	0	1,380	96	46	39
7. Monroe	10,975	123	56	53	2,886	82	1,321	219	16	178	0	0	1,425	95	409	146
8. Sanilac	10,214	129	33	34	1,145	200	1,844	109	41	315	487	99	16	400	10	24
Total or Av. (8)	114,008	136	54	52	15,957	104	13,978	132	149	237	5,788	125	3,891	108	2,147	149
% of state	48				35		39		19		75		55		29	
9. Montcalm	8,720	168	51	43	979	181	766	103	17	567	266	155	11	275	1,467	118
10. Shiawassee	7,558	119	48	47	1,179	96	1,411	115	19	317	258	90	572	177	53	151
11. Clinton	7,185	145	37	35	1,861	154	1,320	119	24	480	188	192	348	155	27	75
12. Eaton	5,971	110	36	38	1,530	83	1,311	111	24	400	160	138	23	153	117	133
13. Hillsdale	5,496	155	34	28	2,415	129	756	132	28	467	0	0	309	234	5	125
14. Ionia	4,799	142	27	24	1,339	149	1,165	117	20	667	96	223	27	386	40	95
15. Isabella	4,766	158	32	29	1,261	181	636	94	17	283	225	164	25	227	8	36
16. Washtenaw	4,680	138	26	24	1,594	138	791	107	18	225	0	0	190	164	164	121
17. St. Clair	4,098	119	27	27	885	182	811	86	14	233	68	78	54	338	15	75
18. Calhoun	3,906	99	26	31	1,209	76	950	103	19	380	5	250	82	293	83	98
19. Genesee	3,894	114	36	38	850	124	788	91	15	214	47	78	293	167	27	60
20. Midland	3,887	157	62	58	562	131	480	125	3	150	282	153	65	406	28	165
21. Lapeer	3,663	98	22	24	757	130	710	72	23	288	52	57	9	300	172	85
22. Ingham	3,597	102	23	23	1,222	97	804	93	23	288	13	100	54	225	8	36
23. Branch	3,466	103	30	31	1,401	76	640	108	14	467	0	0	213	418	1	50
24. Jackson	3,293	115	25	22	1,061	109	473	76	30	429	2	100	23	329	138	87
25. Allegan	3,146	116	13	15	779	92	706	112	19	475	0	0	3	30	241	98
Total or Av. (17)	82,125	127	31	30	20,884	115	14,518	103	327	352	1,662	128	2,301	198	2,594	108
% Top 25 of state**	82	(132)	(41)	(39)	81	(111)	80	(116)	60	(305)	97	(126)	87	(130)	64	(123)
State Total or Av.	238,527	129	31	30	45,414	106	35,766	111	800	285	7,668	127	7,090	131	7,407	107

* Rank in 1964 Field Crop Sales.

** Figures in parenthesis are averages for the 25 counties for the respective columns.

Table 5 -- (continued)

County, and its rank*	Field Crop Sales				Corn Sold		Wheat Sold		Alf. Hay		Field Beans		Soybeans		Potatoes	
	Field Crop Sales				Corn Sold		Wheat Sold		Sold		Har.		Har.		Har.	
	1964	% '64	of Total		1964	% '64	1964	% '64	1964	% '64	1964	% '64	1964	% '64	1964	% '64
	of '59		Sales		of '59		of '59		of '59		of '59		of '59		of '59	
	(thous.\$)		'64	'59	(thous.bu.)		(thous.bu.)		(thous.T.)		(thous.cwt.)		(thous.bu.)		(thous.cwt.)	
26. Kent	2,755	120	13	14	561	107	576	93	25	278	14	117	1	100	145	114
27. Berrien	2,654	108	9	9	1,066	107	496	105	7	175	0	0	188	133	14	61
28. St. Joseph	2,522	86	24	36	648	53	682	110	13	325	0	0	164	156	4	40
29. Kalamazoo	2,507	94	21	25	766	86	741	111	10	167	0	0	42	120	5	7
30. Barry	2,467	117	24	23	548	87	601	103	17	340	7	140	11	73	135	190
31. Macomb	2,433	144	18	15	672	193	413	89	10	333	16	67	61	555	138	131
32. Cass	2,359	107	22	27	879	95	436	99	11	367	2	0	163	160	11	42
33. Livingston	2,048	96	20	23	524	76	459	81	22	367	3	33	9	300	13	50
34. Arenac	1,933	174	38	34	163	150	175	141	8	267	111	247	8	267	65	43
35. Van Buren	1,802	98	8	11	652	78	279	95	9	225	0	0	19	95	66	108
36. Ottawa	1,723	117	8	9	401	100	492	110	12	400	1	50	1	0	42	124
37. Presque Isle	1,253	144	42	33	0	0	86	108	5	500	4	0	0	0	360	86
38. Wayne	1,240	92	21	23	319	59	166	106	2	200	0	0	216	107	12	57
39. Oakland	1,186	89	14	16	256	66	207	66	13	186	1	100	6	100	50	77
40. Mecosta	943	121	17	16	253	218	167	88	8	160	20	125	0	0	11	20
41. Newaygo	886	114	11	12	141	73	162	98	12	240	1	25	0	0	18	39
42. Dickinson	767	324	43	21	0	0	2	0	2	200	0	0	0	0	260	211
43. Oceana	638	180	7	5	166	313	81	109	9	225	0	0	0	0	29	81
44. Alpena	634	128	20	21	1	50	162	92	7	350	4	0	1	0	49	92
45. Gladwin	622	124	20	23	85	118	113	71	8	267	14	280	1	0	1	50
46. Osceola	613	126	14	13	30	176	103	88	8	200	1	0	0	0	66	80
47. Houghton	609	163	30	18	0	0	1	100	1	0	0	0	0	0	195	93
48. Muskegon	539	124	9	9	112	98	132	115	5	250	1	100	0	0	0	0
49. Missaukee	524	105	12	16	8	114	59	63	11	220	3	150	1	0	33	30
50. Antrim	507	170	16	11	21	191	10	83	4	400	0	0	0	0	126	97
51. Mason	490	135	9	8	54	98	137	165	7	175	3	150	1	0	10	48
52. Otsego	460	266	38	27	0	0	7	175	4	400	0	0	2	0	122	139
53. Delta	408	114	12	14	2	0	2	67	3	300	0	0	0	0	97	53
54. Emmet	382	157	18	19	10	500	15	107	4	400	0	0	0	0	87	82
55. Chippewa	381	160	17	15	0	0	14	127	1	100	0	0	0	0	5	100
56. Iron	359	192	43	20	0	0	0	0	0	0	0	0	0	0	121	119
57. Clare	344	126	12	10	70	175	60	63	6	300	0	0	0	0	1	25
58. Marquette	323	145	40	25	0	0	0	0	0	0	0	0	0	0	110	89
59. Gr. Traverse	304	140	5	4	30	136	28	88	6	300	1	0	0	0	13	30
60. Ogemaw	295	112	9	10	24	171	43	49	7	233	0	0	0	0	1	50
61. Menominee	291	151	5	5	0	0	2	67	7	175	0	0	0	0	20	95
62. Kalkaska	269	224	26	17	5	100	1	50	1	0	0	0	0	0	79	134
63. Iosco	242	145	13	11	27	123	24	69	5	250	3	0	1	0	0	0
64. Manistee	239	123	6	8	16	94	9	69	3	150	4	200	0	0	35	58
65. Leelanau	202	163	4	4	19	211	10	100	4	400	0	0	0	0	22	59
66. Alcona	196	119	13	12	3	0	35	67	4	200	0	0	0	0	9	180
67. Charlevoix	173	177	11	5	13	433	7	64	5	500	1	0	0	0	5	23
68. Cheboygan	146	183	11	5	0	0	11	100	3	300	0	0	0	0	15	88
69. Montmorency	122	121	13	13	0	0	32	97	2	200	1	0	0	0	1	33
70. Luce	122	174	37	32	0	0	0	0	1	0	0	0	0	0	38	100
71. Wexford	115	164	9	5	16	320	11	110	3	300	0	0	0	0	2	18
72. Alger	60	122	8	6	0	0	0	0	1	100	0	0	0	0	7	58
73. Oscoda	54	174	5	3	2	200	5	83	2	200	0	0	0	0	2	100
74. Lake	46	81	8	9	5	125	11	110	1	100	0	0	0	0	1	13
75. Benzie	40	121	2	2	3	75	2	200	1	0	0	0	0	0	2	20
76. Ontonagon	39	150	5	3	0	0	0	0	0	0	0	0	0	0	3	150
77. Mackinac	37	106	6	7	0	0	3	100	0	0	0	0	0	0	3	100
78. Schoolcraft	31	94	15	10	0	0	0	0	0	0	0	0	0	0	5	31
79. Roscommon	20	200	15	11	0	0	1	50	1	0	0	0	0	0	0	0
80. Baraga	19	136	3	2	0	0	0	0	0	0	0	0	0	0	1	33
81. Gogebic	15	136	3	2	0	0	0	0	0	0	0	0	0	0	1	33
82. Crawford	6	200	7	9	0	0	0	0	0	0	0	0	0	0	0	0
83. Keweenaw	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0

FIGURE 57. FIELD CROP SALES (MILLION DOLLARS) BY COUNTIES, MICHIGAN, 1964

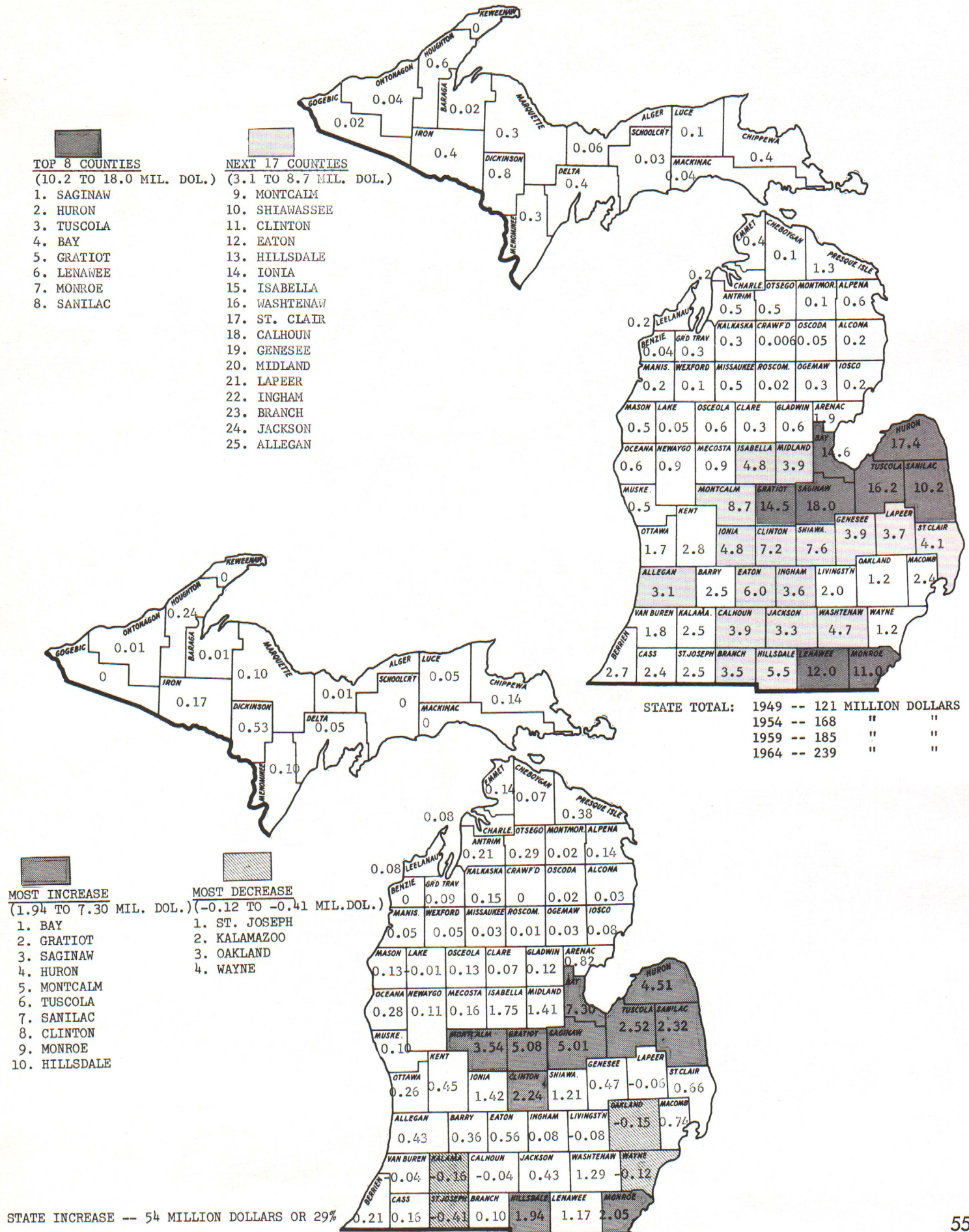


FIGURE 58. CHANGE IN FIELD CROP SALES (MILLION DOLLARS) BY COUNTIES, MICHIGAN, 1959 TO 1964

6. Fruit

Fruit sales of \$69 million in 1964 accounted for 9% of the total farm product sales that year. The top eight counties in fruit sales sold \$52 million of fruit or 76% of the total fruit sales (Fig. 59). This was the highest concentration of any of the eight product-groups discussed in this section. Berrien County topped this group of eight counties with \$18 million of fruit sales, which was more than 1/3 the total of the eight counties. Van Buren was next with almost \$12 million. Five (Berrien, Van Buren, Kent, Allegan, and Ottawa) of the top eight counties were in south-west Michigan, the remaining three were Oceana, Grand Traverse, and Leelanau.

Fruit sales in 1964 were \$13 million, or 23% higher than in 1959 (Fig. 60). Van Buren and Berrien counties showed the greatest increase with each having over \$2.5 million more in 1964 than in 1959. The balance of the top eight in increase all were on the west side of the state and the increase in sales in these counties accounted for 92% of the total increase in the state. Most of the counties outside the intensive fruit areas mentioned in the first paragraph showed decreases.

The total acreage in fruits and vineyards in 1964 at nearly 200,000 was essentially the same as in 1959 (Table 6). The number of specialized fruit farms in 1964 at nearly 4,200 also was essentially the same as 5 years earlier. The 9,000 farms reporting some land in orchards and vineyards in 1964 were 31% less than in 1959. Thus, fruit production is tending to be concentrated on fewer specialized fruit farms.

The total number of bearing and non-bearing apple trees in 1964 was 6% more than in 1959. Sour cherry trees numbers were practically the same. The number of sweet cherry trees increased 37%. The number of pear trees increased 19%, while the number of peach trees decreased 23%; and the acreage in vineyards decreased 13%.

