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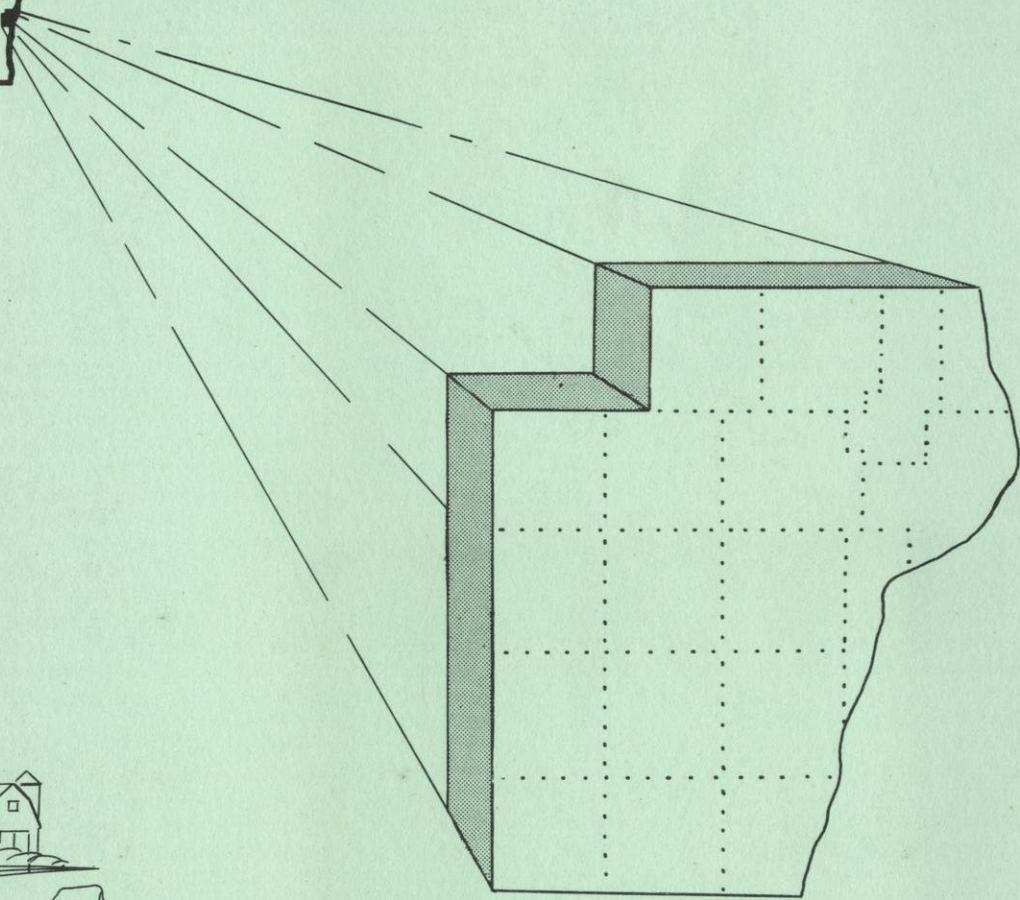
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Wisconsin Rural Resources

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# MANITOWOC COUNTY



WISCONSIN STATE DEPARTMENT OF AGRICULTURE  
CROP AND LIVESTOCK REPORTING SERVICE  
State Capitol, Madison  
cooperating with

U. S. DEPT. OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE

UNIVERSITY OF WISCONSIN  
AGRICULTURAL EXTENSION SERVICE

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This publication is printed under legislative authority by the Wisconsin State Department of Agriculture, D. N. McDowell, Director. Cooperating agencies are the United States Department of Agriculture Agricultural Marketing Service, Walter H. Ebling, Agricultural Statistician in Charge, and the University of Wisconsin Agricultural Extension Service, Henry L. Ahlgren, Associate Director.

## PREFACE

Rural America is changing. Communities that were once largely agricultural are now a blend of farm and non-farm people and enterprises. Each year there are fewer farms and farmers and more of the farms have become part-time farming units. The problems of our rural communities are now much broader than just the problems of agriculture and farm people.

Also, as rural areas become more complex the need for forward-looking plans in our communities is growing. To implement such planning and forward thinking, the data requirements relating to agriculture and other rural resources are more and more needed for subdivisions of the state and the counties. While this trend has been apparent for a long time, it has become more obvious in the last few years.

For many items local data have been more difficult to obtain than totals for the state and the nation. The collection of material by the Census and other agencies has, for over a century, brought together much information from towns and counties, but a great deal of it was never summarized or published for the small subdivisions so as to be available for use by the people in these local units. Details of the local resources for small areas have been lacking because it was easier to put the data together and offer them for important national, or possible state totals, then for the numerous smaller areas.

In Wisconsin the growing demand for local data was recognized years ago. It crystalized partly through the requirements of the agricultural extension workers in the counties, through teachers who try to deal with local issues in schools, and through others who were concerned with local or community projects. In this state there is a long history of trying to meet these requirements, but at first progress was slow because resources for the purpose were small.

With important new programs now underway, agricultural extension work is given greater responsibility of leadership in the development of our rural communities. All of the local knowledge that we can bring together is needed in the conscious endeavor toward making the most of the resources and opportunities in each community. The idea of group effort to a common purpose is old, but we are now faced with new challenges to make the best of our opportunities. We come to realize more and more that the sum of what is best for each of the communities is also best for the state and the nation. Perhaps some of our national problems can be best solved by working them out locally for each community. It is with the hope of assisting local people in all of our communities to more fully study their own economy and plan for a greater future that this series of publications on the rural resources of each Wisconsin county is undertaken.

This is the fourth series of these Wisconsin county publications which is made possible by the cooperation of several agencies. The Crop Reporting Office of the Wisconsin and United States Departments of Agriculture has the formal responsibility for preparing the county books. The United States Department of Agriculture through the Marketing Act of 1946 has made important contributions. Staff members of the College of Agriculture and the Extension Service have supplied specific parts. A committee of county agents has made important suggestions for improvement and in each county the county agents' office officially distributes the books. The State and County Historical Societies have also contributed to the project. Special credit for the work goes to workers in the Crop Reporting Office, particularly C. D. Caparoon, N. L. Brereton, Angela Krause, Harry Spray, and others.

Walter H. Ebling  
Agricultural Statistician

## PART I. - ECONOMIC RESOURCES OF MANITOWOC COUNTY

The past decade has been an era of record economic growth throughout Wisconsin and the United States. The force of these great changes has not affected all counties and communities alike. Some have advanced more rapidly than others, yet there are very few areas that have not shared in this great economic expansion. The purpose of this introductory section is to present available data which indicate progress in Manitowoc County and compare this progress with the state and nation. The design for future planning must come in large part from past progress and the established background of a county.

Many things have happened which when taken together add up to a vast economic change. Population plays a large role and an entire section of this book is devoted to it. In 1956 approximately one out of every 2,250 persons in the United States lived in Manitowoc County. Since 1950 the civilian population of Wisconsin has increased 8.5 percent, for the nation 9.5 percent, and for Manitowoc County 7.7 percent. Growth in population brings about greater development of the resources for production in an area as well as creating new demands for goods and services and providing broader markets.

### HOUSEHOLDS A BASIC ECONOMIC UNIT

One of the important measures reflecting economic trends is the number of households. A household is a number of people living together under the same roof and represents a spending unit. Most of the households are families. However, the count of households is much broader than just families and covers all situations where people pool their incomes and expenditures and act together as an economic unit.

Comparison of Trends for Given Items  
Manitowoc County, Wisconsin, and United States, 1956 and 1950<sup>1/</sup>

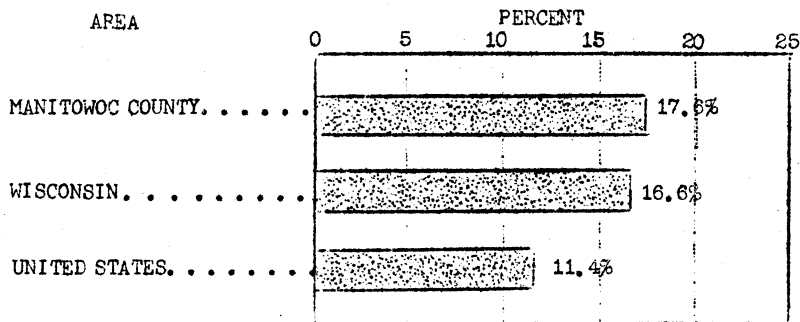
Item	Manitowoc County			Wisconsin			United States		
	1956	1950	<sup>56</sup> / <sub>50</sub> %	1956	1950	<sup>56</sup> / <sub>50</sub> %	1956	1950	<sup>56</sup> / <sub>50</sub> %
Total households <sup>2/</sup>	No. 20,210	18,816	107	1,054	968	109	48,785	43,554	112
Farm households <sup>2/</sup>	No. 3,560	3,680	97	175	181	97	5,584	6,275	89
Consumer income per household (all) <sup>3/4/</sup>	\$ 5,471	2,791*	196	5,564	2,860*	195	5,625	2,619*	215
Retail sales per household (all) <sup>4/</sup>	\$ 3,836	3,287	117	4,002	3,335	120	3,809	3,122	122
Gain per year in population	% 1.3	.9	-	1.4	.9	-	1.6	1.4	-

<sup>1/</sup>Based on latest available official estimates or "Consumer Markets SRDS" estimates. <sup>2/</sup>For Wisconsin and United States, figures are to the nearest thousand. <sup>3/</sup>Refers to disposable income only, not total income. <sup>4/</sup>Data under 1956 columns pertain to 1955. \*1949.