FIGURE 59. FRUIT SALES (MILLION DOLLARS) BY COUNTIES, MICHIGAN, 1964

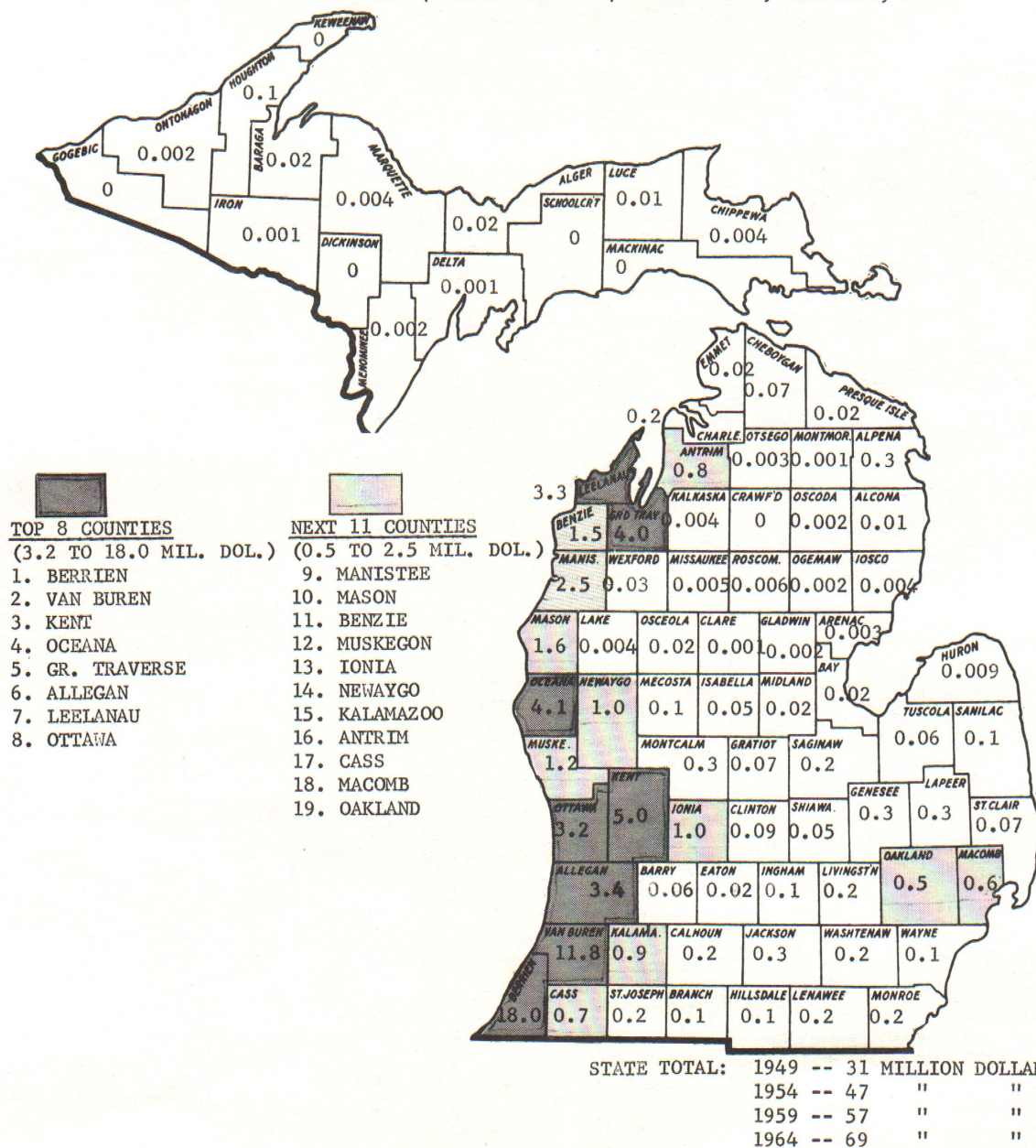


FIGURE 60. CHANGE IN FRUIT SALES (MILLION DOLLARS) BY COUNTIES, MICHIGAN, 1959 TO 1964

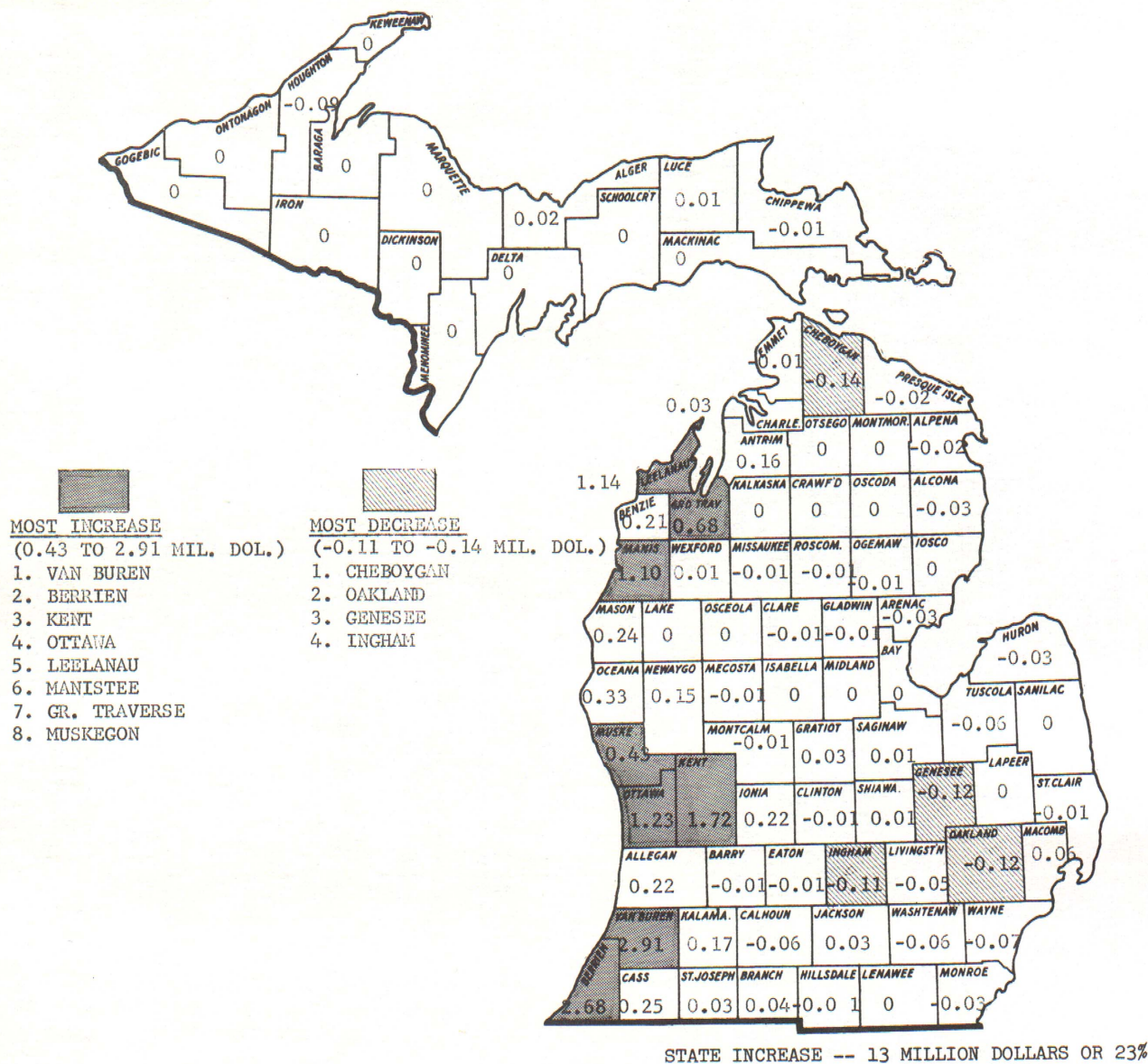


Table 6

FRUIT SALES, ACREAGES, NUMBER OF FRUIT FARMS AND NUMBER OF TREES, BY COUNTIES, MICHIGAN, 1959 AND 1964

County, and its rank ¹					Acres of				No. Farms								
	Fruit Sales				Fruit and		No. Spec.		Rep. Land in			Sour	Straw-			Sweet	
	1964	% '64	% of Total		Vineyards		Fruit Farms		Orch., Vine.		Apple ²	Cherry ²	berry	Grape ²	Peach ²	Cherry ²	Pear ²
			of '59	Sales	1964	% '64	1964	% '64	1964	% '64	Trees	Trees	Acres	Acres	Trees	Trees	Trees
	(thous.\$)		'64	'59	(hundreds)		of '59		of '59		1964	1964	1964	1964	1964	1964	1964
1. Berrien	18,018	117	61	56	428	101	1,141	95	1,847	79	530	578	2,006	690	767	48	369
2. Van Buren	11,820	133	55	51	246	109	606	111	767	86	351	315	1,254	675	227	24	146
3. Kent	4,984	153	24	20	145	111	186	94	385	86	457	78	79	2	76	12	55
4. Oceana	4,058	109	48	55	186	99	259	92	478	83	170	695	11	1	235	150	91
5. Gr. Traverse	4,016	120	61	64	137	101	260	92	390	82	84	711	27	0	9	264	34
6. Allegan	3,352	107	14	17	107	96	204	83	322	72	146	129	65	20	170	9	250
7. Leelanau	3,288	153	70	63	126	117	271	132	441	85	43	595	192	0	16	200	29
8. Ottawa	3,175	163	15	13	45	98	171	101	162	88	130	32	102	1	39	3	18
Total or Av. (8)	52,711	126	39	38	1,420	103	3,098	99	4,792	81	1,911	3,133	3,736	1,389	1,539	710	992
% of state	76				71		74		53		62	75	58	91	85	75	84
9. Manistee	2,483	179	67	54	62	151	131	103	202	102	85	201	482	1	18	44	5
10. Mason	1,569	118	30	31	60	105	96	105	186	82	73	183	156	0	26	66	60
11. Benzie	1,517	116	74	77	54	98	94	102	171	94	64	193	45	0	9	49	11
12. Muskegon	1,226	153	20	16	24	126	47	188	47	73	53	55	75	0	14	6	14
13. Ionia	997	128	6	6	28	93	41	100	85	71	80	16	43	0	8	1	3
14. Newaygo	953	118	12	12	26	104	29	64	77	59	59	53	11	0	17	5	9
15. Kalamazoo	918	122	8	7	24	80	80	107	131	69	38	16	19	93	9	1	3
16. Antrim	759	128	23	22	33	92	72	103	159	72	18	160	52	0	8	49	6
17. Cass	684	158	6	5	19	100	40	133	80	82	43	25	133	19	12	1	11
18. Macomb	642	110	5	5	21	88	30	83	144	62	66	1	42	1	15	1	8
19. Oakland	475	79	6	7	25	69	34	62	178	59	69	1	23	1	7	0	11
20. Montcalm	323	96	2	3	9	75	17	113	46	81	29	5	8	0	2	0	1
21. Alpena	313	94	10	14	2	50	40	114	60	38	4	1	527	0	0	0	1
22. Lapeer	298	99	2	2	11	92	15	100	67	68	27	1	13	0	9	1	3
23. Genesee	283	70	3	5	14	74	28	112	166	56	45	2	34	1	5	0	3
24. Jackson	274	113	2	2	16	100	18	113	86	56	35	12	13	0	4	0	1
25. Washtenaw	235	79	1	2	12	63	22	220	134	54	41	0	33	1	12	0	2
Total or Av. (17)	13,949	124	8	8	440	97	834	104	2,019	68	829	925	1,709	117	175	224	152
% 25 co. of state	92	(126)	(22)	(21)	93	(102)	94	(100)	76	(76)	89	97	85	99	95	99	97
State Total or Av.	69,493	123	9	9	1,990	99	4,181	101	8,999	69	3,081	4,178	6,413	1,525	1,802	948	1,178

¹ Rank in 1964 Field Crop Sales² All ages.³ No. vines divided by 500.⁴ Figures in parenthesis are averages for the 25 counties for the respective columns.

7. Vegetables

Vegetable sales of \$26 million in 1964 were about 3.5% of total farm product sales. The top eight counties produced 50%. Six of these eight were in southwest Michigan, ranging from Berrien county north to Newaygo, with Monroe and Macomb in southeast Michigan completing the top eight (Fig. 61). Ten other less important counties, but each producing at least half a million dollars of vegetables, were widely scattered over the lower half of the Lower Peninsula.

Sales of vegetables in 1964 were about \$6 million, or 30% higher than in 1959. Ottawa and Kent counties showed the greatest increase in sales with Newaygo, Oceana, Muskegon, and Van Buren all in the same general area, showing marked increases (Fig. 62). Calhoun and Sanilac counties also were in the top eight in increase. The increase in sales in these eight counties accounted for 62% of the state's total increase in vegetable sales. Smaller increases also occurred in many other southern Michigan counties. Decreases in vegetable sales took place in over 20 widely scattered counties.

The 102,000 acres of vegetables in 1964 were 6% less than 5 years earlier (Table 7). The number of specialized farms in 1964 was about the same as in 1959, but the total number of farms reporting land in vegetables declined over 30%.

From an acreage point of view, cucumbers and pickles were highest with about 24,000 acres followed by sweet corn with 11,000, asparagus about the same, tomatoes nearly 9,000, onions over 8,000 and carrots 4,000. Comparing 1964 and 1959 acreages: cucumbers and pickles increased about 1,000, sweet corn decreased about 3,000, asparagus changed but little, tomatoes decreased over 5,000, onions decreased about 1,000, and carrots increased nearly 600 acres.

Table 7 *VEGETABLE SALES, ACREAGES, AND NUMBER OF FARMS, BY COUNTIES, MICHIGAN, 1959 AND 1964

County, and its rank*	Vegetable Sales				Acres of Vegetables		No. Spec. Veg. Farms		No. Farms Rep. Land in Veg.		Acreages in 1964					
											Onions (Dry)	Cucumbers & Pickles	To- matoes	Sweet Corn	Asparagus	Carrots
	1964	% '64 of '59	% of Total Sales	% of '64 of '59	1964 % '64 of '59	1964 % '64 of '59	1964 % '64 of '59	1964 % '64 of '59	1964 % '64 of '59	1964 % '64 of '59						
	(thous.\$)		'64	'59	(hundreds)									(actual)		
1. Berrien	1,920	95	7	7	70	66	66	94	901	67	10	202	2,993	315	2,654	1
2. Monroe	1,764	115	9	9	56	81	79	176	207	62	23	140	2,446	991	13	1
3. Ottawa	1,695	175	8	6	40	111	117	111	276	75	911	1,083	79	375	101	9
4. Kent	1,675	166	8	6	34	110	60	73	179	68	502	487	52	377	43	697
5. Macomb	1,596	112	12	13	57	93	198	83	382	80	11	167	358	895	29	24
6. Van Buren	1,512	136	7	6	67	93	94	145	788	79	38	1,143	460	158	3,759	2
7. Newaygo	1,419	156	18	14	42	108	62	89	133	69	1,603	247	2	19	125	1,438
8. Allegan	1,361	118	6	6	36	80	58	95	211	60	852	936	96	224	399	15
Total or Av. (8)	12,942	128	8	8	402	88	734	99	3,077	71	3,950	4,405	6,486	3,354	7,123	2,187
% of state	50				40		55		48		47	18	73	30	68	54
9. Lapeer	968	136	6	5	20	83	34	213	80	65	301	24	15	137	13	1,007
10. Muskegon	961	159	15	12	19	106	34	94	77	68	223	1,069	8	25	108	72
11. Jackson	949	140	7	5	20	83	13	81	61	54	676	148	98	276	101	8
12. St. Clair	747	97	5	6	28	70	41	89	90	69	0	458	35	681	12	92
13. Oceana	716	265	8	4	29	116	47	470	256	88	15	746	5	36	1,826	1
14. Wayne	668	129	11	9	32	78	57	163	146	64	17	54	280	2,014	47	7
15. Bay	668	117	4	5	43	86	54	83	270	70	62	2,392	256	309	5	7
16. Calhoun	622	216	4	2	16	94	14	127	55	74	688	632	12	110	2	0
17. Ingham	550	171	4	2	13	87	12	80	46	59	538	124	9	71	15	39
18. Sanilac	535	232	2	1	68	213	23	230	248	142	1	3,475	2	28	0	1
19. Eaton	460	159	3	2	25	192	16	160	61	86	440	161	43	34	18	1
20. Saginaw	454	117	2	2	33	85	26	87	184	60	10	1,204	76	651	13	1
21. Ionia	445	171	3	2	17	94	18	120	73	77	443	325	39	31	68	4
22. Montcalm	389	114	2	3	23	61	16	145	94	54	173	1,630	1	11	2	0
23. Lenawee	377	52	1	3	13	52	11	22	105	65	9	7	871	124	2	1
24. Washtenaw	280	153	2	1	20	111	17	170	67	71	8	50	75	1,456	16	3
25. Cass	266	179	3	2	12	120	13	87	84	75	0	61	129	113	646	77
Total or Av. (17)	10,055	138	4	3	431	96	446	111	1,997	73	3,604	12,560	1,954	6,107	2,894	1,321
% 25 co. of state**	89	(132)	(6)	(5)	82	(92)	88	(104)	80	(72)	90	70	96	85	95	87
State Total	25,928	130	3	3	1,021	94	1,335	102	6,370	68	8,406	24,318	8,833	11,163	10,529	4,016

* Rank in 1964 Field Crop Sales

** Figures in parenthesis are averages for the 25 counties for the respective columns.

FIGURE 61. VEGETABLE SALES (MILLION DOLLARS) BY COUNTIES, MICHIGAN, 1964

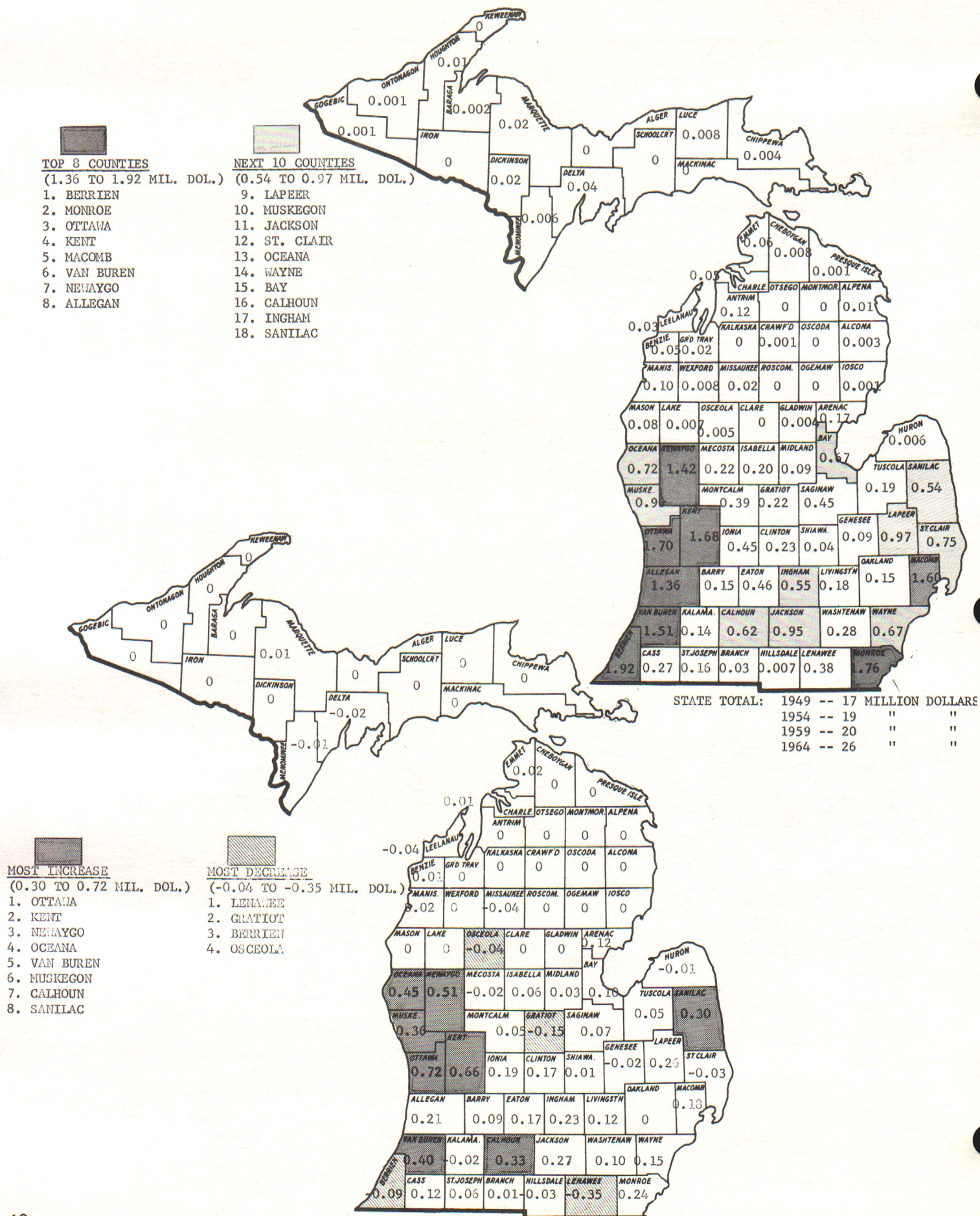


FIGURE 62. CHANGE IN VEGETABLE SALES (MILLION DOLLARS) BY COUNTIES, MICHIGAN, 1959 TO 1964

8. Nursery and Greenhouse Products

Nursery and greenhouse product sales of about \$27 million in 1964 accounted for 3.5% of total farm product sales. The top eight counties were largely in and around metropolitan areas (Fig. 63). These eight counties produced 65% of the total nursery and greenhouse product sales. Leading counties were Macomb, Wayne, Berrien, Kalamazoo, Oakland, Ottawa, Kent, and Monroe.

Total state sales in 1964 were 17% higher than in 1959 (Fig. 64). Kalamazoo and Ottawa counties were outstanding in increased sales of nursery and greenhouse products from 1959 to 1964. Many counties showed small decreases.

Sales of nursery products amounted to around \$8 million in 1964 (Fig. 65). This was 22% more than in 1959. Berrien and Ottawa counties led in the sales of nursery products with over one million dollars each.

Cut flower sales amounted to about \$14 million in 1964, which was 13% over 1959. Leading counties were Wayne and Macomb (Fig. 66).

Sales of vegetables grown under glass came to around \$5 million in 1964, or 13% over 1959. Berrien and Macomb led in these sales (Fig. 67).

Table 8 -- NURSERY AND GREENHOUSE PRODUCT SALES, NUMBER OF FARMS, AND TOP COUNTIES, MICHIGAN, 1959 & 1964

County, and its rank*	Sales		Farms Reporting		Acres	
	1964	% '64 of '59	1964	Change '59 - '64	1964	Change '59 - '64
	(thous.\$)					
A. Nursery Products						
1. Berrien	1,062	106	98	-3	1,009	76
2. Ottawa	1,003	352	57	2	676	331
3. Monroe	718	64	36	8	744	-422
4. Wayne	518	128	90	35	402	7
5. Kent	426	181	61	11	412	89
6. Van Buren	399	153	25	-9	343	81
7. Oakland	353	192	83	10	364	-33
8. Macomb	342	86	76	19	312	-258
9. Kalamazoo	327	128	21	-3	253	-69
10. Ingham	292	66	16	-2	207	-161
Total Top 10	5,440	118	563	68	4,722	-359
State Total	7,976	122	1,042	130	6,940	-1,104

B. Cut Flowers, Potted Plants, etc.

County, and its rank*	Sales		Grown Under Glass				Grown in the Open			
	1964	% '64 of '59	Farms Reporting		Square Feet		Farms Reporting		Acres	
	(thous.\$)		1964	Change '59 - '64	1964	Change '59 - '64	1964	Change '59 - '64	1964	Change '59 - '64
1. Wayne	2,062	112	65	-23	931	-34	28	-2	34	-18
2. Macomb	1,902	95	60	-7	1,326	-45	59	-25	105	-30
3. Kalamazoo	1,463	157	51	-11	1,504	851	14	-13	32	-13
4. Oakland	1,213	86	47	-3	700	-50	28	3	28	-1
5. Kent	808	103	39	-1	509	-19	21	-7	44	-8
6. Washtenaw	555	142	26	1	298	46	13	4	40	-3
7. Ottawa	440	96	50	14	287	110	27	-14	148	-108
8. Muskegon	435	191	26	2	197	-21	16	4	73	59
9. Monroe	389	188	23	-6	309	112	15	-4	39	-11
10. Calhoun	383	89	14	-8	372	149	5	-4	2	-2
Total Top 10	9,650	111	401	-58	6,433	1,099	226	-58	545	-135
State Total	13,867	113	791	-70	9,079	1,398	465	-152	1,624	10

C. Vegetables

1. Berrien	1,232	58	13	-9	1,545	282	27	1	326	22
2. Macomb	1,006	160	45	7	603	165	15	5	14	-26
3. Oakland	674	288	23	6	448	189	10	-1	13	-3
4. Kalamazoo	643	643	17	5	91	71	9	3	334	227
5. Kent	277	50	20	-16	399	-423	4	-6	27	-35
6. Ottawa	204	105	24	-8	136	-14	17	5	156	-111
7. Van Buren	143	127	8	-2	15	-4	9	-1	180	-21
8. Wayne	123	103	23	-5	74	-43	9	0	9	-1
9. St. Joseph	113	235	2	1	2	-8	3	-1	246	24
10. Monroe	112	386	15	-3	152	106	6	4	19	14
Total Top 10	4,527	375	190	-24	3,465	321	109	9	1,324	90
State Total	5,107	113	518	-79	4,022	444	187	4	1,684	92

* Rank in 1964 sales.

FIGURE 63. NURSERY AND GREENHOUSE SALES (MILLION DOLLARS) BY COUNTIES, MICHIGAN, 1964

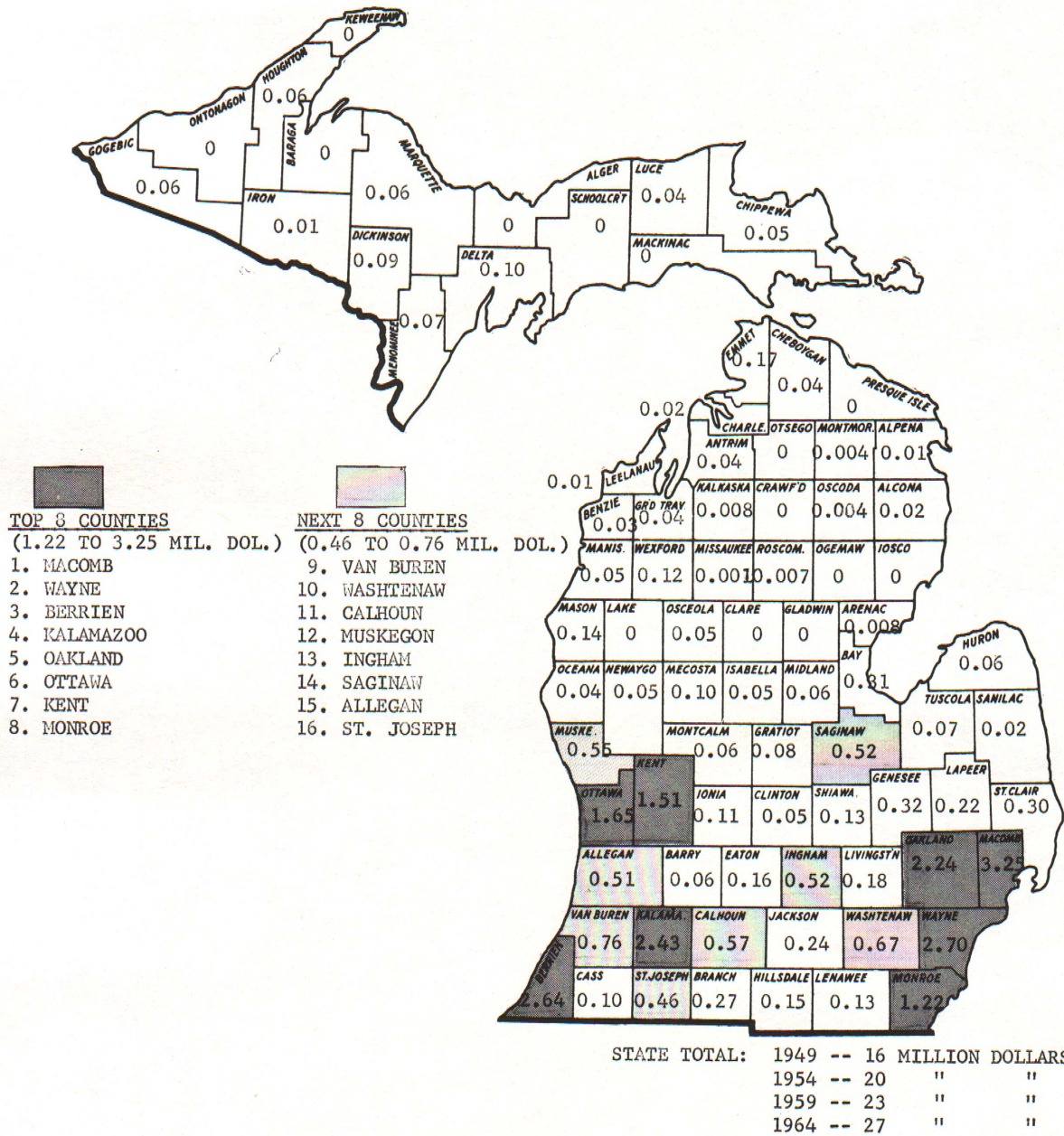
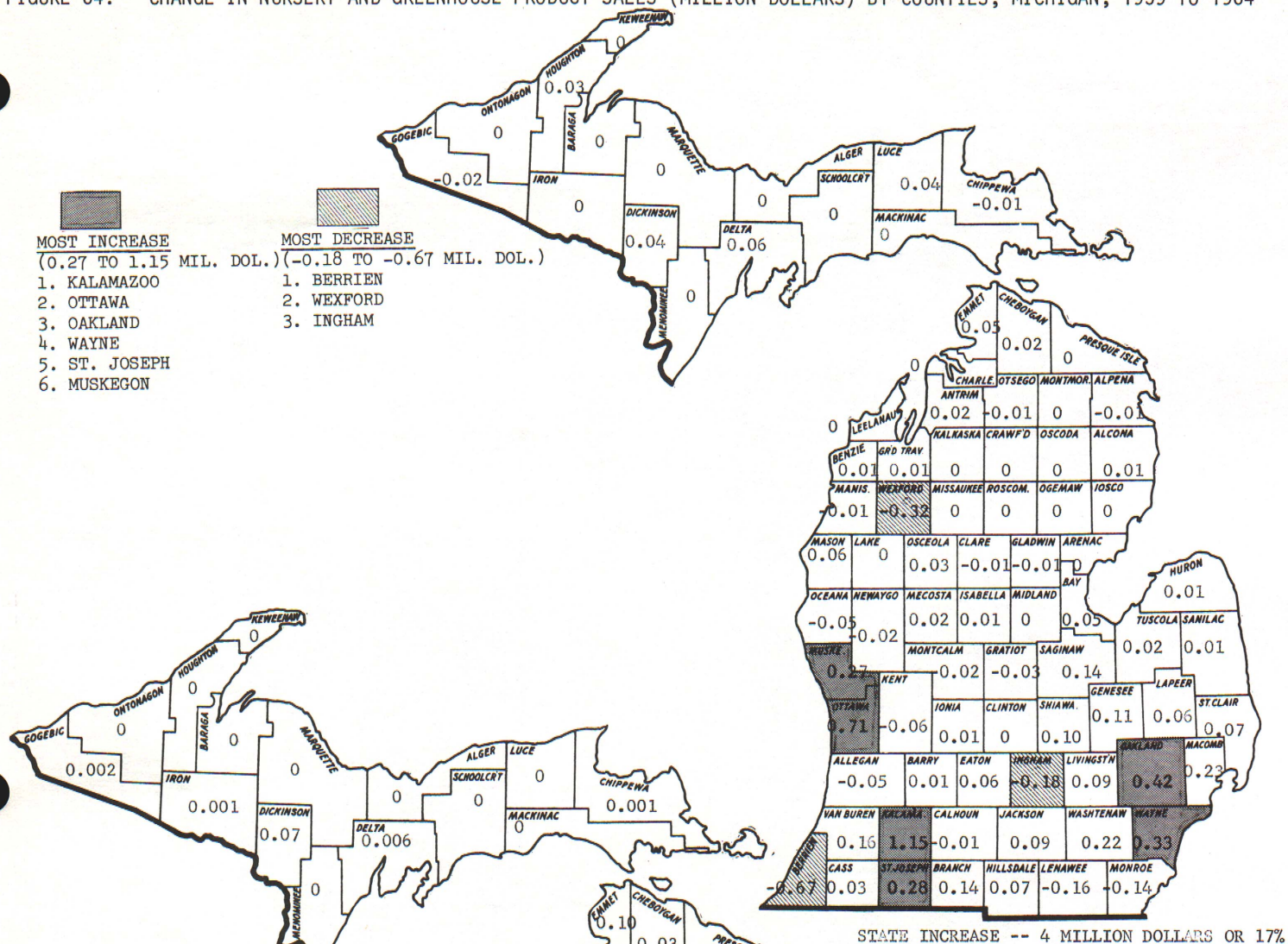


FIGURE 64. CHANGE IN NURSERY AND GREENHOUSE PRODUCT SALES (MILLION DOLLARS) BY COUNTIES, MICHIGAN, 1959 TO 1964



- TOP 10 COUNTIES**
(0.29 TO 1.06 MIL. DOL.)
1. BERRIEN
 2. OTTAWA
 3. MONROE
 4. WAYNE
 5. KENT
 6. VAN BUREN
 7. OAKLAND
 8. MACOMB
 9. KALAMAZOO
 10. INGHAM

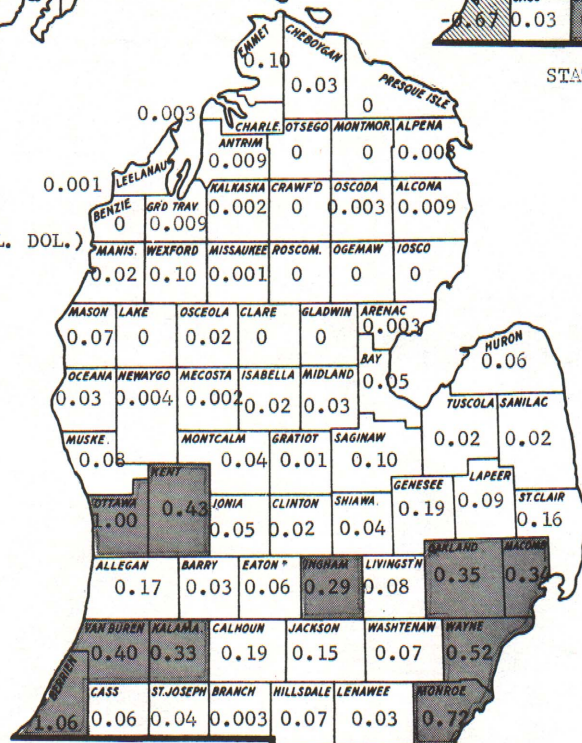
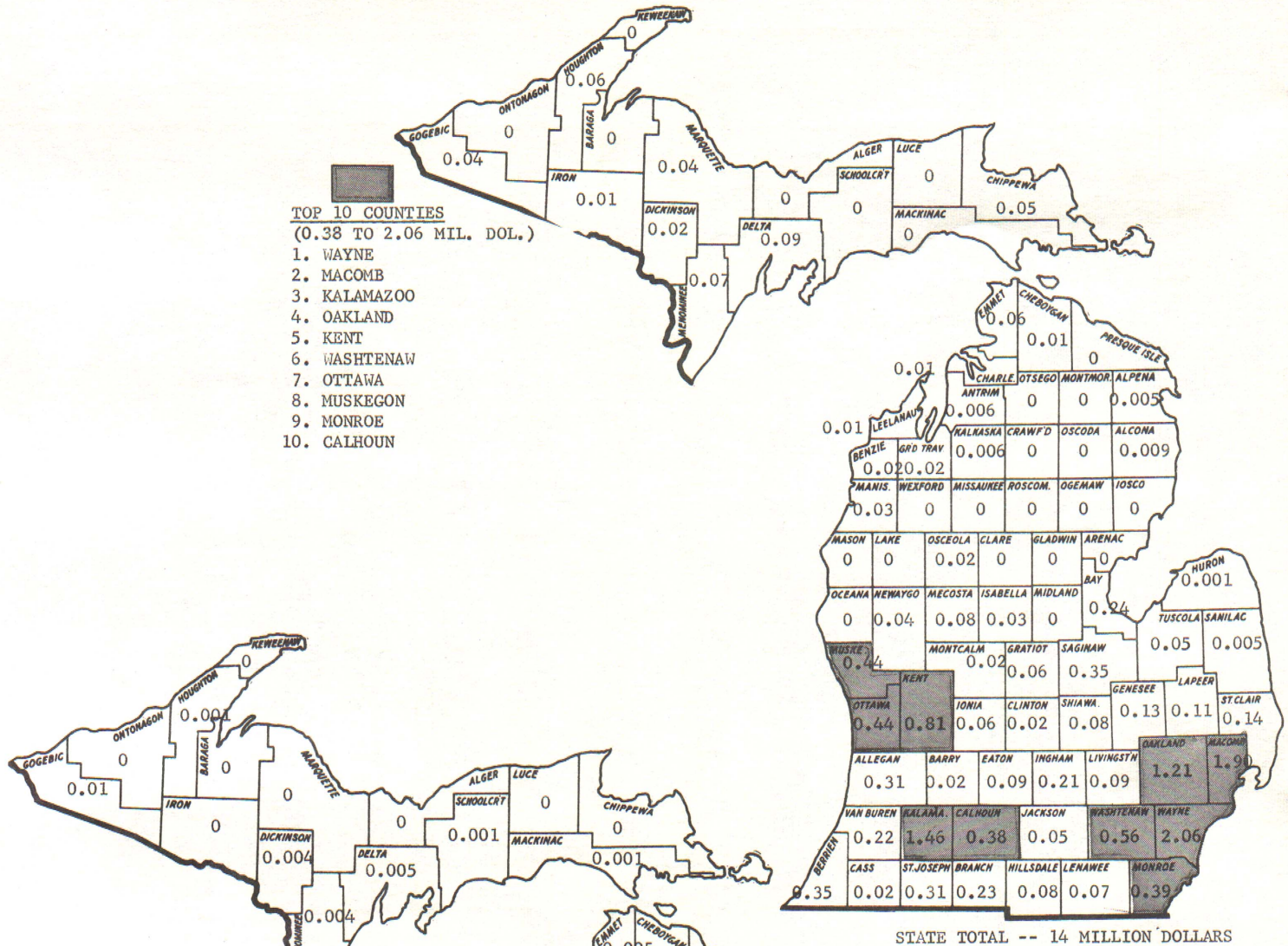


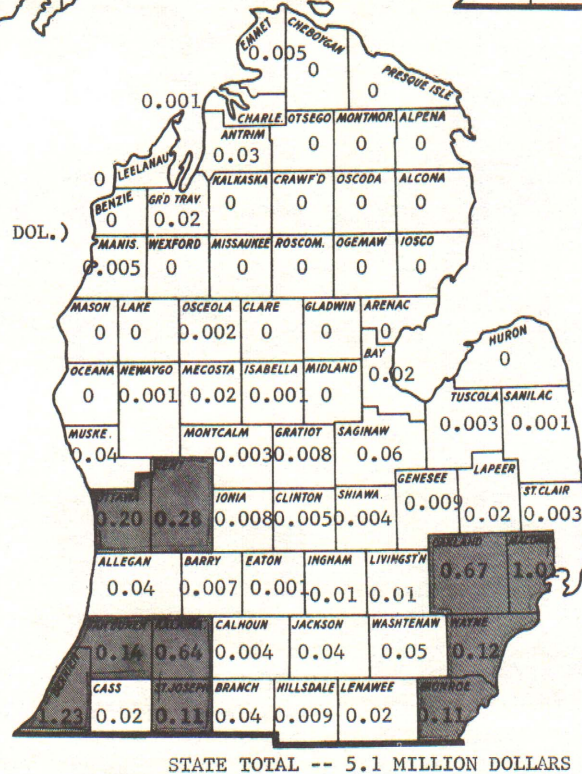
FIGURE 65. NURSERY PRODUCT* SALES (MILLION DOLLARS) BY COUNTIES, MICHIGAN, 1964

* TREES, SHRUBS, VINES, ORNAMENTALS, ETC.