Date of issue October 1956.

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Households on Farms as a Percent of Total Households  
Manitowoc County, Wisconsin, and United States, 1956



Since 1950, the number of households in the nation has increased 12 percent, and for Wisconsin the increase was 9 percent. The number of households in Manitowoc County has increased almost 7.5 percent since 1950. For the county 17.6 percent of the households are farm households compared with 16.6 percent for Wisconsin and 11.4 percent for the nation as a whole. Farm households in the county have decreased slightly more than 3 percent since 1950. This decrease follows the trend for the state and nation. The state of Wisconsin experienced a drop of 3 percent in the number of farm households, while the nation as a whole had a decrease of 11 percent. The rise in total households in Manitowoc County, therefore, shows a growth in urbanization and fewer people engaged in farming.

HOUSEHOLD INCOMES SHOW LARGE GAINS

Satisfactory data on incomes are not available by counties. There are available, however, some estimates on the disposable income by counties which help to show important economic trends. Disposable income is a measure of the income which individuals have left to spend or save after taxes, retirement deductions, and similar charges. Total disposable income will be smaller than the total income received due to these deductions. In a general sense disposable income can be considered the same as spendable income since it represents that part of the income that may be used freely by the consumer.

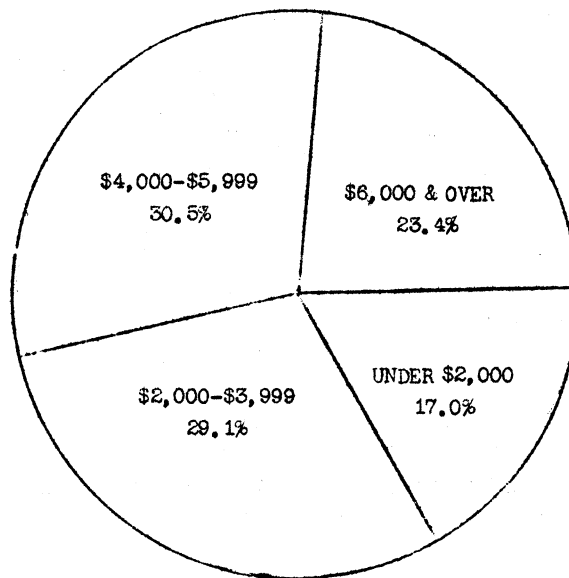
In Manitowoc County the total disposable income to consumers in 1955 was \$110,578,000. For the same year consumer spendable income for each household in the county averaged \$5,471. This was 96 percent higher than the average consumer spendable income per household for the county in 1949. This increase since 1949 is below the rate of increase for the nation but is slightly above the rate for Wisconsin. Even though the rate of increase for the county exceeded the increase for the state as a whole, the average disposable income was slightly below the state average. Wisconsin's disposable income per household was \$5,564 while for the nation the average was \$5,625 in 1955.

Manufacturing is important in the county, but it has not been able to keep Manitowoc County's average disposable income per household above the United States average as was the situation in 1949. A factor causing the county's disposable income to lag behind that of the nation in 1955 is that farming is of more importance in the county from the percentage employment standpoint and farm incomes have lagged behind other sources of income, such as wages and salaries.

RETAIL MARKETS ACTIVE

Another measure of the purchasing power of Manitowoc County households is obtained from estimates of average retail sales per household. Retail sales per household in 1955 for the United States were up 22 percent since 1950 and for Wisconsin they were up 20 percent. For the same period, 1950-55, retail sales per household in Manitowoc County were up almost 17 percent. The 1955 average retail sales of \$3,836 per household for the county compares with \$4,002 for the state and \$3,809 for the United States. In 1950 the county's average retail sales per household were also below the state and higher than the nation.

Annual Income of Households  
Manitowoc County, Wisconsin, 1954



HIGHER INCOMES EXPAND MARKETS

Back in 1949, 31.9 percent of the households of Manitowoc County had incomes under \$2,000 annually. By 1954 this percentage had dropped to 17.0 percent. There was also a substantial decrease in households with incomes between \$2,000 and \$4,000 for the 1949-54 period. A drop from 42.2 percent in 1949 to 29.1 percent in 1954 occurred in the proportion of households of this income range.

The foregoing decreases occurred along with sizeable gains in the number of households in the higher income levels. For example, households with incomes between \$4,000 and \$6,000 accounted for 30.5 percent of the total households in 1954 compared with 15.4 percent of the total in 1949. An even larger change took place in the \$6,000 and over income group. In 1949, 10.5 percent of the households in Manitowoc County had incomes at this income level but by 1954 the percentage had risen to 23.4 percent of the households. Gains in income for Manitowoc County households in the 1949-54 period have strengthened the market outlook by increasing the demand for goods and services. Household income levels for the county compare favorably with the state averages as shown in the following table.

Households by Size of Income  
Manitowoc County, Wisconsin, 1954 and 1949

Size of group	Manitowoc County		Wisconsin	
	1954 <sup>1/</sup> Percent	1949 <sup>2/</sup> Percent	1954 <sup>1/</sup> Percent	1949 <sup>2/</sup> Percent
Under \$2,000	17.0	31.9	17.9	32.7
\$2,000 to \$3,999	29.1	42.2	27.3	36.7
\$4,000 to \$5,999	30.5	15.4	28.7	17.5
\$6,000 and over	23.4	10.5	26.1	13.1
Total	100.0	100.0	100.0	100.0

<sup>1/</sup>Estimates by "Consumer Markets SRDS".

<sup>2/</sup>1950 Census data.

AGRICULTURE IN THE COUNTY

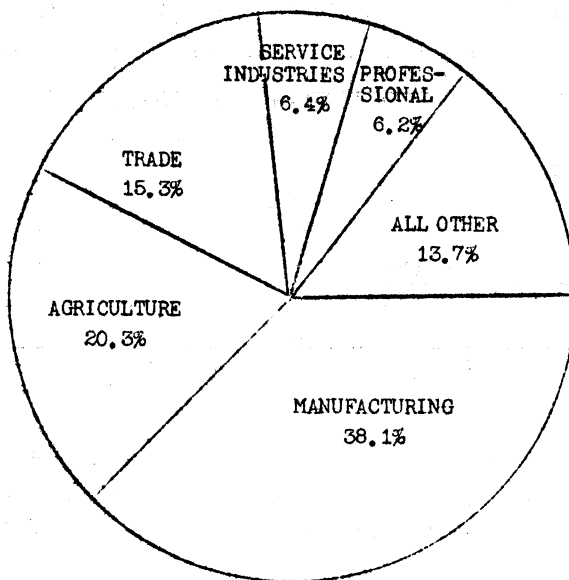
An important part of the economic background of Manitowoc County concerns the distribution of employment. As the accompanying table shows, slightly over 20 percent of the labor force is employed in agriculture in the county compared with about 18.6 percent for Wisconsin and 12.5 percent for the nation.

However, manufacturing is the most important industry in the county from the standpoint of number of workers employed. In 1950 this industry absorbed 38.1 percent of the workers. This was above the state and national percentages for employment in manufacturing. Farming which ranked second in the county with about one-fifth of the labor force employed was followed by the trade industries, both wholesale and retail with about 15 percent. Nearly three-fourths of the available labor force is used by the three industries mentioned above. Professional work and the business and personal services are almost equal for the county with respect to providing employment. Each employed a little over 6 percent of the labor force.