FIGURE 66. CUT FLOWERS, POTTED PLANTS, ETC. SALES (MILLION DOLLARS) BY COUNTIES, MICHIGAN, 1964



- TOP 10 COUNTIES**
(0.11 TO 1.23 MIL. DOL.)
1. BERRIEN
 2. MACOMB
 3. OAKLAND
 4. KALAMAZOO
 5. KENT
 6. OTTAWA
 7. VAN BUREN
 8. WAYNE
 9. ST. JOSEPH
 10. MONROE



9. Forest Products

Forest product sales in 1964 amounted to \$5.2 million or 0.7% of total farm product sales. This included sales of firewood, pulpwood, fence posts, sawlogs, veneer logs, and Christmas trees as one group, which accounted for slightly more than \$3 million. Standing timber sales were reported at about \$1.5 million with about \$700,000 from miscellaneous forest products.

The top 11 counties in forest product sales, all with \$100,000 or more, sold about \$1.7 million of forest products or 28% of the state's total. This was the lowest percentage or least concentration of any of the eight product groups discussed in this section. The top county was Menominee in the Upper Peninsula (Fig. 68). Delta County, adjacent to it, also ranked seventh in the top group. Most of the rest of the high counties were on the western side of the state.

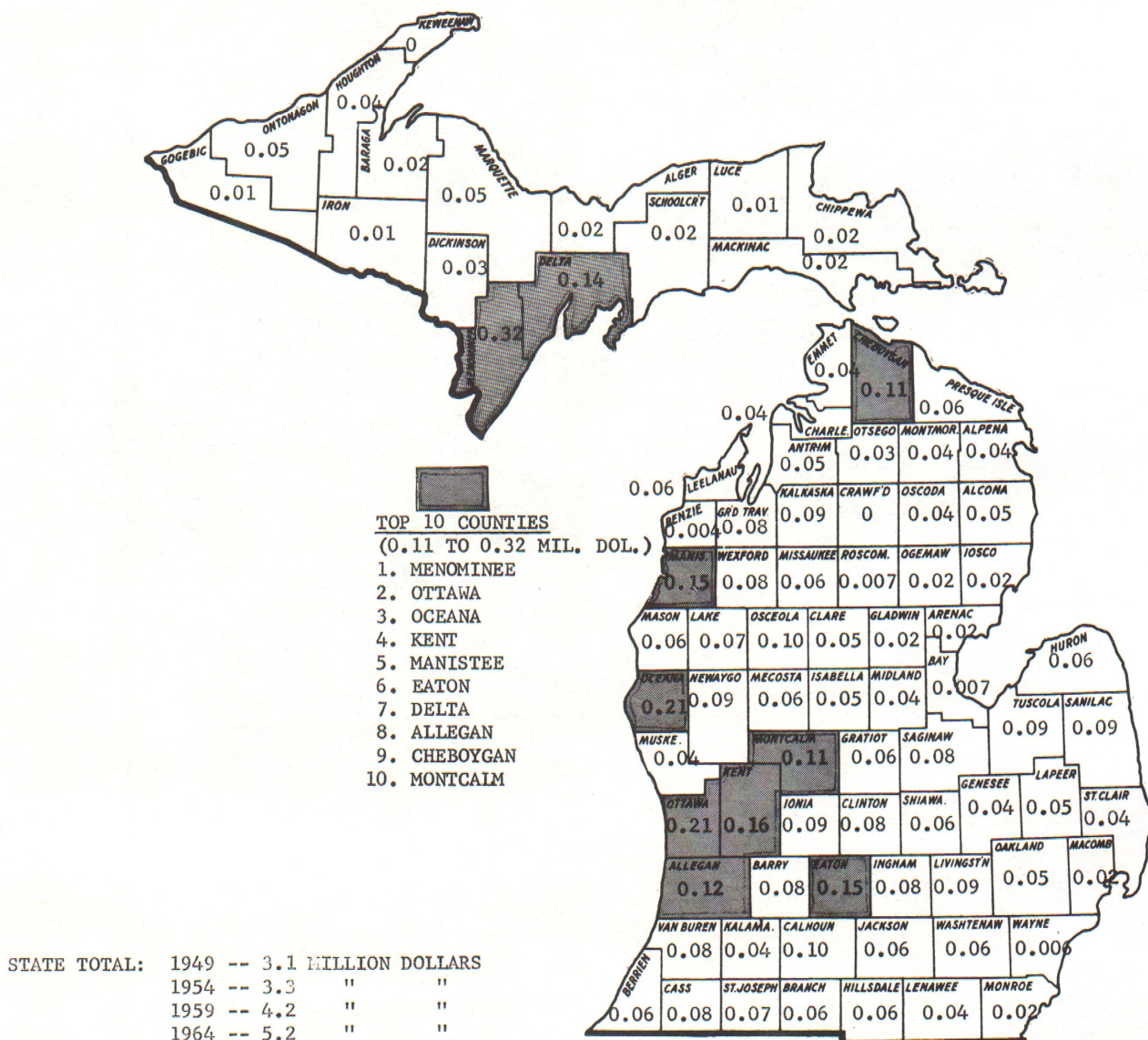
Total sales were up approximately 1 million dollars from 1959 to 1964, or 24%. The group including pulpwood, etc., as enumerated earlier, increased some \$750,000 or 32%. Sales of miscellaneous forest products increased about \$300,000, while sales of standing timber showed a slight decrease.

Looking at the increase in sales from a county point of view, Ottawa with an increase of \$114,000 (selling twice as many Christmas trees) topped the list, with Cheboygan, at \$93,000, being second (Fig. 69). Most of the balance of the nine counties showing the greatest increase were widely scattered.

A total of 5,782 farmers reported sales of forest products in 1964, which was 15% more than 5 years earlier (Table 9). Twenty percent of these were in the top eight counties and about one half in the top 25. Average forest product sales per farm reporting was about \$900, which was slightly higher than for 1959.

Christmas tree sales are important in Michigan, with the Census reporting sales of nearly 1.2 million trees in 1964. This was about 380,000 more than 5 years earlier. Ottawa County had more sales than any other county, with nearly 200,000 trees sold in 1964, which was double the 1959 sales. Other important counties in Christmas tree sales in 1964 were Allegan, with nearly 90,000, Oceana, and Kalkaska with about 80,000.

FIGURE 68. FOREST PRODUCT SALES (MILLION DOLLARS) BY COUNTIES, MICHIGAN, 1964



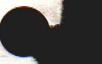


Table 9 -- FOREST PRODUCT SALES AND NUMBER FARMS REPORTING BY COUNTIES, MICHIGAN, 1959 AND 1964

County, and its rank*	Forest Product Sales				No. Farms Reporting		Forest Product Sales		No. Xmas	
	1964	% '64 of '59	% of Total		Forest Product Sales		Farm Reporting Such		Trees Sold	
			Sales		1964	% '64 of '59	1964	% '64 of '59	1964	% '64 of '59
			'64	'59						
	(thous.\$)								(hundreds)	
1. Menominee	322	98	6	8	301	93	\$1,070	105	111	105
2. Ottawa	211	218	1	1	120	132	1,758	165	1,992	218
3. Oceana	210	157	2	2	96	104	2,188	150	788	191
4. Kent	157	159	1	1	158	144	994	110	410	130
5. Manistee	153	255	4	2	66	110	2,318	232	88	220
6. Eaton	146	166	1	1	186	270	785	62	50	625
7. Delta	142	110	4	5	120	98	1,183	112	60	83
8. Allegan	118	124	0	1	109	111	1,083	112	867	151
Total or Av. (8)	1,459	142	1	1	1,156	120	1,262	118	4,366	179
% of state	28				20		139		37	
9. Cheboygan	114	543	9	1	55	138	2,073	395	180	316
10. Montcalm	110	153	1	1	118	110	932	139	300	124
11. Osceola	98	188	2	1	111	142	883	132	363	789
12. Calhoun	95	170	1	0	106	102	896	166	199	108
13. Ionia	93	55	1	1	132	126	705	44	138	10
14. Livingston	93	131	1	1	86	130	1,081	101	129	300
15. Kalkaska	91	650	9	2	35	140	2,600	464	779	1,256
16. Tuscola	88	210	0	0	126	154	698	136	231	1,100
17. Sanilac	87	300	0	0	97	183	897	164	133	1,478
18. Newaygo	87	242	1	1	91	130	956	186	175	921
19. Gr. Traverse	85	198	1	1	84	187	1,012	106	298	166
20. Barry	83	157	1	1	141	162	589	97	100	3,333
21. Wexford	83	437	7	1	47	127	1,766	344	204	551
22. Ingham	82	112	1	0	108	142	759	79	33	138
23. Cass	81	165	1	1	100	161	810	102	52	51
24. Van Buren	80	74	0	1	118	99	678	75	218	99
25. Clinton	80	114	0	0	94	116	851	98	20	54
Total or Av. (17)	1,530	157	1	1	1,649	133	928	118	3,552	134
% Top 25 of state**	57	(149)	(1)	(1)	49	(127)	(1,066)	(118)	68	
State Total or Av.	5,236	124	1	1	5,782	115	905	108	11,675	150
26. Saginaw	79	176	0	0	136	145	581	121	120	214
27. St. Joseph	72	212	1	0	92	151	783	140	50	26
28. Lake	69	197	12	6	23	62	3,000	317	14	
29. Hillsdale	64	114	0	0	119	143	538	80	54	300
30. Missaukee	63	162	1	1	69	111	913	145	377	227
31. Presque Isle	63	86	2	3	104	116	606	75	29	64
32. Huron	62	230	0	0	47	90	1,319	254	24	400
33. Mason	61	82	1	2	53	69	1,151	120	379	222
34. Gratiot	60	146	0	0	80	178	750	82	39	975
35. Branch	59	184	1	0	82	132	720	139	35	318
36. Shiawassee	59	155	0	0	97	202	608	77	48	40
37. Jackson	58	141	0	0	87	84	667	167	85	137
38. Washtenaw	57	112	0	0	84	101	679	110	18	120
39. Mecosta	57	112	1	1	58	87	983	129	99	450
40. Berrien	56	106	0	0	116	123	483	86	49	43
41. Leelanau	56	144	1	1	52	104	1,077	138	1	100
42. Antrim	54	150	2	1	58	89	931	168	249	224
43. Alcona	53	106	4	4	51	69	1,039	154	168	126
44. Lapeer	52	46	0	1	80	118	650	39	37	19
45. Clare	51	38	2	5	61	130	836	29	56	255
46. Oakland	50	98	1	1	54	108	926	91	153	60
47. Benzie	49	288	2	1	41	158	1,195	183	66	228
48. Ontonagon	49	73	6	8	52	85	942	86	12	75
49. Marquette	48	53	6	10	39	61	1,231	88	22	59
50. Isabella	45	74	0	1	68	101	662	73	59	120
51. St. Clair	44	83	0	0	80	114	550	73	71	151
52. Genesee	43	77	0	1	58	85	741	90	82	100
53. Montmorency	41	128	4	4	32	78	1,281	164	18	23
54. Kalamazoo	40	143	0	0	60	94	667	152	163	220

* Rank in 1964 Forest Product Sales

** Figures in parenthesis are averages for the 25 counties for the respective columns.

Table 9 -- (continued)

County, and its rank*	Forest Product Sales				No. Farms Reporting		Forest Product Sales		No. Xmas	
	1964	% '64 of '59	% of Total		Forest Product Sales		Farm Reporting Such		Trees Sold	
			Sales		1964	% '64 of '59	1964	% '64 of '59	1964	% '64 of '59
			'64	'59						
	(thous.\$)								(hundreds)	
55. Alpena	40	53	1	3	72	69	556	77	49	67
56. Emmet	40	154	2	2	61	127	656	121	281	390
57. Oscoda	40	143	4	3	38	158	1,053	90	19	
58. Houghton	40	59	2	3	59	77	678	77	2	50
59. Charlevoix	38	109	2	2	40	100	950	109	4	11
60. Midland	37	925	1	0	46	383	804	241	40	2,000
61. Lenawee	35	74	0	0	76	149	461	50	23	177
62. Muskegon	35	146	1	0	31	72	1,129	202	323	159
63. Dickinson	28	61	2	4	33	77	848	79	5	71
64. Otsego	26	118	2	3	41	121	634	98	80	123
65. Ogemaw	24	114	1	1	45	118	533	97	103	936
66. Baraga	23	77	4	5	37	97	622	79	1	100
67. Schoolcraft	23	153	11	5	18	78	1,278	196	4	133
68. Gladwin	22	129	1	1	47	174	468	74	45	4,500
69. Alger	20	48	3	5	33	54	606	88	4	29
70. Iosco	18	78	1	2	27	113	667	70	17	850
71. Macomb	17	113	0	0	30	130	567	87	41	373
72. Arenac	17	170	0	0	25	96	680	177	73	7,300
73. Chippewa	17	113	1	1	34	121	500	93	7	70
74. Mackinac	16	94	3	3	14	67	1,143	141	2	25
75. Monroe	15	68	0	0	38	55	395	124	14	140
76. Gogebic	14	100	3	3	14	108	1,000	93	0	0
77. Iron	14	61	2	2	34	103	412	59	2	
78. Luce	11	122	3	4	9	113	1,222	109	0	
79. Bay	7	54	0	0	20	154	350	35	8	800
80. Roscommon	7	70	5	11	4	40	1,750	175	11	50
81. Wayne	6	100	0	0	16	89	375	113	16	178
82. Crawford	0	0	0	12	2	50	0	0	1	
83. Keweenaw	0	0	0	0	0	0	0	0	0	0

IV. OTHER INFORMATION

1. Number of Farms

A. Total Number

In considering the total number of farms in the state, it is well to keep clearly in mind the definition of a farm which was used in the Census enumeration (See footnote). 1/

According to this definition, Michigan had 93,504 farms in the 1964 census. The eight counties having the largest number of farms were located in the Thumb, southwestern Michigan and Lenawee County. (Some counties ranked high in number of farms because of their size, as was true in several preceding cases.) The top eight counties had 24% of all the farms in the state (Fig.70). The top 25 counties, all located in the southern half of the Lower Peninsula, had 61% of all the farms. If one includes the 41 counties from Bay west to Oceana and south to the border, these counties had 77,505 farms or 83% of the state's total.

From 1959 to 1964 the total number of farms in the state declined from 111,807 to 93,504--a decrease of 18,303 or a decline of 16% (Fig. 71). Berrien county, with a decline of nearly 800 farms, lost more individual farm units than any other county. Allegan, Van Buren and Kent, in that same area, were in the top 10 in actual number decrease. Saginaw, Genesee, St. Clair, Sanilac, Huron and Monroe counties were also in the top 10 in decrease. Six of these counties were in the top 10 having the largest number of farms, so might be expected to have a large decline in actual number. Urbanization in some of the counties probably was a factor. The farms in these 10 counties in 1959 averaged a fourth smaller than the state average, and there might have been more effort put forth by the farmers to enlarge their farms by purchasing others, thereby reducing the total number.

Looking at the decrease in farm numbers from the point of view of percentage decline from 1959 to 1964 gives quite a different picture (Fig. 72). In this case, Marquette county in the Upper Peninsula topped the list with a 41% decrease. Four other Upper Peninsula counties, five in northern Michigan and Oakland made up the rest of the top 11--all having 28% or more decrease. These reductions in number of farms appear to mainly reflect either (a) the absorption of small farms by larger units, or (b) urbanization.

1/ Definition of a farm--"Places of less than 10 acres were counted as farms if the estimated sales of agricultural products for the year amounted, or normally would amount, to at least \$250. Places of 10 or more acres were counted as farms if the estimated sales or agricultural products for the year amounted to, or normally would amount, to at least \$50."