Distribution of Employment by Industries  
Manitowoc County, Wisconsin, and United States, 1950 Census

Industry	Manitowoc County		Wisconsin	United States
	Number of workers	Percent of total	Percent of total	Percent of total
Agriculture	5,635	20.3	18.6	12.5
Mining	22	.1	.2	1.7
Construction	1,128	4.1	4.9	6.1
Manufacturing	10,584	38.1	30.6	25.9
Transportation and communications	1,376	4.9	6.3	7.8
Wholesale and retail trade	4,267	15.3	17.3	18.7
Finance, insurance, real estate	375	1.3	2.4	3.4
Business and personal service	1,787	6.4	7.4	9.7
Professional	1,726	6.2	7.8	8.3
Government and other	912	3.3	4.5	5.9
Total	27,812	100.0	100.0	100.0

Employment in Manitowoc County, Wisconsin, 1950



RATES FOR SELECTED SERVICES EMPLOYMENT

In the accompanying table the employment for selected services in Manitowoc County is compared with the state and the nation as a whole. The number of people employed in Manitowoc County in medical and health services is about 8 workers per 1,000 population. This compares with the rate of nearly 11 health workers per 1,000 people in the state and approximately the same for the nation. The county ranks twenty-second in Wisconsin in the number of health and medical workers per 1,000 population.

In regard to employment in educational services, Manitowoc County has 12 people employed per 1,000 population which is below the state and national averages. Public administration employment includes federal, state, and county workers but excludes teachers. In this field the county has about 8 workers per 1,000 population which is also below the state and national averages.

Employment in Selected Services  
Manitowoc County, Wisconsin, and United States, 1950 Census

Service	Workers per 1,000 population <sup>1/</sup>		
	Manitowoc County	Wisconsin	United States
	Number	Number	Number
Medical and health services	8.1	10.7	10.8
Educational services	12.0	14.1	13.7
Public administration (excludes teachers)	8.1	11.9	16.5

<sup>1/</sup>Computed from 1950 Census data.

FARMERS HAVE OTHER WORK

In 1954, slightly over 42 percent of the farmers in Manitowoc County worked at non-farm jobs in addition to their farming activities. This was a relative gain of 8 percent from the 1949 percentage. For the 1949-54 period, the state changed less than the county in the percentage of farmers doing any



Farm Operators Working Off Own Farms, Manitowoc County and Wisconsin  
United States Census, 1954 and 1950<sup>1/</sup>

Year	Manitowoc County		Wisconsin	
	Number	Percent of total	Number	Percent of total
<u>Doing any off-farm work</u>				
1954	1,400	42.2	60,630	39.5
1949	1,199	34.1	58,183	34.5
<u>Working 100 days or more off farm</u>				
1954	820	24.7	30,624	19.9
1949	574	16.3	27,293	16.2

<sup>1/</sup>Estimates made on the basis of reports from a sample of approximately 20 percent of the farms.

off-the-farm work. For 1949, 34.5 percent was indicated for Wisconsin while in 1954, 39.5 percent was reported. Industrial plants undoubtedly provide many Manitowoc County farmers an opportunity to do non-farm work.

The percentage of farmers working 100 days or more off their farms increased a little faster from 1949 to 1954 in the county than in the state. In 1954 the total percent working more than 100 days off the farm was also more for the county than for the state. Manitowoc County had 24.7 percent in this category as compared with Wisconsin's 19.9 percent in 1954.

Non-farm work is becoming increasingly important as is further indicated by the fact that 20.5 percent of the county's farm families in 1954 received more income from sources other than the sale of farm products. This compares with 12.2 percent of the farm families in 1949. These changes are important in that economic trends in the farm labor situation must be recognized for future developments of the county.

Cash Farm Income, by Sources  
Manitowoc County, Wisconsin, 1954 and 1949

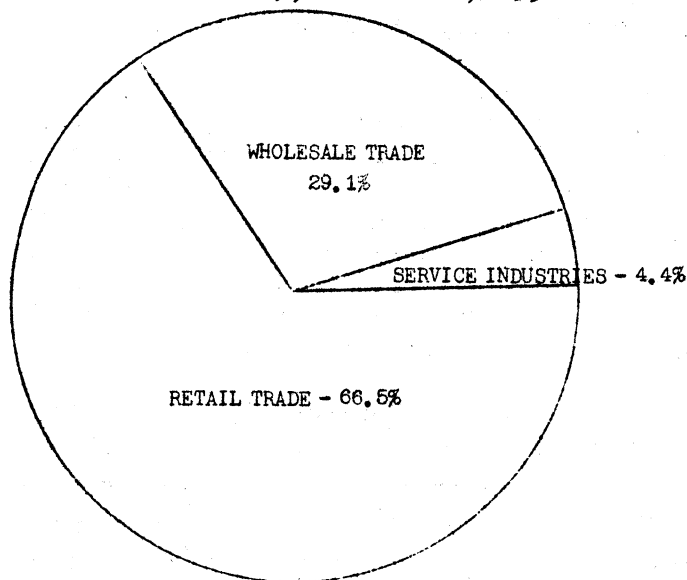
Source of income	1954	1949
	Thousand dollars	
Livestock and livestock products	17,142	16,443
Milk	11,813	
Cattle	1,412	
Calves	660	
Hogs and pigs	920	
Sheep and lambs	8	
Chickens and broilers	302	
Eggs	1,304	
Other	723	
Crops	2,928	2,815
Total cash farm income	20,070	19,258
	Dollars	
Average cash income per farm	6,043	5,473

CASH FARM INCOME

Cash farm income of Manitowoc County farmers in 1954 was \$20,070,000--an increase of 4.2 percent over 1949. The gain in cash farm income for the state in the same period was about 7 percent. Approximately 85 percent of the Manitowoc County cash farm income in 1954 was from livestock and livestock products with milk the largest single source. Milk supplied almost 60 percent of the cash farm income. About 15 percent of the cash farm income in the county was from crop sales.

The county ranks seventeenth in the state in total cash income from farming. Average cash income per farm in the county for 1954 is estimated at \$6,043. This is a gain of 10.4 percent over the average cash income per farm of \$5,473 in 1949.

Distribution of Trade  
Manitowoc County, Wisconsin, 1954



MANUFACTURERS SHOW GAIN

Recent data on manufacturing operations in Manitowoc County indicate considerable growth during the 1947-54 period. Economic progress in the county has been helped considerably by these industries. In 1954 there were 177 manufacturing establishments in the county compared with 164 in 1947. This is an increase of almost 8 percent. The number of persons employed by manufacturing plants increased 13.5 percent during that same 8-year period. However, total wages paid by these manufacturing plants more than doubled while the value added by manufacture increased about two-fifths. The total wages paid by the plants in 1954 were approximately \$42,250,000 and the value added by manufacture was roughly \$85,000,000.

According to the recent census of wholesale trade, Manitowoc County had \$31,297,000 worth of sales in 1954. This was about \$3,000,000 more than the sales in 1948. The number of places of wholesale trade in 1954 was also above the 1948 figure--90 establishments were reported in 1954. The bulk of the wholesale establishments in the county are in the city of Manitowoc.

Total wholesale sales in the county increased 11 percent during the 1948-54 period. Food industries; printing and publishing industries; and stone, clay, and glass industries are the three most important industries of the county ranking in the order listed.

### RETAIL TRADE ADVANCES

Retail sales in Manitowoc County in 1954 were 19 percent above 1948 and totaled \$71,490,000. This larger sales volume was accompanied by a rise in the number of retail stores from 932 in 1948 to 994 in 1954. All types of retail stores had increases in sales for the 1948-54 period. Gasoline service stations had the highest increase--70 percent. The furniture, home furnishings, and appliance type or establishment had the next largest increase with 54 percent. From the standpoint of store numbers, furniture, home furnishings and appliance type stores had the highest percentage increase from 1948 to 1954. However, eating and drinking places and food stores together accounted for over half of the retail stores in the county.

The service industries include garages, theatres, bowling alleys, beauty parlors, barber shops, hotels and lounging places, dry cleaners--in fact, they include nearly all small businesses engaged in service except doctors and lawyers. The service industries in Manitowoc County have more business places than do the wholesale trades but the number is fewer than retail trading establishments. There were 309 of these service establishments in 1954 compared with 205 in 1948. The total receipts were \$4,707,000 in 1954. Most of these establishments are located in the city of Manitowoc and also most of the receipts are from that same city.

Retail Stores, Manitowoc County, Wisconsin  
United States Census of Business, 1954 and 1948

Type of store	Number of places		Total sales		
	1954	1948	1954	1948	1954/1948
	Number		Thousand dollars		Percent
Food stores	189	207	16,001	14,377	111
Eating and drinking places	324	329	6,938	6,468	107
General merchandise	32	26	7,768	7,143	109
Apparel stores	57	60	2,688	2,573	104
Furniture, home furnishings, and appliances	45	33	3,836	2,496	154
Hardware, lumber, and farm equipment	71	66	6,938	6,201	112
Automotive stores	56	48	12,446	8,355	149
Gasoline service stations	76	66	3,709	2,188	170
Drug and proprietary stores	16	17	1,110	933	119
Other retail stores	128	80	10,056	9,286	108
Total	994	932	71,490	60,020	119

The preceding has summarized some of the recent trends in the economic progress of Manitowoc County. It is intended to serve as a background for other parts of the bulletin and to focus attention on the vast changes through which rural Wisconsin is passing. A study of these major changes is presented further in the following sections.

**PART II. - MANITOWOC COUNTY PEOPLE**

In the first part of this book the economic pattern or background of Manitowoc County was discussed together with some reference to the population. This part of the book is concerned with a more detailed description of the people in the county. Changes in the number of the people as well as the distribution within the county are presented. Several other characteristics of the population are given in this part--from both the farm and total population standpoints. Population facts are helpful in planning programs in fields such as agriculture, care of the aged, education, and others.

**POPULATION RISE SINCE 1850**

In the century since the United States Census of 1850 there has been an increase in the number of people in both Manitowoc County and Wisconsin. In 1950 there were 67,159 people in Manitowoc County compared with 3,702 in

Total Population for Manitowoc County and Wisconsin, 1850-1956<sup>1/</sup>

Year	Manitowoc County		Wisconsin Number
	Number	As a percent of state total	
1850	3,702	1.2	305,391
1860	22,416	2.9	775,881
1870	33,364	3.2	1,054,670
1880	37,505	2.9	1,315,497
1890	37,831	2.2	1,693,330
1900	42,261	2.0	2,069,042
1910	44,978	1.9	2,333,860
1920	51,644	2.0	2,632,067
1930	58,674	2.0	2,939,006
1940	61,617	2.0	3,137,587
1950	67,159	2.0	3,434,575
1951	67,400	2.0	3,416,000
1952	67,600	1.9	3,483,000
1953	2/	2/	3,516,000
1954	70,500	1.9	3,628,000
1955	70,400	1.9	3,694,000
1956	72,300	1.9	3,728,000

1850. By 1956 the estimated population was 72,300. The largest increase for any 10-year period took place between 1850 and 1860 when nearly 19,000 people were added to the county's population. In each succeeding decade the population has also increased substantially. World War II with its urgent need for industrial manpower was a strong factor in the increase of Manitowoc County's population during the decade starting in 1940. After the war many people decided to continue work or to get work where there were good industrial employment opportunities.

Estimates of the 1956 population for Manitowoc County show an increase of 7.7 percent from 1950 compared with an increase of 8.5 percent for the state. Manitowoc County's population accounted for 1.9 percent of the state total in 1956. This is nearly the same percentage as shown for 1950 but larger than the 1.2 percent in 1850 which was the lowest percentage recorded. The highest percentage, 3.2 percent, was indicated in the 1870 Census.

<sup>1/</sup>All population data for 1850-1950 are from United States Census, while for 1951-56 state population data estimates are from the Bureau of Census Provisional Series. County data for 1951-56 are estimates from "Consumer Markets SRDS". <sup>2/</sup>Not available.

On a density basis, Manitowoc County averaged about 114 people per square mile in 1950. The state average was nearly 63 people per square mile. In population density the county ranked twelfth among Wisconsin's 71 counties.

Total and Farm Population by Minor Civil Divisions  
Manitowoc County, Wisconsin; United States Census, 1950

Civil division 1/	Total population	Farm population			
		Male	Female	Total farm	Percent of total population
	Number	Number	Number	Number	Percent
Cato	1,789	564	464	1,028	57.5
Valders, v	560	11	13	24	4.3
Centerville	1,473	450	396	846	57.4
Cooperstown	1,304	411	377	788	60.4
Eaton	1,345	357	305	662	49.2
Franklin	1,429	574	497	1,071	74.9
Gibson	1,177	495	421	916	77.8
Kossuth	1,953	657	602	1,259	64.5
Liberty	1,093	419	352	771	70.5
Manitowoc	719	122	108	230	32.0
Manitowoc, c	27,598	66	52	118	.4
Manitowoc Rapids	3,007	515	414	929	30.9
Maple Grove	905	464	389	853	94.3
Reedsville, v	691	11	10	21	3.0
Meeme	1,353	580	512	1,092	80.7
Mishicot	1,746	476	393	869	49.8
Newton	1,670	556	457	1,013	60.7
Rockland	1,023	430	357	787	76.9
Schleswig	1,231	510	436	946	76.8
Kiel, c*	1,868	13	13	26	1.4
Two Creeks	488	229	200	429	87.9
Two Rivers	2,494	407	332	739	29.6
Two Rivers, c	10,243	4	2	6	.1
All unincorporated areas	26,199	8,216	7,012	15,228	58.1
All incorporated places	40,960	105	90	195	.5
County	67,159	8,321	7,102	15,423	23.0

1/Abbreviation "v" for villages and "c" for cities. Population given for any town does not include that of any incorporated places within that town.

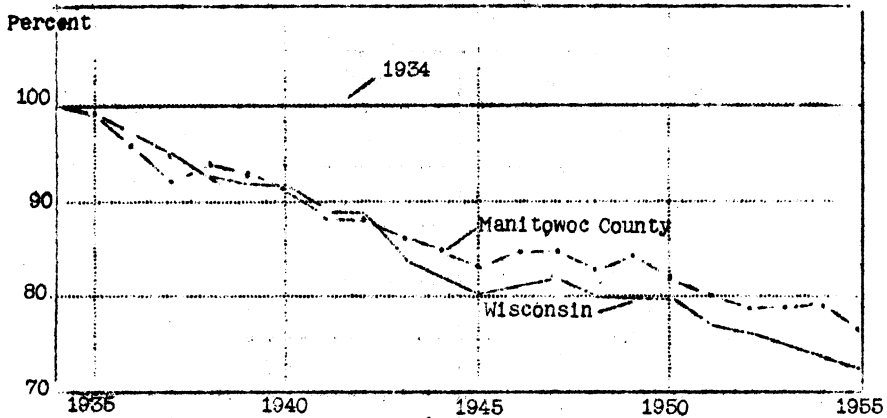
\*Population in Calumet County not included.

#### GENERAL DOWN TREND IN FARM POPULATION

While the total population of Manitowoc County has been rising, the farm population has been declining. The farm population decline has been general throughout the state. Along with the decrease in the number of farms, many people have left the farms for other jobs. This movement, together with the mechanization of farm operations and other technological advances in farming, has reduced the demand for farm workers.

Beginning with 1934, Wisconsin assessors made annual reports of the number of people on farms. Some slight year-to-year increases are shown in the number of farm people since 1934, but in general the trend has been downward. A substantial drop in the farm population took place during World War

Farm Population, 1935-55 as a Percent of 1934  
Manitowoc County and Wisconsin<sup>1/</sup>



<sup>1/</sup>Computed from Wisconsin assessors' data. Farm population question included in annual assessors state farm enumeration beginning in 1934.

II when many farm youth were taken into military service. During those years, other people left the farms for defense work and remained in industrial employment after the return of peace. By 1950 the farm population of Manitowoc County was 18 percent below 1934 and by 1955 it was down 23 percent. Since 1934 the state's farm population has declined by over a fourth.

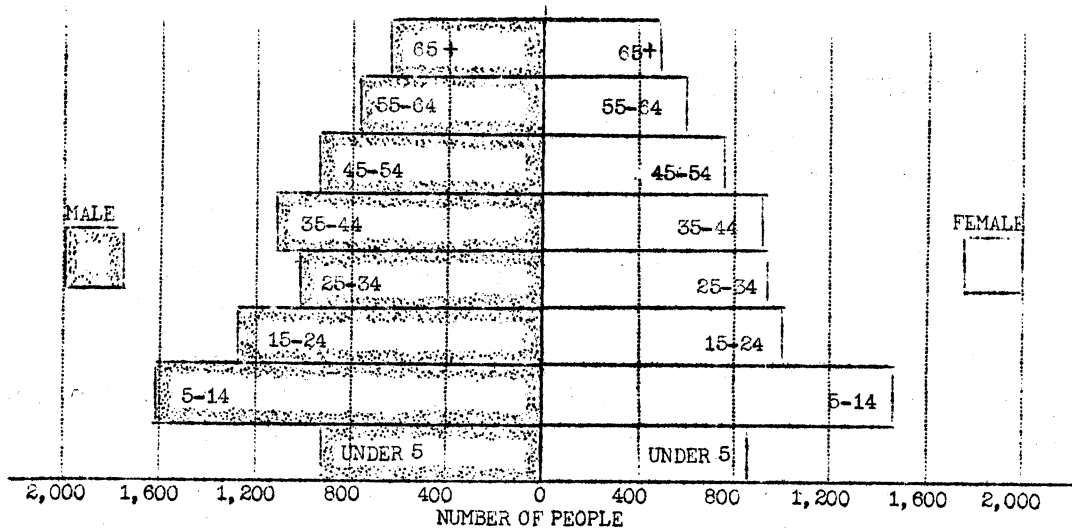
FARM POPULATION VARIES BY AGE

There is considerable variation in the farm population distribution of Manitowoc County by age groups. In 1950 the 5-14 years age group had 3,067 of the total 15,423 farm population. This was 19.9 percent of the total. The 65-years-and-over age group had 1,154 persons or 7.5 percent of the total. The other selected groups ranged between 9.1 and 14.9 percent of the farm population total. The largest percentage drop in going toward higher age groups was from the 5-14 to the 15-24 age group.