FIGURE 70. TOTAL NUMBER OF FARMS BY COUNTIES, MICHIGAN, 1964

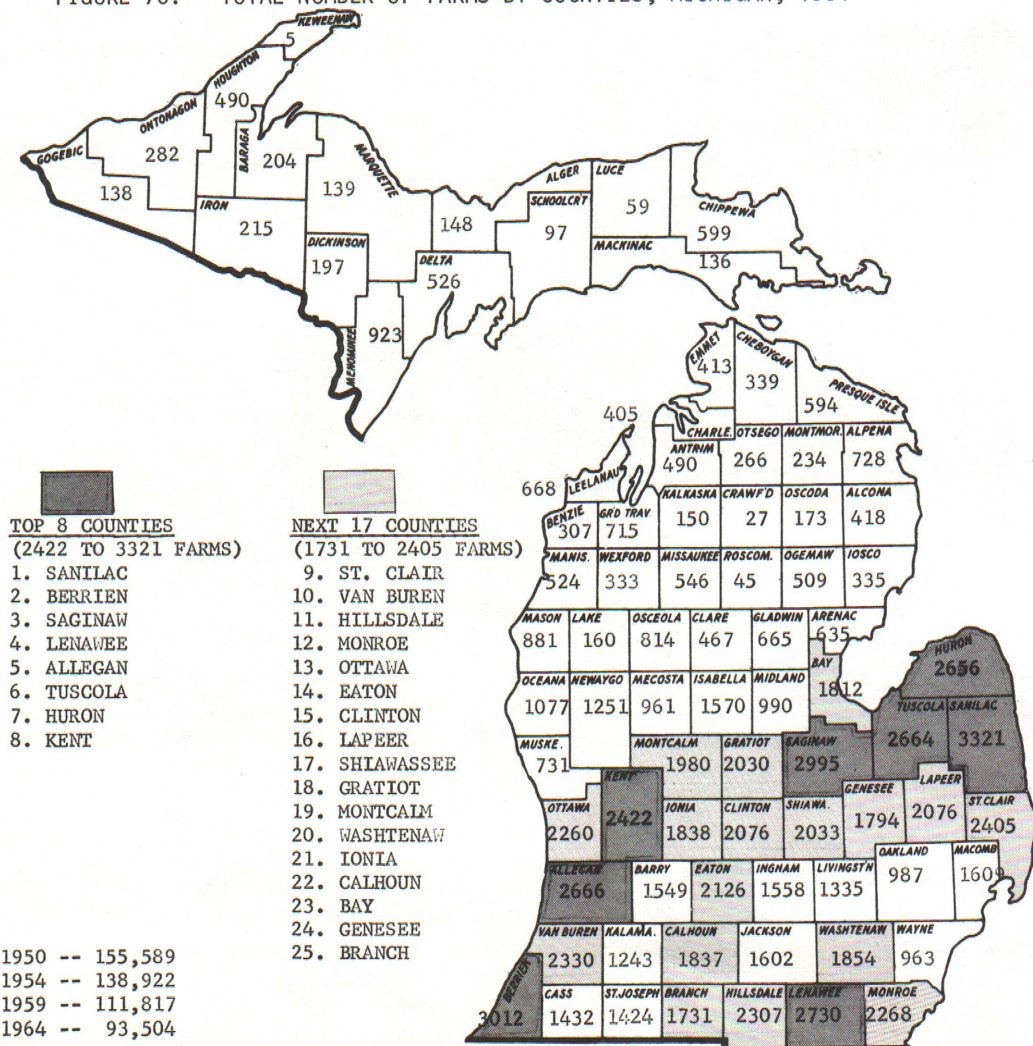
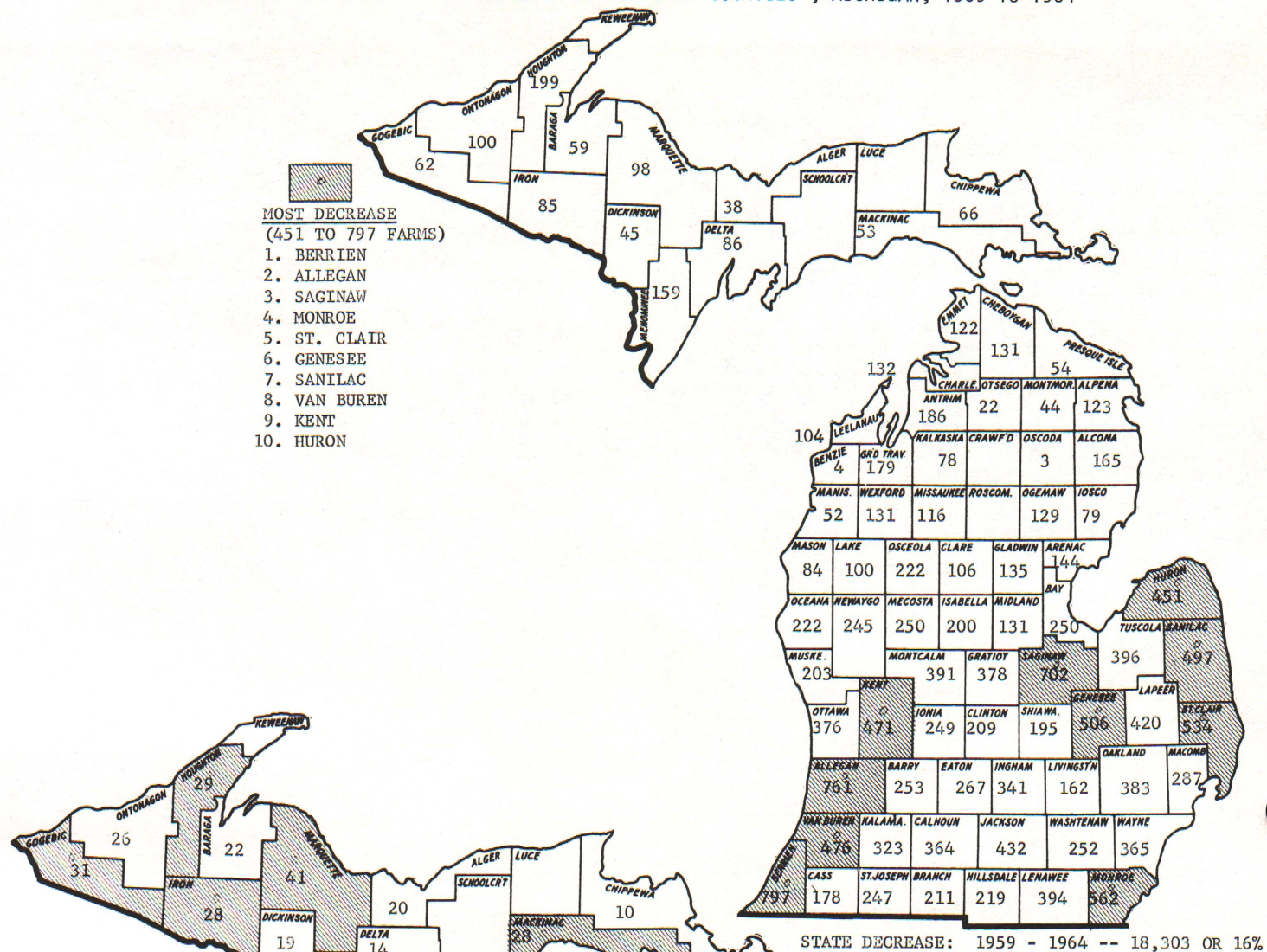
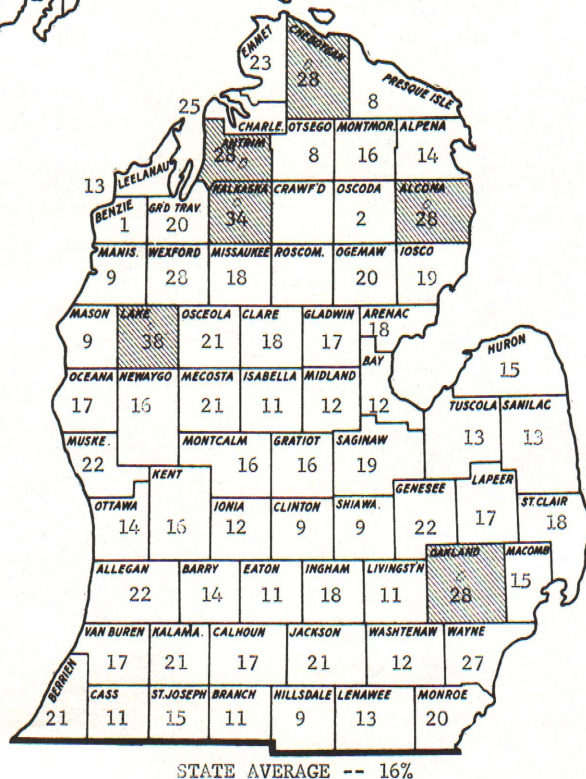


FIGURE 71. DECREASE IN TOTAL NUMBER OF FARMS BY COUNTIES*, MICHIGAN, 1959 TO 1964



* 5 COUNTIES WITH UNDER 100 FARMS OMITTED.

FIGURE 72. PERCENT DECREASE IN NUMBER OF FARMS, BY COUNTIES*, MICHIGAN, 1959 TO 1964



B. High Income Farms

Farms are classified in the Census reports according to their farm product sales and, as would be expected, sales per farm varied widely. Farms with sales of \$20,000 or more (Economic Classes I and II) numbered about 9,400, or 10% of all farms in 1964. It is estimated that this group accounted for 45 to 50% of farm product sales from all farms.

The top eight counties had from 500 to 289 such farms (Fig. 73). Huron county had the most. Five of these eight counties were in the Thumb and Saginaw Valley, with the other three being Lenawee, Berrien, and Allegan. Approximately one-third of all farms of this income level in the state were in these eight counties. A few counties had less than 10 such farms.

The percentage of all farms with \$20,000 sales or more in the various counties ranged from 19% in Huron county to zero (Fig. 74). The top eight counties all had 14% or more in this category. These eight were Huron, Tuscola, Bay, and Saginaw; Ingham, Washtenaw, and Lenawee; and Grand Traverse.

From 1959 to 1964 the number of farms with this level of sales increased from 4,906 to 9,436, or a 92% increase. Sanilac and Huron counties each had an increase of slightly over 300 such farms; Gratiot about 200, and 17 other counties from 100 to 199 (Fig. 75). These 20 counties were largely in an area extending from the Thumb to Allegan and Ottawa counties. During this five years, the number with sales of \$40,000 or more, increased from 1,068 to 2,413--an increase of 126%

FIGURE 73. NUMBER OF FARMS WITH SALES OF \$20,000 OR MORE, BY COUNTIES, MICHIGAN, 1964

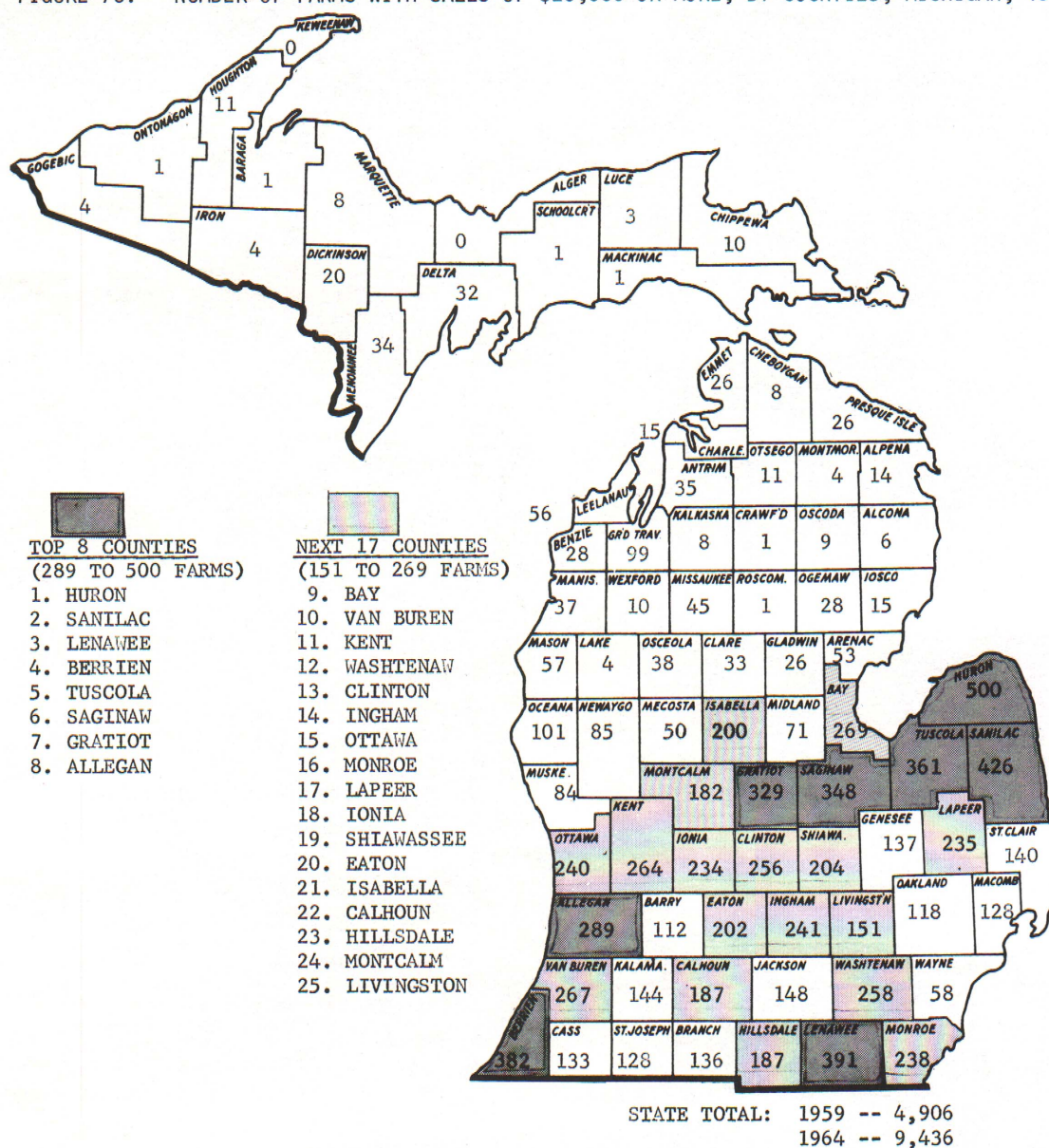
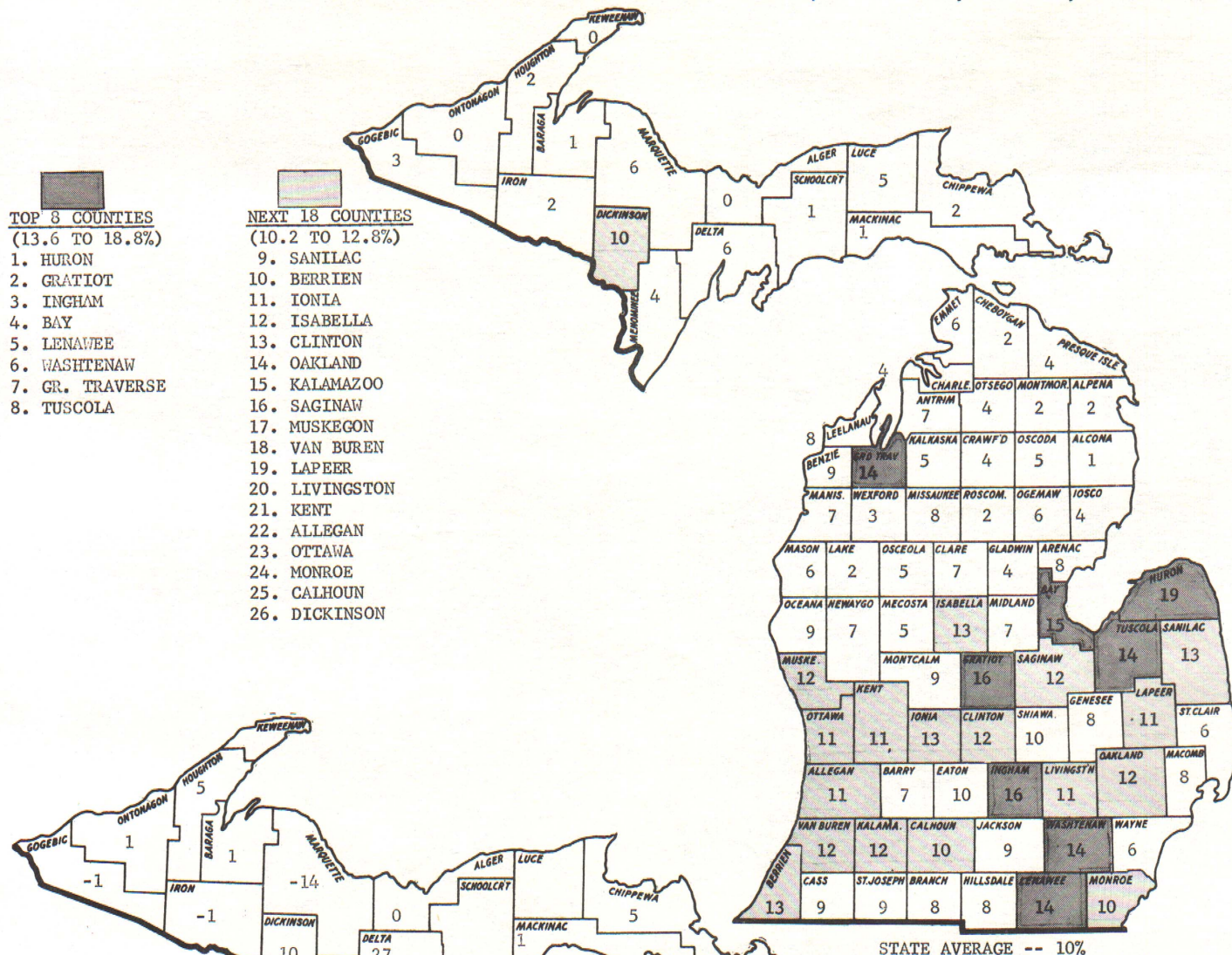


FIGURE 74. FARMS WITH SALES OF \$20,000 OR MORE AS A PERCENTAGE OF ALL, BY COUNTIES, MICHIGAN, 1964



- MOST INCREASE**
(100 TO 303 FARMS)
1. SANILAC
 2. HURON
 3. GRATIOT
 4. CLINTON
 5. BAY
 6. SAGINAW
 7. WASHTENAW
 8. ALLEGAN
 9. OTTAWA
 10. EATON
 11. ISABELLA
 12. TUSCOLA
 13. LENAWEE
 14. SHIAWASSEE
 15. KENT
 16. MONROE
 17. LAPEER
 18. IONIA
 19. HILLSDALE
 20. MONTCALM

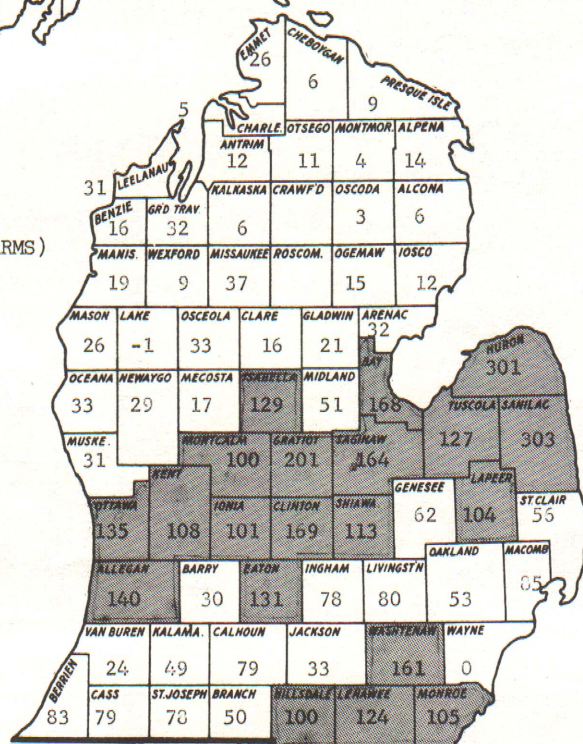


FIGURE 75. CHANGE IN NUMBER OF FARMS WITH SALES OF \$20,000 OR MORE, BY COUNTIES*, MICHIGAN, 1959 TO 1964
* 5 COUNTIES WITH UNDER 100 FARMS OMITTED.

C. Medium Income Farms

Farms with sales of \$10,000 to \$19,999 (Economic Class III) are called medium-income farms, even though many would not rate them that high. In the 1964 Census there were 13,374 in this category, or 14% of all farms. It is estimated that about 25% of total sales for the state came from them.

If one subtracts the 33,317 part-time and part-retirement farms from the total number of farms, there remains 60,187 listed as "commercial." The medium-income farms made up 22% of these, and the high income farms some 16%.

The top eight counties in number of medium-income farms had from 726 to 394 farms. Five of these counties were in the Thumb and Saginaw Valley, plus Lenawee, Allegan, and, Berrien (Fig.76). About one-third of the total number of farms in this category were in these eight counties.

The percent of the county's farms with this level of sales in the top eight ranged from 27% in Huron county to 18% (Fig. 77). These eight were: Huron, Sanilac, Tuscola, Ionia, Clinton, Gratiot, Arenac, and Missaukee. Some 26 counties had less than 10% of their farms in this income group.

From 1959 to 1964 the number of farms in this category increased 605, or about 5%. There were wide variations among counties in the amount of change, with some showing fairly sharp increases and others, sizeable decreases. In both cases, the counties were widely scattered (Fig.78).

FIGURE 76. NUMBER OF FARMS WITH SALES OF \$10,000 - \$19,999, BY COUNTIES, MICHIGAN, 1964

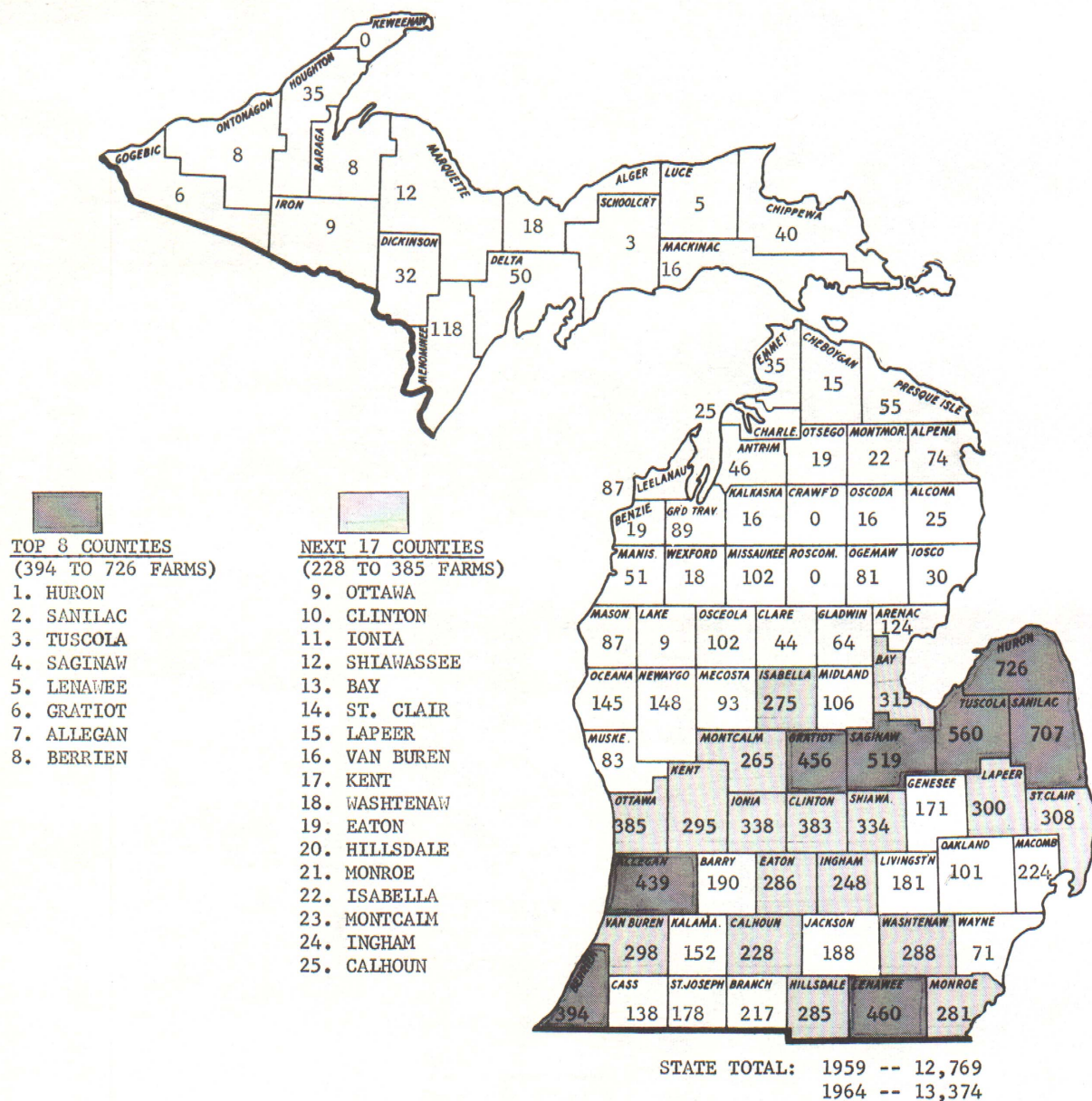
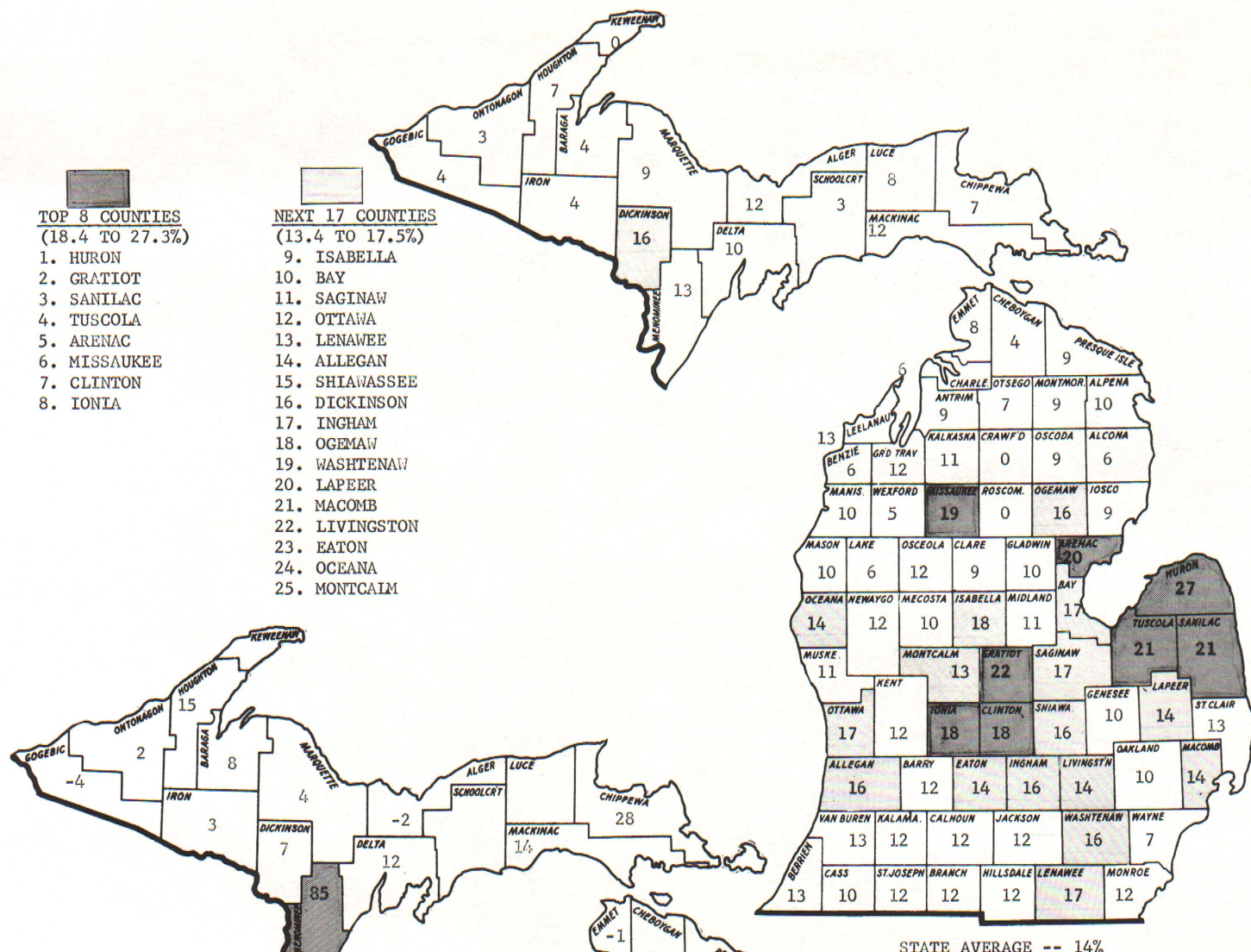
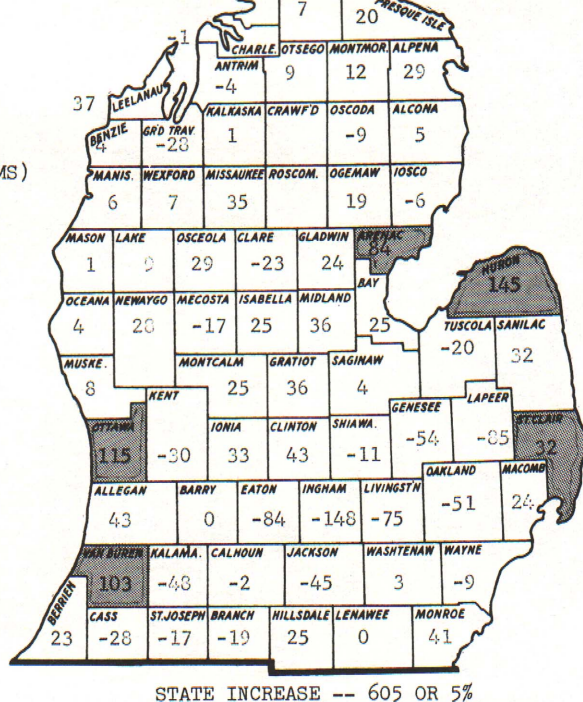


FIGURE 77. FARMS WITH SALES OF \$10,000 - \$19,999 AS A PERCENTAGE OF ALL, BY COUNTIES, MICHIGAN, 1964



MOST INCREASE
(84 TO 145 FARMS)

1. HURON
2. OTTAWA
3. VAN BUREN
4. ST. CLAIR
5. MENOMINEE
6. ARENAC



74 FIGURE 78. CHANGE IN NUMBER OF FARMS WITH SALES OF \$10,000 - \$19,999, BY COUNTIES*, MICHIGAN, 1964

* 5 COUNTIES WITH UNDER 100 FARMS OMITTED.

D. Low Income Farms

In 1964 there were 15,298 farms with sales of \$5,000 to \$9,999 (Economic Class IV) and 22,079 in Economic Classes V and VI, with sales of less than \$5,000 (not counting the noncommercial farms). This was 16 and 24%, respectively, of all farms. Thus, 64% were classed as "commercial" and 36% part-time and part-retirement. If one considers only the "commercial" farms, 62% had sales of less than \$10,000 and their total sales made up only 20 to 25% of the state total.

The number of farms with sales of \$5,000 to \$9,999 in the various counties ranged from 30% in Alger to 6% in Schoolcraft (Fig. 79). Twelve counties had 20% or more in this category. Five were in the U.P. Rather surprisingly, Huron, Sanilac, Bay, Gratiot, and Isabella counties, also were in this list.

The percent of all farms reporting sales of less than \$5,000 ranged from 60% in Keweenaw county to 15% in Luce (Fig. 80). There were 10 counties with 34% or more, with six of these in the U.P. and four in the northern part of the Lower Peninsula.

From 1959 to 1964 the number of "commercial" farms with sales of \$10,000 or less, decreased from 47,367 to 37,377, or 21%. (There was the same percentage decline in those with less than \$5,000 sales as in those with \$5,000 to \$9,999.) Figure 81 shows the change in number of farms with sales of less than \$10,000. Practically all counties showed decreases. Huron county had the largest decrease. The 13 having the most decrease were scattered over the southern half of the Lower Peninsula, and they accounted for nearly one-half of the state decrease of 9,990.

FIGURE 79. PERCENT OF FARMS WITH SALES OF \$5,000 - \$9,999, BY COUNTIES, MICHIGAN, 1964

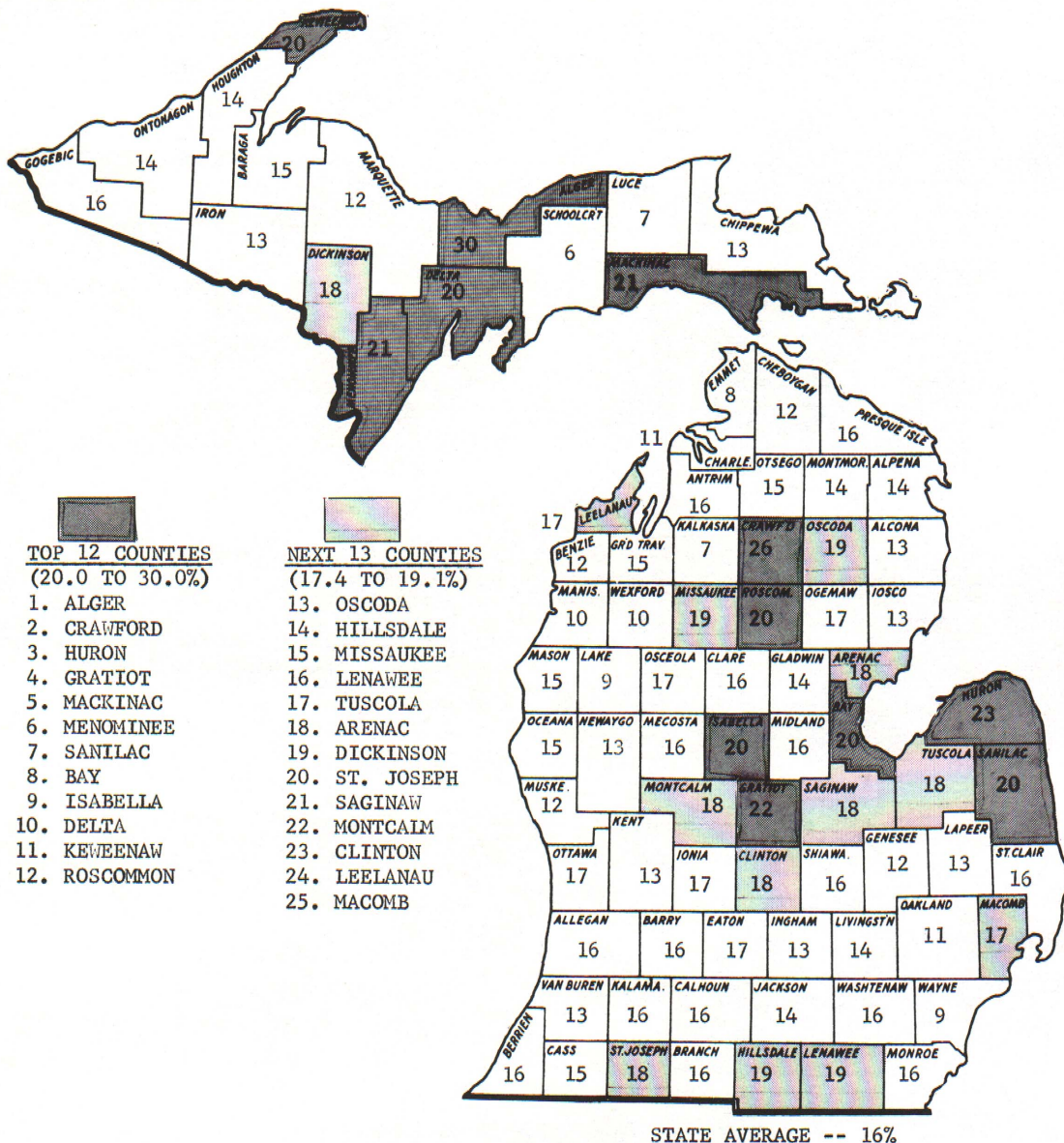


FIGURE 80. FARMS WITH SALES OF UNDER \$5,000 AS A PERCENTAGE OF ALL, BY COUNTIES, MICHIGAN, 1964

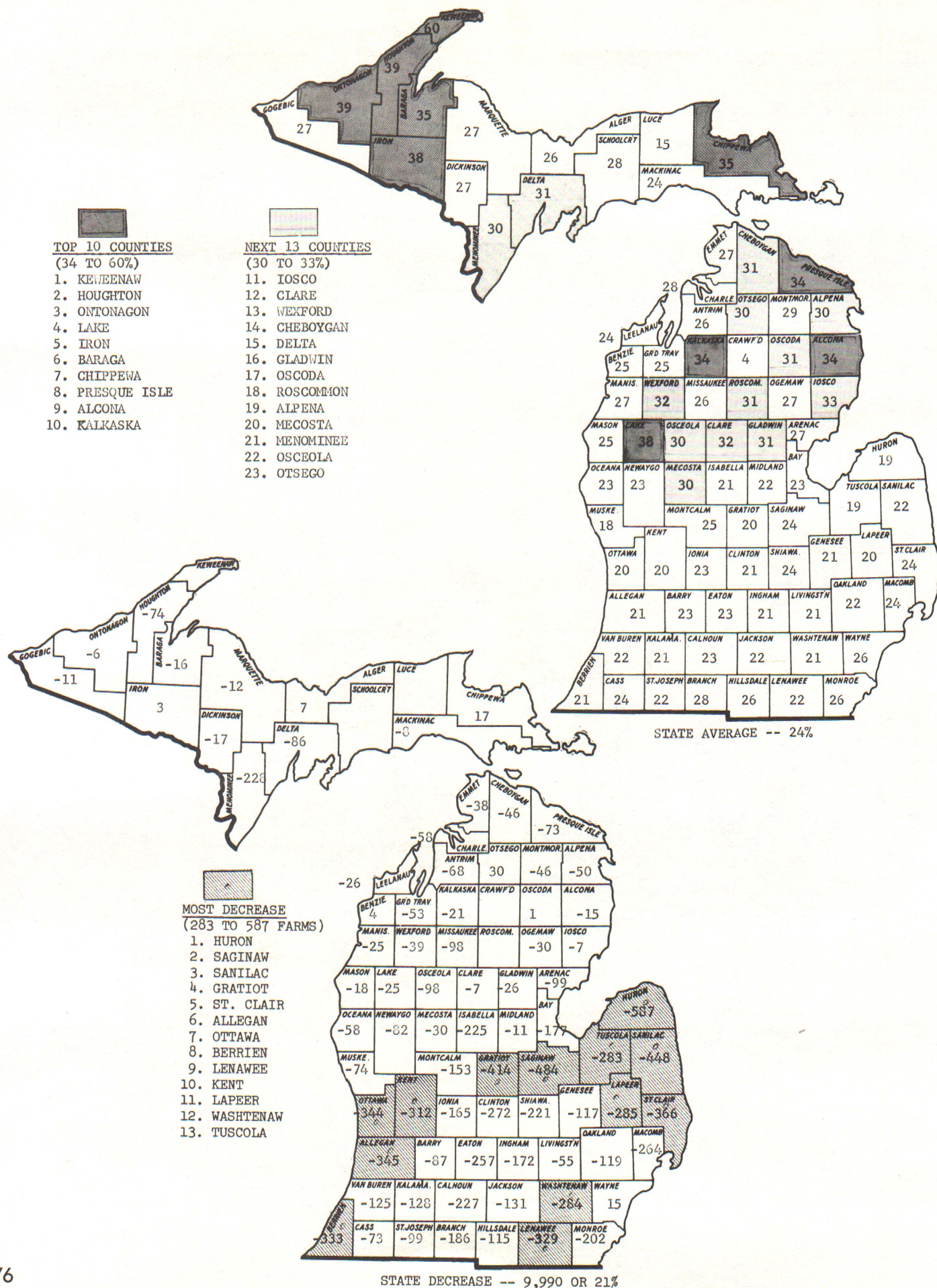


FIGURE 81. CHANGE IN NUMBER OF FARMS WITH SALES UNDER \$10,000*, BY COUNTIES, MICHIGAN, 1959 TO 1964

* 5 COUNTIES WITH UNDER 100 FARMS OMITTED.