Selected Characteristics of the Total Population  
Manitowoc County and Wisconsin, United States Census, 1950

Characteristic	Unit	Manitowoc County	Wisconsin
Total population	Number	67,159	3,434,575
Population per square mile	Number	114.0	62.8
Rank in population per square mile	Rank	12	xxx
Median age	Years	30.8	31.0
Percent 65 years old and over	Percent	8.7	9.0
Percent under 15 years of age	Percent	27.8	27.0
Median school years completed	(Number	8.8	8.9
Males, 25 years old and over	(of school	8.7	8.8
Females, 25 years old and over	(years	8.8	9.1
Native white	Number	65,113	3,174,456
Foreign-born white	Number	1,951	218,234
Negro	Number	23	28,182
Other races	Number	72	13,703

Farm Population, Number by Age Groups  
 Manitowoc County, Wisconsin; United States Census, 1950



Total and Farm Population, by Age Groups  
 Manitowoc County, Wisconsin  
 United States Census, 1950

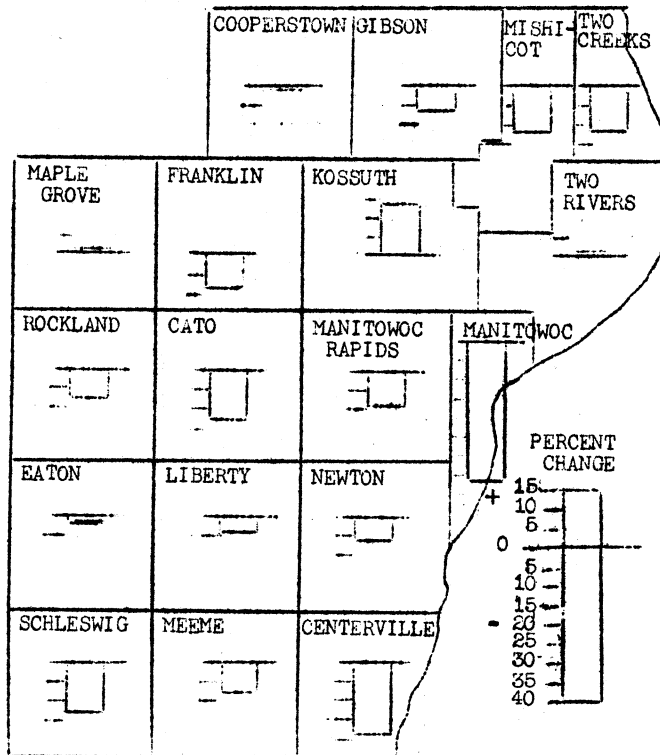
Age group Years	Total		Male		Female	
	Number	Percent of total	Number	Percent of age group total	Number	Percent of age group total
<b>Total population</b>						
Under 5	7,522	11.2	3,890	51.7	3,632	48.3
5 - 14	11,158	16.6	5,698	51.1	5,460	48.9
15 - 24	9,380	14.0	4,671	49.8	4,709	50.2
25 - 34	9,580	14.3	4,715	49.2	4,865	50.8
35 - 44	9,295	13.8	4,757	51.2	4,538	48.8
45 - 54	8,148	12.1	4,177	51.3	3,971	48.7
55 - 64	6,229	9.3	3,114	50.0	3,115	50.0
65 & over	5,847	8.7	2,817	48.2	3,030	51.8
<b>All ages</b>	<b>67,159</b>	<b>100.0</b>	<b>33,839</b>	<b>50.4</b>	<b>33,320</b>	<b>49.6</b>
<b>Farm population</b>						
Under 5	1,767	11.4	908	51.4	859	48.6
5 - 14	3,067	19.9	1,617	52.7	1,450	47.3
15 - 24	2,296	14.9	1,283	55.9	1,013	44.1
25 - 34	1,969	12.8	1,018	51.7	951	48.3
35 - 44	2,055	13.3	1,122	54.6	933	45.4
45 - 54	1,717	11.1	940	54.7	777	45.3
55 - 64	1,398	9.1	778	55.7	620	44.3
65 & over	1,154	7.5	655	56.8	499	43.2
<b>All ages</b>	<b>15,423</b>	<b>100.0</b>	<b>8,321</b>	<b>54.0</b>	<b>7,102</b>	<b>46.0</b>

The total population by age groups did not vary as much as the farm population. The percentages ranged from 8.7 percent for the 65-and-over age group to 16.6 percent for the 5-14 age group. The largest percentage drop in going toward higher age groups took place from the 45-54 to the 55-64 age group.

MALES AND FEMALES UNEVENLY DISTRIBUTED

Of the 15,423 farm population in 1950 in Manitowoc County, 8,321 or 54.0 percent were males and 7,102 or 46.0 percent were females. Males made up more than half of the farm total in each of the selected age groups. As a percent of the farm population by age groups the 65-and-over age group had the highest percentage of males, 56.8 percent, of any of the age groups. Of the total population of 67,159 people for Manitowoc County in 1950, 50.4 percent were males and 49.6 percent were females.

Farm Population in 1955 as a Percent Change from 1950, by Towns  
Manitowoc County, Wisconsin<sup>1/</sup>



<sup>1/</sup>Computed from Wisconsin assessors' farm enumeration.

GENERAL DECLINE IN FARM POPULATION OF TOWNS

From 1950 to 1955 most of the towns in Manitowoc County had decreases in farm population according to assessors' reports. Some of the decreases were considerable, percentagewise. A few of the towns showed some increase for the period. These increases or decreases include the farm population of incorporated places that may be located within towns.



About a 6 percent decline in farm population was indicated for the 6-year period for Manitowoc County. This change includes the city and village farm population which is a small part of the total farm population in the county. The city and village farm population decreased by over a fourth from 1950 to 1955.

### BIRTH RATE UP IN COUNTY

The birth rate is up in Manitowoc County as well as the average number of births. That is, for the 5-year period 1951-55 there were 25.9 births per 1,000 population compared with 24.2 births per 1,000 population in the 1946-50 period. For the 1951-55 period the average annual number of births was 1,787, compared with the 1946-50 average of 1,624 births. For the state as a whole, the 1951-55 average annual number of births was also higher than the 1946-50 average. Like the county, Wisconsin's birth rate per 1,000 population was higher for the 1951-55 period than the 1946-50 period.

The death rate is declining for the state but rising a little for the county. This is indicated by the rates for the 1946-50 and 1951-55 periods. For these same two periods the average number of deaths was up for both the state and the county in going from the earlier to the later period.

### Livebirths, Deaths, Marriages, and Divorces Manitowoc County and Wisconsin, 1950-54<sup>1/</sup>

Year	Livebirths Number	Deaths Number	Marriages Number	Divorces Number
<u>Manitowoc County</u>				
1951-55 average	1,787	643	xxx	xx
1946-50 average	1,624	603	xxx	xx
1951	1,741	600	508	51
1952	1,820	627	463	45
1953	1,709	668	113	54
1954	1,824	645	510	44
1955	1,840	676	481	42
5-year rate per 1,000 population				
1951-55	25.9	9.3	xxx	xx
1946-50	24.2	9.0	xxx	xx
<u>Wisconsin</u>				
1951-55 average	89,814	34,216	xxxxxx	xxxxxx
1946-50 average	80,824	32,805	xxxxxx	xxxxxx
1951	87,819	33,397	27,133	4,473
1952	88,941	33,887	24,737	4,847
1953	88,408	34,839	25,469	5,011
1954	91,570	33,709	24,921	4,887
1955	92,333	35,250	25,543	4,720
5-year rate per 1,000 population				
1951-55	25.4	9.7	xxx	xxx
1946-50	24.7	10.0	xxx	xxx

<sup>1/</sup>Data from Wisconsin Board of Health.

School Census for 1955-56, by Given Age Groups  
Manitowoc County, Wisconsin<sup>1/</sup>

Age groups Years	County <sup>2/</sup>		Cities <sup>3/</sup>		Total boys and girls Number
	Boys Number	Girls Number	Boys Number	Girls Number	
Under 5	1,538	1,529	2,703	2,524	8,294
5 - 9	1,612	1,504	2,355	2,372	7,843
10 - 14	1,412	1,236	1,833	1,678	6,159
15 - 19	1,097	1,043	1,438	1,359	4,937
Total under 20 years of age	5,659	5,312	8,329	7,933	27,233

<sup>1/</sup>Data from Wisconsin Department of Public Instruction.

<sup>2/</sup>Excludes Kiel, Manitowoc, and Two Rivers.

<sup>3/</sup>Includes Kiel, Manitowoc, and Two Rivers.

### SCHOOL CENSUS AND ENROLLMENT

The school census is an annual count of the children under 20 years of age. Manitowoc County had 27,233 children for the 1955-56 school year. Of this total, 16,262 children, or 59.7 percent were in the cities of Manitowoc, Kiel, and Two Rivers while 10,971 or 40.3 percent were enumerated in the rest of the county. The total for boys outnumbered the total for girls in the city area and also in the rest of the county.

Among the four age groups in the school census there was an appreciable difference in the percentage that each group was of the total. The under-5 age group had 30.5 percent of the enumerated children while the 5-9 age group had 28.8 percent. Of the children under 20 years of age, the 15-19 age group was the lowest with 18.1 percent of the total while the 10-14 age group was second lowest with 22.6 percent.

For the 1955-56 school year there was a public school net enrollment of 9,594 children in the whole county. This was more than 20 percent above the 1950-51 school year enrollment. This increase is in line with the total population rise in the county. Enrollment in the elementary grades and high schools was higher in 1955-56 than in 1950-51 while enrollment in the rural and graded schools was lower.

Public School Net Enrollment for 1950-51 and  
1955-56 School Years, Manitowoc County, Wisconsin<sup>1/</sup>

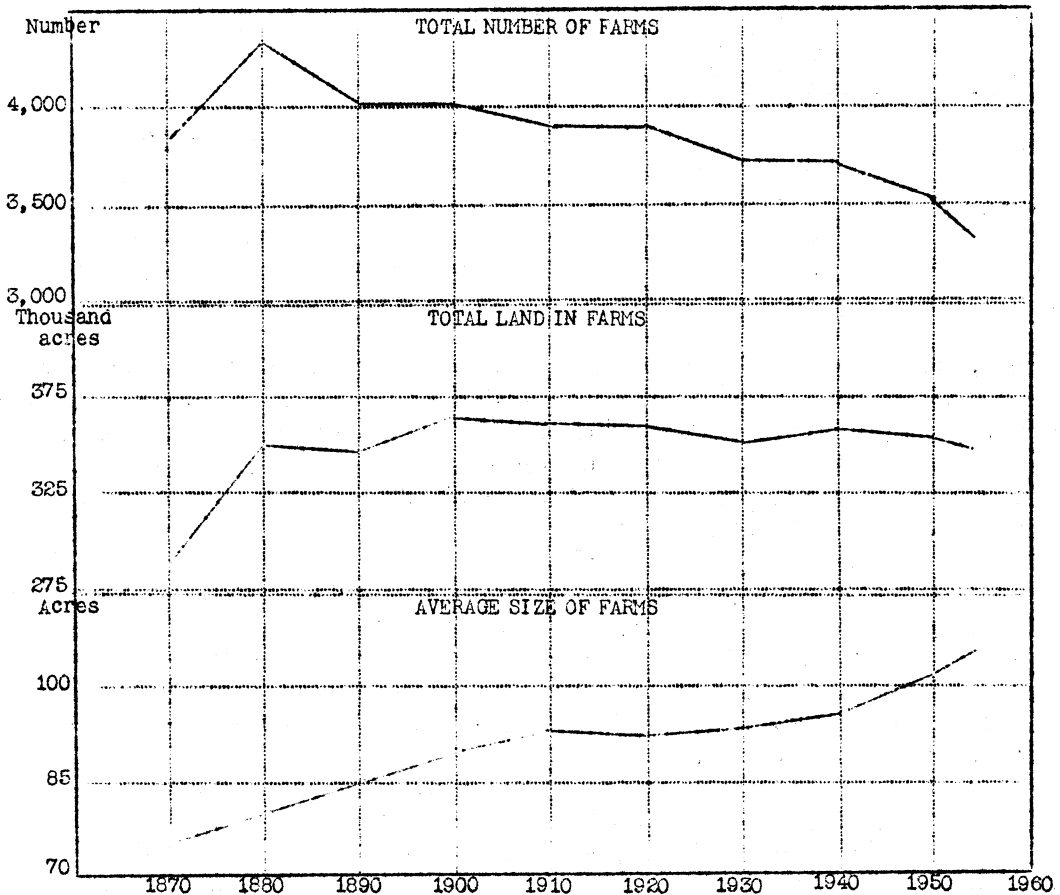
Schools	1955-56 school year	1950-51 school year	1955-56 as a percent of 1950-51
	Number of children		Percent
Rural	1,552	1,644	94.4
Graded	215	224	96.0
Elementary grades	4,242	2,882	147.2
High schools	3,585	3,223	111.2
Total	9,594	7,973	120.3

<sup>1/</sup>Data from Wisconsin Department of Public Instruction.

PART III. - PHYSICAL RESOURCES OF MANITOWOC COUNTY

The county's physical resources are such natural resources as land, water, forests, and minerals. Any information about the use of these resources is of interest to many people including persons intending to make their homes within the area. Utilization of the land, number and size of farms, characteristics of the soil, and woodland and its use are all items for which information is presented for Manitowoc County. Data are also included on the climate of the county.

Number, Land Area, and Average Size of Farms, 1870-1954  
Manitowoc County, Wisconsin

FARM NUMBERS DROPPING

The number of farms in Manitowoc County is becoming smaller. Mechanization of farming and other technological advances have made the operation of larger farms more advisable. Large scale farming operations tend to reduce the per unit cost of production. In 1954 there were 3,321 farms in Manitowoc County ranking it ninth in the state. This is the smallest number of farms since 1860 when 809 farms were enumerated. The peak in number of farms occurred in Manitowoc County in 1880. After 1880 the trend was slightly downward until 1940. Since then however, there has been a sharp ranging downward in farm numbers, according to census figures.

Since the 1940 Census the decline in farm numbers has been accompanied by a similar trend in the acreage of land in farms in the county. In 1954, 347,838 acres were reported compared with 356,166 and 353,835 acres in 1940 and 1950 respectively. The over-all trend in acreage of land in farms in Manitowoc County has been slightly downward since the beginning of the century. This is probably a reflection of the urbanization that has occurred in the county.

The trend in the percentage of land area in farms in Manitowoc County has roughly followed that of the state as a whole in the last fifteen years. In the 1940 Census a total of 93.7 percent of the land area was indicated as being in farms in Manitowoc County. The state's peak of 67.4 percent was recorded in 1945, while in 1954 it was down to 64.3 percent. In Manitowoc County the percentage of land in farmland also declined, decreasing to 91.5 percent of the total land area in 1954. At the turn of the century 95.6 percent of the land area was in farms.

#### AVERAGE SIZE OF FARMS INCREASES

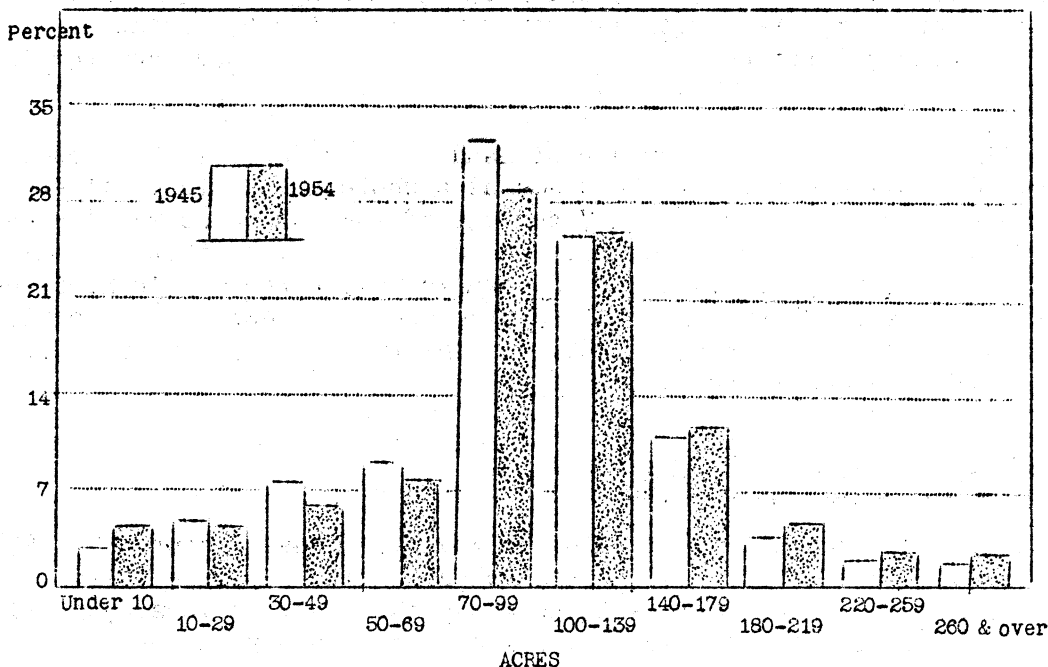
Farms are becoming larger in the county. Census figures in 1954 show that the average size was 104.7 acres compared with the 1950 average of 100.5 acres. Manitowoc ranked sixty-eighth among the counties in average size of farms in 1954. The average size of farms in the county has been increasing almost steadily from 75.1 acres in 1870 to the present time. The 1954 state average was 146.6 acres per farm.