2. Average Product Sales Per Farm

Average farm product sales per farm was calculated (and is shown in the Census reports) by dividing the total farm product sales in the county by the total number of farms (as defined in the Census). This method of calculation gives a smaller sales figure than one would get for "commercial" farms, but the figures are comparable between 1959 and 1964 and among counties.

Average product sales per farm for the state in 1964 was \$8,205 compared with \$5,574 in 1959. Huron county with its average of \$13,409 clearly stands at the top of the list with Gratiot county second with \$11,909 (Fig.82). The bottom county in the top eight averaged \$9,649. These eight counties were widely scattered over the southern half of Lower Michigan, with the counties having generally quite productive land or producing fruit. All of the top 26 counties were in the southern half of the Lower Peninsula except Grand Traverse (with fruit) and Dickinson county (having high potato sales).

From 1959 to 1964 the average increase in farm product sales per farm was \$2,631 or about 50%. Among the various counties the increase ranged from \$5,502 in Huron county down to decreases in Schoolcraft and Oscoda (Fig.83). The top eight counties besides Huron were Bay, Arenac, Gratiot, Montcalm, Ottawa, Kalkaska, and Dickinson. (This order is in location, not amount.) Nineteen of the top 25 counties in increase in sales per farm were in the area from Bay county west to Oceana and south to the Ohio border. Some counties in this area, however, did not show as much increase as one might have expected.

It was estimated that the net income from the \$8,205 product sales per farm in 1964 was about \$1,231 (15% of the sales). Government payments received by farmers in that year averaged \$427 per farm and the estimated rental value of the farm dwelling and the value of farm products used by the family was \$1,362. This would give what the government calls "realized net farm income" of \$3,020, as an average. Adding to this, the nonfarm income of the farm family amounting to \$4,229, gives an estimated average net family income of \$7,249.

FIGURE 82. AVERAGE FARM PRODUCT SALES PER FARM, BY COUNTIES, MICHIGAN, 1964

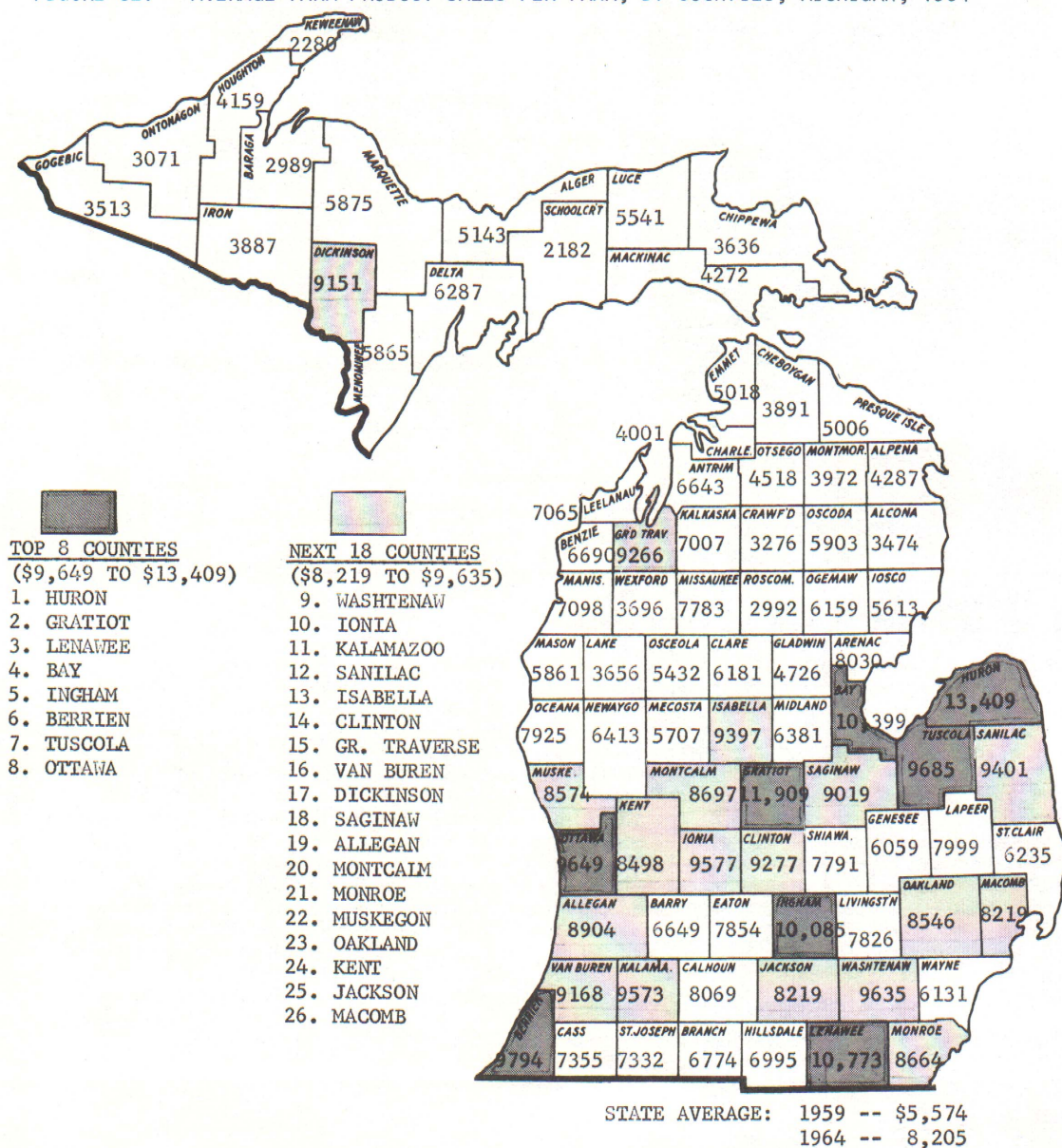
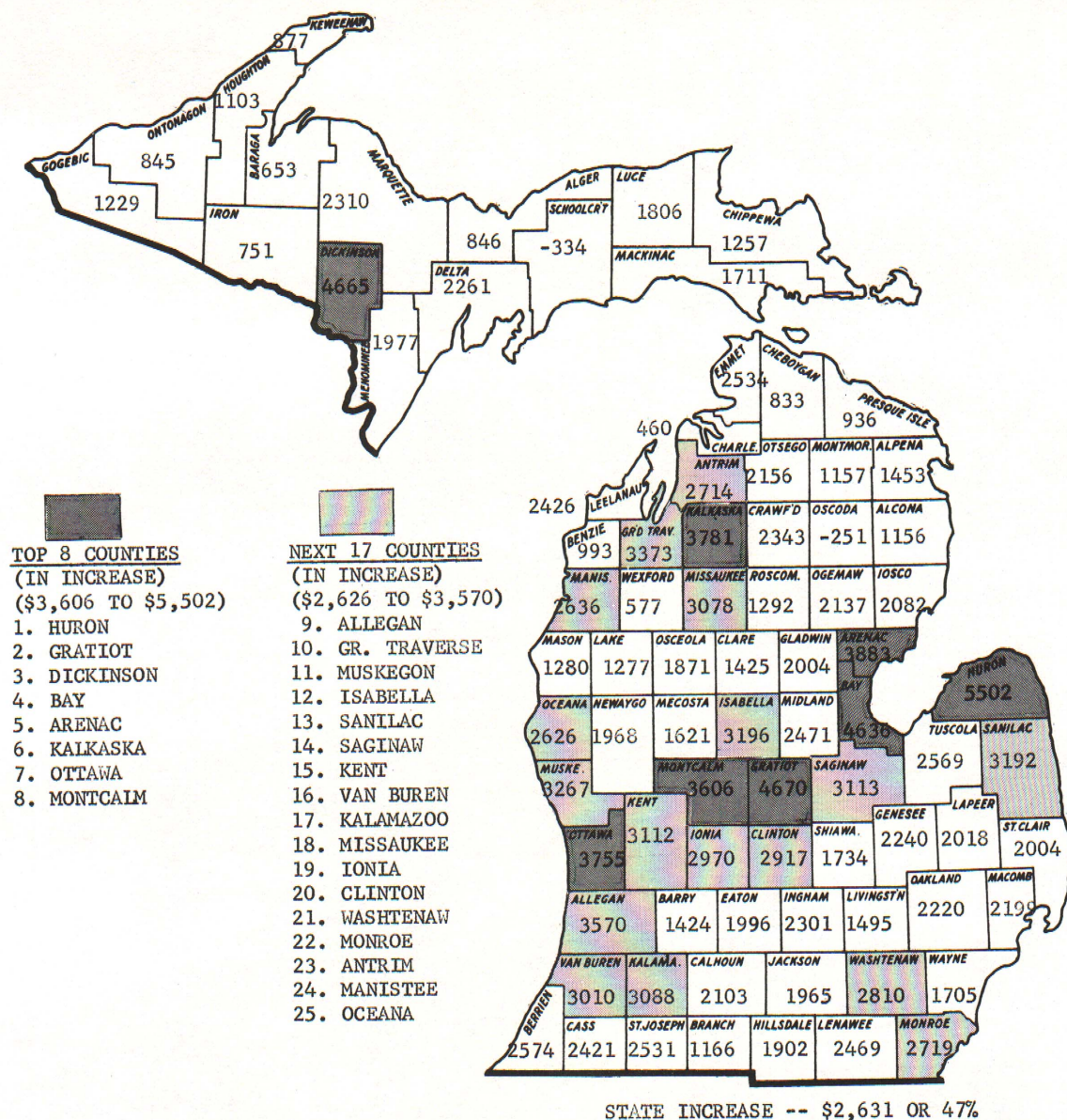


FIGURE 83. INCREASE IN FARM PRODUCT SALES PER FARM, BY COUNTIES, MICHIGAN, 1959 TO 1964



3. Nonfarm Income

A. Number of Farmers Working Off-Farm 100 Days or More

There were about 51,700 farmers out of the 93,504 in the 1964 Census who worked off their farms some, and nearly 41,400, or 44% , who worked off their farms 100 days or more. This ranks very high compared with other states. In 1959 about 47,200, or 42% of all farmers, worked off their farms this much.

The number of farmers working off their farms 100 days or more in the top eight counties in 1964 ranged from 1,343 in Berrien county down to 1,099 in Monroe (Fig.84). These eight counties were widely scattered over the southern half of the Lower Peninsula, but only two (Kent and Saginaw) were what has been classified as metropolitan counties. All of the balance of the top 25 counties were in the south half of the Lower Peninsula. Some 61% of all the farmers working off their farms 100 days or more were in these counties.

If one looks at this from the standpoint of percentage of all farmers in the county working off their farms this much, rather than the actual number, Genesee and Midland counties were the highest with 57% of all their farmers working this much in 1964 (Fig. 85). Muskegon was next, then Jackson with 50%. These were followed by six with 49%--Cass, Barry, Ottawa, Gladwin, Wexford, and Montmorency. These six were widely scattered and in some cases are not generally considered metropolitan counties, or have much in the way of large industries for off-farm employment. However, farmers may have non-industrial jobs and may drive several miles to work in another county.

FIGURE 84. NUMBER OF FARMERS WORKING OFF THEIR FARM 100 DAYS OR MORE, BY COUNTIES, MICHIGAN, 1964

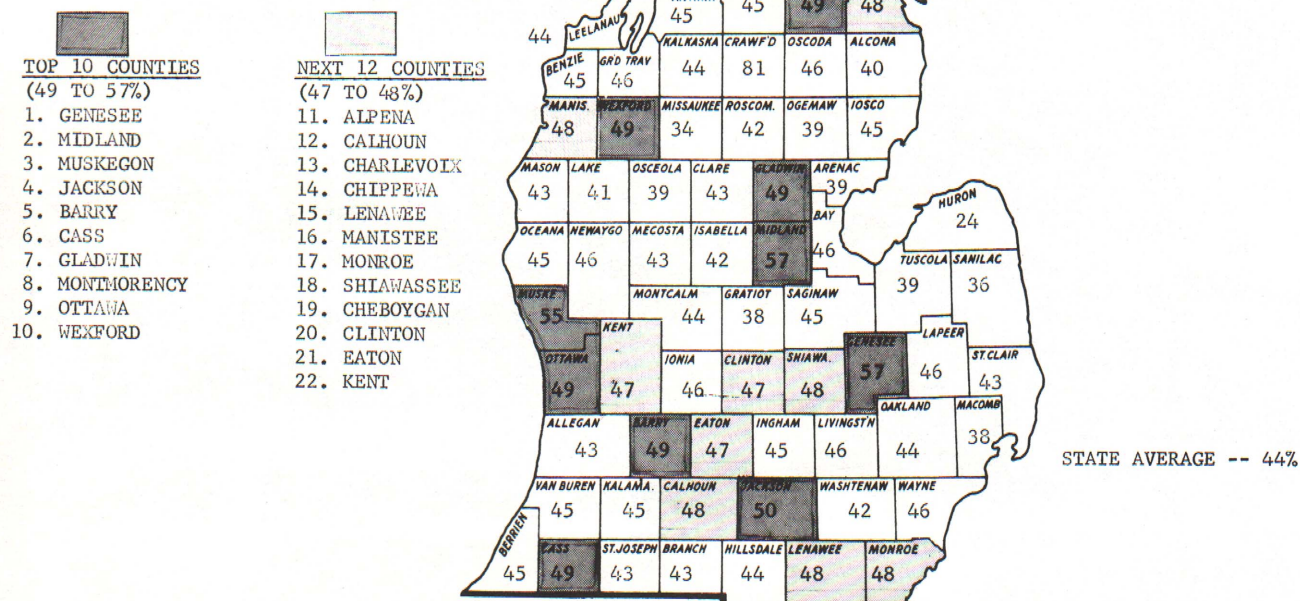
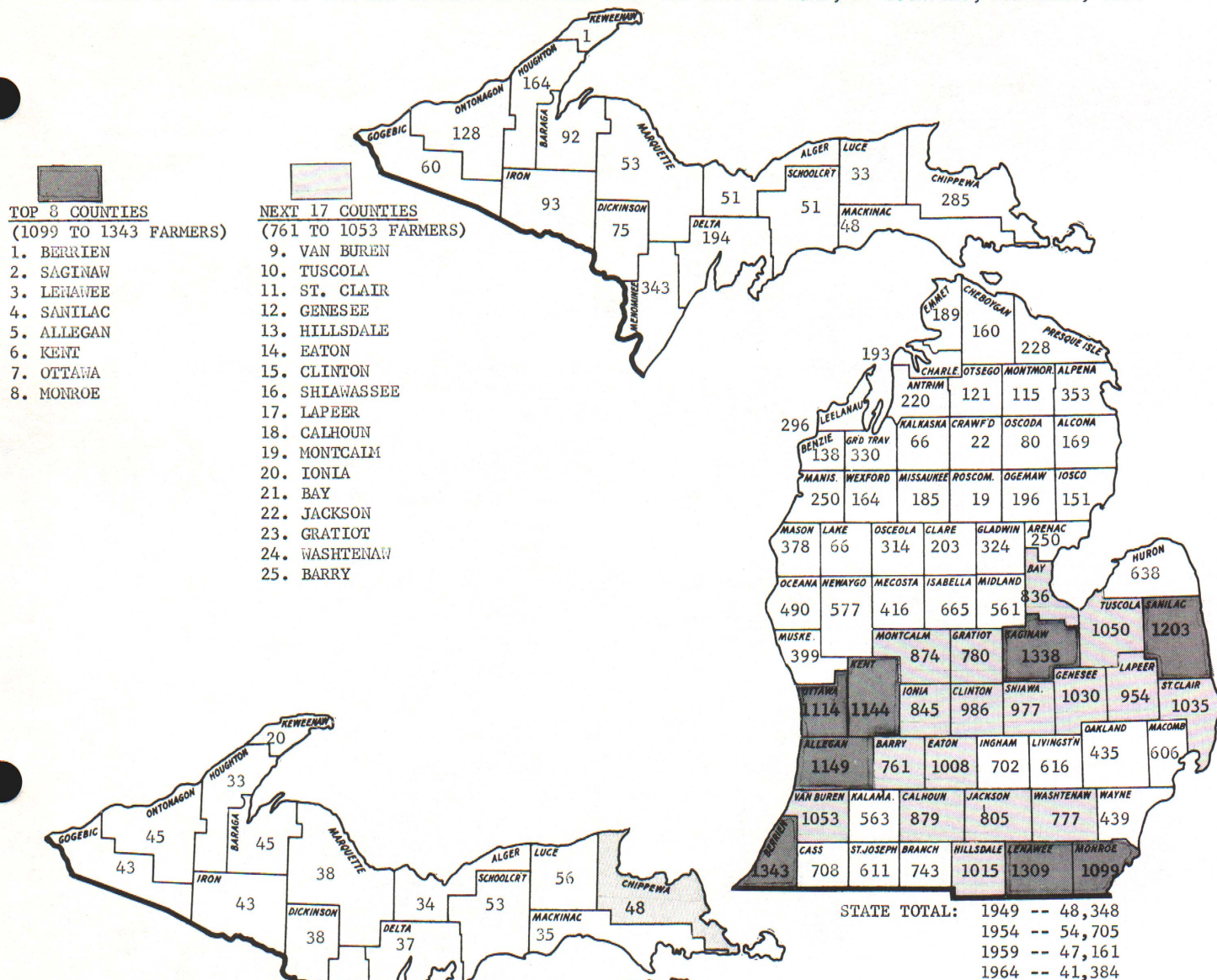


FIGURE 85. PERCENT OF ALL FARMERS WORKING OFF THE FARM 100 DAYS OR MORE, BY COUNTIES, MICHIGAN, 1964

B. Nonfarm Income of Farm Families

Information was obtained for the first time in the 1964 Census on the nonfarm income of farmers and their families. This included (a) wages and salaries, (b) income from nonfarm business or professional practice, (c) social security, pensions, veteran and welfare payments and (d) rent from farm and nonfarm property, interest, dividends, etc.