Farms: Number, Acreage, Average Size, and Percent of Area  
Manitowoc County, Wisconsin; United States Census 1850-1954

Year	Total farms	Total farm acreage	Average size of farms	Percent of land area in farms <sup>1/</sup>
	Number	Acres	Acres	Percent
1850	37	8,049	217.5	2.1
1860	809	67,113	83.0	17.7
1870	3,843	288,441	75.1	75.9
1880	4,361	350,225	80.3	92.2
1890	4,076	345,571	84.8	90.9
1900	4,073	363,133	89.2	95.6
1910	3,906	359,406	92.0	94.6
1920	3,904	358,511	91.8	94.3
1925	3,887	352,674	90.7	92.8
1930	3,767	350,069	92.9	92.1
1935	3,839	355,909	92.7	93.7
1940	3,741	356,166	95.2	93.7
1945	3,691	355,500	96.7	93.9
1950	3,519	353,835	100.5	93.1
1954	3,321	347,838	104.7	91.5
Rank 1954	9	29	68	13

<sup>1/</sup>Not census. Based on land area as computed by the Crop Reporting Service and published in the 1935 Wisconsin Blue Book. Includes area of cities and villages.

Percentage of Farms by Size Groups  
Manitowoc County, Wisconsin  
United States Census, 1945 and 1954



The larger farms are accounting for a greater proportion of all farms than formerly, while the percentage of smaller farms is declining. This is true for the state as well as the county. Farms of 260 acres or more made up 2.7 percent of all farms in 1954 in Manitowoc County, while in 1945 these farms accounted for 1.3 percent of the total. Farms of under 100 acres accounted for 52.4 percent in 1954 and 57.5 percent in 1945. Comparable figures for the state for 1954 show 10.7 percent of the farms with 260 acres or more and 35.8 percent with less than 100 acres.

Farms by Size Groups, Manitowoc County and Wisconsin  
United States Census, 1945, 1950, 1955

Acreage size group Acres	Manitowoc County			Wisconsin		
	1945 Percent	1950 Percent	1955 Percent	1945 Percent	1950 Percent	1955 Percent
Under 10	3.3	3.3	4.4	3.2	3.5	3.6
10 - 29	4.5	4.3	4.4	4.1	4.1	3.8
30 - 49	7.9	7.2	6.2	7.4	6.6	5.8
50 - 69	9.3	9.1	8.2	4.8	4.7	4.4
70 - 99	32.5	31.8	29.2	22.1	20.3	18.2
100 - 139	25.3	25.5	25.6	20.9	20.8	20.3
140 - 179	10.6	10.6	11.7	16.1	16.7	17.2
180 - 219	3.7	4.3	5.0	8.5	9.0	9.7
220 - 259	1.6	2.1	2.6	5.1	5.5	6.3
260 - 499	1.3	1.8	2.6	6.9	7.8	9.4
500 - 999	-	-	.1	.8	.9	1.1
1,000 & over	-	-	-	.1	.1	.2
Total	100.0	100.0	100.0	100.0	100.0	100.0

Acreage of Land in Farms and as a Percent of Total Land Area,  
by Towns, Manitowoc County, Wisconsin 1954

FARMLAND:		COOPERSTOWN	GIBSON	MISHI-COT	TWO CREEKS
Acres . . . . .		20,160	20,831	18,807	9,873
Percent of total land area . . . . .		87	93	98	*

MAPLE GROVE	FRANKLIN	KOSSUTH	TWO RIVERS
22,133 98	22,581 96	24,064 94	17,426 73
ROCKLAND	CATO	MANITOWOC RAPIDS	MANITOWOC
21,320 93	22,333 96	19,725 86	6,322 64
EATON	LIBERTY	NEWTON	
21,414 93	20,569 89	20,749 94	
SCHLESWIG	MEEME	CENTERVILLE	
21,300 94	22,519 97	15,767 95	

COUNTY DATA:  
Farmland:  
Acres - 347,838  
Percent of  
land area - 91.5

\*Percentage exceeds 100 mainly because farm boundaries overlap town boundaries.

WIDE RANGE IN FARMLAND AMONG TOWNS

The number of acres of land in farms in the various towns ranges from over 24,000 acres to slightly more than 6,300 acres. A basic factor affecting the acreage of land in farms by towns is the variation in land area of the towns. Other factors include government-owned tracts of land, land in cities, suburban areas, and recreational developments. These factors also have a direct bearing on the number of farms and the percent of the total land area that is in farmland in each town.

CROPLAND PER FARM

The amount of cropland affects the income producing ability of a farm. The acreage of land in a farm that is in cropland is determined by such factors as kind of terrain and soil, woodland acreage, and drainage conditions. There is considerable variation among the counties in the state as to the percentage of farmland available for crops. The average acreage of cropland per farm as indicated in the 1954 Census has increased since 1949 for most of the counties. This is in line with the almost general increase in the average size of farms. For some counties the total cropland per farm has been increased by more than a dozen acres, while in only two counties was a decrease reported.

Manitowoc County ranked thirty-eighth among the 71 counties of the state in acres of cropland per farm according to the 1954 Census. This

Total Land Area and Data on Land in Farms by Towns<sup>1/</sup>  
Manitowoc County, Wisconsin

Town	Total land area <sup>2/</sup> Acres	Number of farms <sup>3/</sup> Number	Land in farms <sup>3/</sup> Acres	Percent of total land area Percent
Cato	23,264.33	205	22,333	96.0
Centerville	16,560.87	165	15,767	95.2
Cooperstown	23,140.69	173	20,160	87.1
Eaton	22,923.70	147	21,414	93.4
Franklin	23,475.04	229	22,531	96.0
Gibson	22,449.59	218	20,831	92.8
Kossuth	25,615.97	267	24,064	93.9
Liberty	23,131.25	176	20,569	88.9
Manitowoc	9,813.58	95	6,322	64.4
Manitowoc Rapids	22,859.82	218	19,725	86.3
Maple Grove	22,952.83	179	22,133	96.4
Meeme	23,173.60	210	22,519	97.2
Mishicot	19,286.29	172	18,802	97.5
Newton	22,068.23	240	20,749	94.0
Rockland	22,982.23	167	21,320	92.8
Schleswig	22,689.38	207	21,300	93.9
Two Creeks	9,652.62	91	9,873	*
Two Rivers	23,987.96	162	17,426	72.6
County	380,027.98	3,321	347,838	91.5

<sup>1/</sup>Includes land area and farms in incorporated places within towns.

<sup>2/</sup>Computed by Crop Reporting Service and published in 1935 Wisconsin Blue Book.

<sup>3/</sup>Data are primarily 1954 Federal Agricultural Census totals. Adjustments to get individual town totals were based on Wisconsin assessors' farm enumerations. Minor civil divisions data shown are based on federal census enumeration districts.

\*Percentage exceeds 100 mainly because farm boundaries overlap town boundaries.

comparatively low rank is primarily due to the small average size of farms in the county, 104.7 acres. In 1954 the county had an average of 81.2 acres of cropland per farm, which was a gain of 4.9 acres over 1949. This is a relatively small gain, however, when compared with most of the counties of the state. The state registered a gain of 6.4 acres in the same five years.

#### VALUE PER ACRE UP

The value of farmland and buildings per acre is up for Manitowoc County farms. According to the 1954 Census, the average value per acre was at a peak of \$150.11 which ranked the county nineteenth in the state. For 1950 the average value was \$148.49 per acre. The per acre value has been rising since 1935. In 1954 the state average value per acre was \$100.85. Due in large part to the increased value per acre of farmland, the average value per farm has been rising in the county. The average value per farm was \$15,959 in Manitowoc County in 1954; the state average was \$14,829. The total value of farmland and buildings for the county in 1954 was slightly below the 1950 figure.