According to the Census, total income of all farm families from these four sources amounted to over \$395 million or nearly 52% as much as they received from the sale of farm products. Of this total \$304 million was from wages and salary or from (a), above 34 million from (b), 26 million from (c), and 31 million from (d). Nonfarm income averaged over \$4,200 per farm for all farms in the state, with about \$3,200 from wages and salaries. One might also add that this income is needed by many farmers when one considers the probable net income after subtracting expenses from average product sales.

Inasmuch as wages and salary were a large part of the total, the top eight counties in total nonfarm income shown in Figure 86 were nearly the same as those on the map showing percent of the farmers working off the farm 100 days or more. Likewise, with a few exceptions, the next 17 counties on this map rather closely correspond to those in this category on the Work Off Farm map. Also a comparison of this map with the one on total farm product sales shows that 21 of these top counties in nonfarm income were in the top 25 in the farm product sales.

Figure 87, showing nonfarm income as percentage of farm product sales in 1964, shows that the high 10 counties had nonfarm income ranging from 100 to 253% of farm income. These counties were largely in northern Michigan and the Upper Peninsula. The remaining 15 of the top 25 with 67 to 95% were widely scattered throughout the state, with some being low agricultural income counties and some being high nonfarm income counties.

FIGURE 86. TOTAL NONFARM INCOME (MILLION DOLLARS) BY COUNTIES, MICHIGAN, 1964

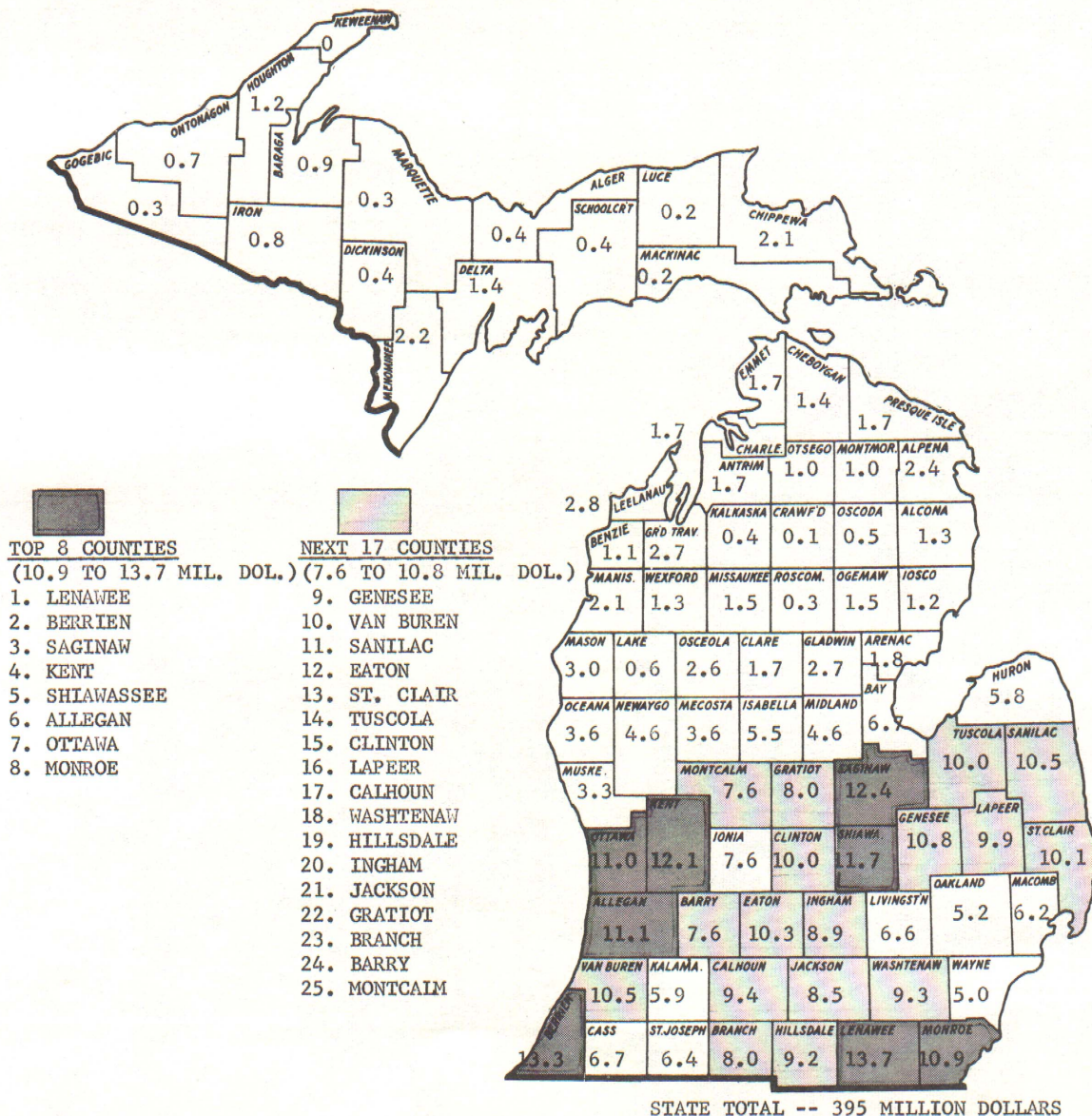
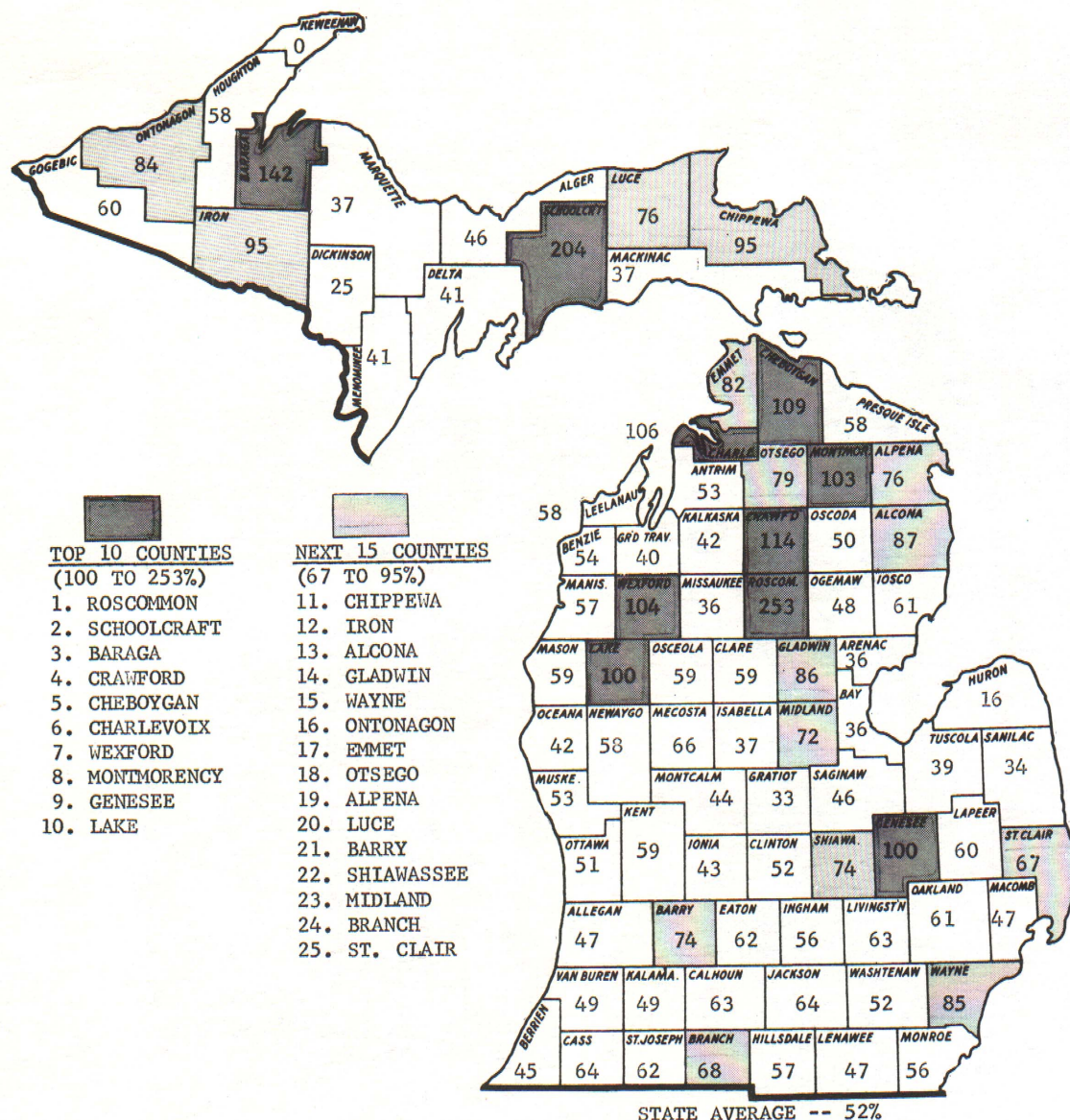


FIGURE 87. PERCENT NONFARM INCOME WAS OF FARM PRODUCT SALES, BY COUNTIES, MICHIGAN, 1964



4. Years of School Completed by Farmers

The 1964 Census shows that 2.4% of our farmers had completed 0 to 4 years of school, 8.1% from 5 to 7 years, and 35.1% 8 years, with a total of 45.6% having eight years or less of school. Some 17.3% had from 1 to 3 years of high school and 28.7% 4 years, or 46% had some years in high school. In addition, 5.3% had 1 to 3 years in college, and 3.1% had four years or more.

Figures 88, 89, and 90 show the percentages of the farmers in each county who had (a) completed 8 years or less of school, (b) gone to high school and (c) gone to college. These maps are of interest in relation to several of the preceding maps.

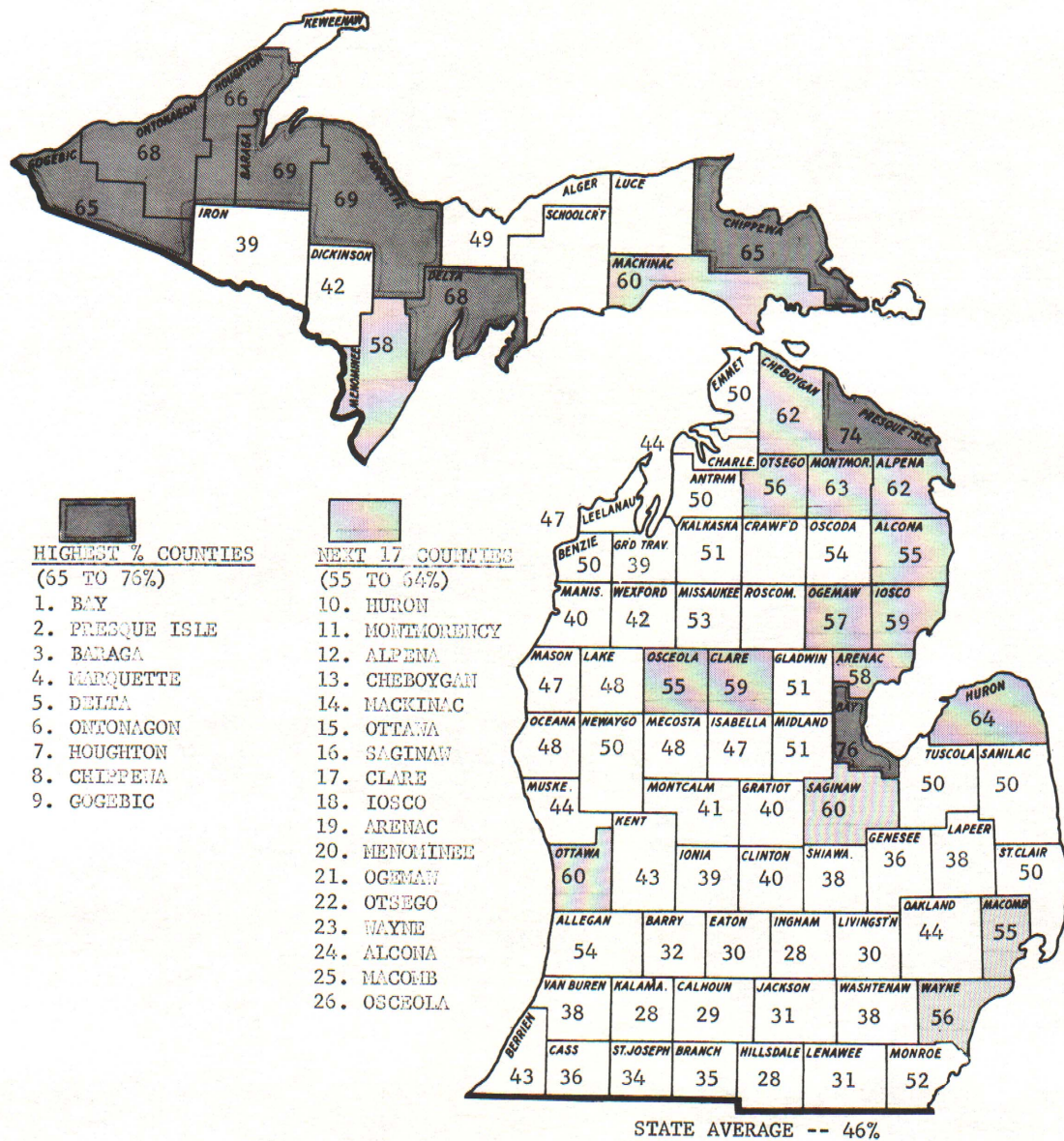
The percentage of farmers with 8 years or less of school in the different counties ranged from 28% in Hillsdale county to 76% in Bay. In nine counties this percentage ranged from 65 to 76%, and in 17 more, from 55 to 64%.

In general, the percentage of farmers who had only 8 years or less of school was higher in the Upper Peninsula and northern Michigan (Fig. 88).

The percent of farmers who had attended high school ranged from 22% in Presque Isle to Hillsdale with 64%. The percentage who had attended high school was generally higher in the south central Michigan counties than elsewhere.

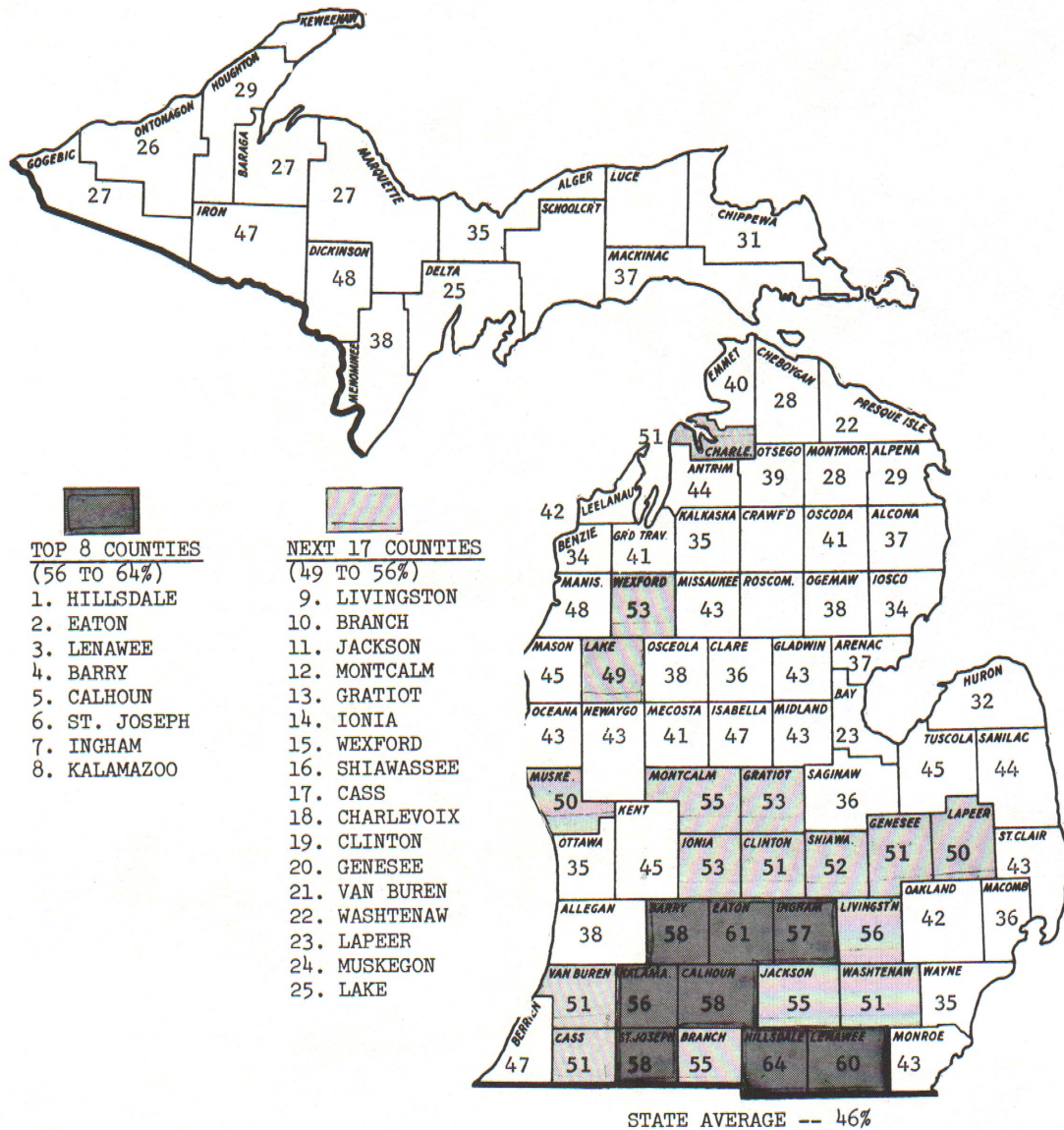
There were 7,845 farmers, or 8%, who had attended college. In the top ten counties, 14 to 20% had attended college. Grand Traverse was the top county. These ten counties were widely scattered, with two in the U.P., three in northwest Michigan and five in the southern part of the state. In the next ten counties 11 to 13% attended college. These counties also were rather widely scattered.

FIGURE 88. PERCENT OF FARMERS WHO COMPLETED 8 YEARS OF LESS OF SCHOOL, BY COUNTIES, MICHIGAN, 1964



Counties with less than
100 farms omitted.

FIGURE 89. PERCENT OF FARMERS ATTENDING HIGH SCHOOL 1 TO 4 YRS., BY COUNTIES*, MICHIGAN, 1964



* 5 COUNTIES WITH UNDER 100 FARMS OMITTED.