Farmland and Buildings: Value and Rank in State  
Manitowoc County, Wisconsin; United States Census, 1910-54

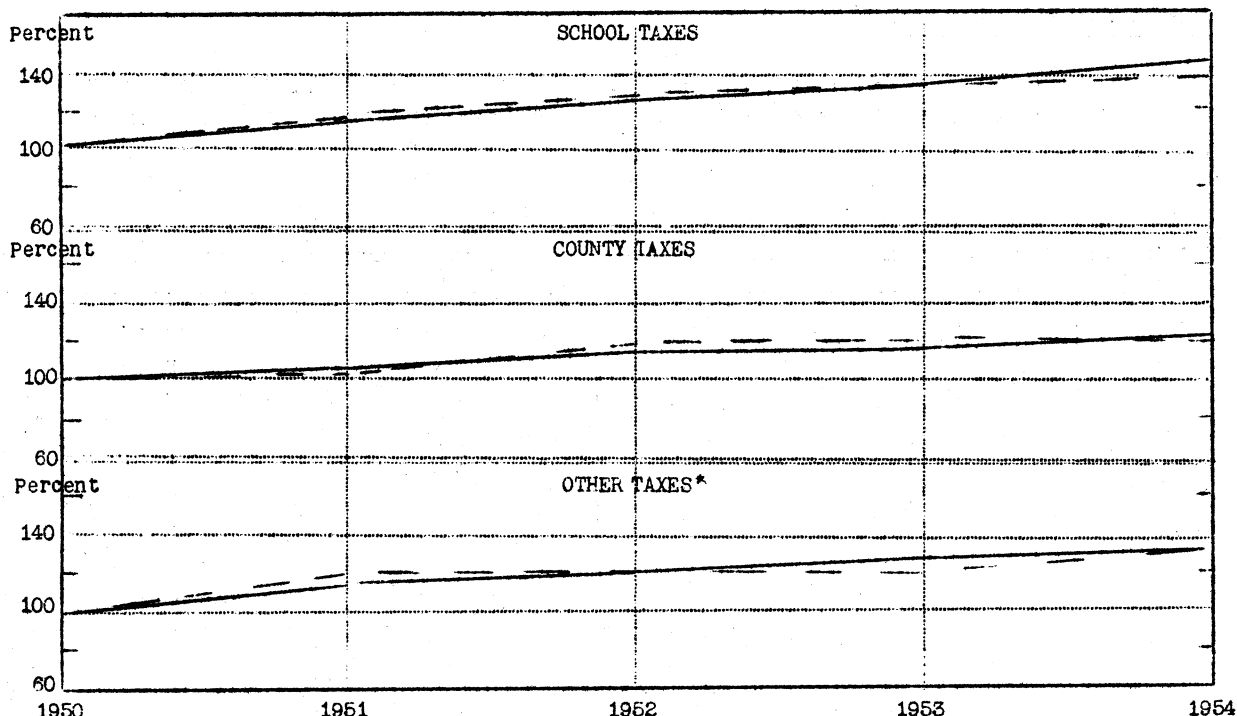
Year	Total value		Value per acre		Value per farm	
	Dollars	Rank	Dollars	Rank	Dollars	Rank
1910	29,015,795	13	80.73	17	7,429	21
1920	49,688,933	12	138.60	14	12,728	22
1925	42,016,528	9	119.14	11	10,810	25
1930	39,820,575	8	113.75	11	10,571	22
1935	33,548,714	5	94.26	6	8,739	10
1940	34,744,232	4	97.55	7	9,287	11
1945	35,551,633	8	99.61	12	9,632	21
1950 <sup>1/</sup>	53,060,626	8	148.49	11	15,226	20
1954 <sup>1/</sup>	52,606,900	11	150.11	19	15,959	26

<sup>1/</sup>Value per acre and value per farm are from census sample of approximately 20 percent of the farms. Total value estimated from value per farm and value per acre.

GENERAL PROPERTY TAXES RISING

General property taxes have been rising steadily in Manitowoc County since 1950. Full value assessments have also been up each year since 1950. The general property tax contributes about one-half of all the tax revenue of the state. There has been a general increase in Manitowoc County of the components making up the general property tax total. State, county, local, and school taxes have all risen, but not at the same rate.

General Property Taxes Levied in 1951-54 as a Percent of 1950  
Manitowoc County and Wisconsin<sup>1/</sup>



\*State and local taxes.

Manitowoc County — — — Wisconsin

<sup>1/</sup>Computed from data obtained from Wisconsin Department of Taxation.



General Property Full Value Assessments  
Manitowoc County and Wisconsin, 1950-54<sup>1/</sup>

Year	Full value assessments	
	Manitowoc County	Wisconsin
	Dollars	Dollars
1950	188,153,750	9,200,753,935
1951	200,658,850	10,418,575,110
1952	224,685,590	11,967,582,932
1953	227,657,030	12,813,036,000
1954	240,564,400	13,244,709,755

<sup>1/</sup>Data from Wisconsin Department of Taxation.

Taxes levied by schools have increased more percentagewise than taxes levied by other units of government. This has occurred because of factors like the need for more schools and for additions to existing ones. In Manitowoc County the school tax levies in 1954 were 35 percent higher than in 1950. Each one of the years in the period had an increase recorded. County levies and other taxes, state and local together, increased 19 and 26 percent respectively from 1950 to 1954.

The taxes levied by the schools in the state as a whole have climbed faster than county, state, and local taxes since 1950. School tax levies in 1954 exceeded 1950 by 43 percent. County taxes levied by the state have been larger each year since 1950 with a 23 percent increase reported in 1954. Other taxes in 1954 were three-tenths higher than 1950 and have been increased each year since 1950 for the state.

DOWNTREND IN FARM TENANCY

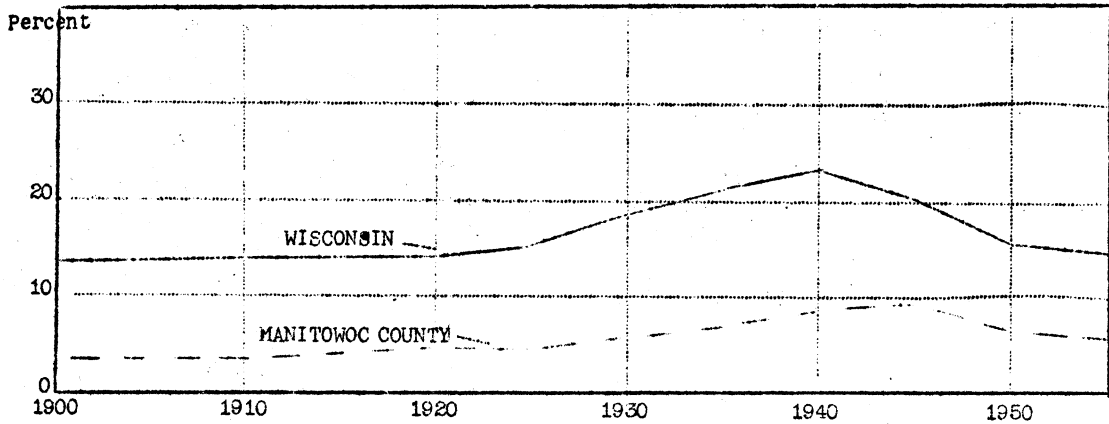
The percentage of farm tenancy has been on the decline in Manitowoc County since 1945. A peak of 9.2 percent of the farms were rented in that

General Property Taxes Levied  
Manitowoc County and Wisconsin, 1950-54<sup>1/</sup>

Year	Taxes levied				
	State	County	Local	School	Total
	Dollars	Dollars	Dollars	Dollars	Dollars
<u>Manitowoc County</u>					
1950	37,631	778,651	1,442,127	1,439,208	3,697,617
1951	40,132	790,881	1,718,241	1,620,959	4,170,213
1952	44,937	926,114	1,723,751	1,788,854	4,483,656
1953	45,531	926,868	1,718,603	1,884,000	4,575,002
1954	48,113	930,030	1,821,694	1,943,806	4,743,643
<u>Wisconsin</u>					
1950	1,826,767	69,331,300	68,446,873	86,005,104	225,610,044
1951	2,070,623	73,086,867	75,703,791	95,449,196	246,310,477
1952	2,375,608	77,975,177	82,119,756	105,968,781	268,439,322
1953	2,541,099	79,699,183	85,782,165	113,580,121	281,602,568
1954	2,616,997	85,347,485	89,007,429	122,872,362	299,844,275

<sup>1/</sup>Data from Wisconsin Department of Taxation.

Percentage of Tenancy, Manitowoc County and Wisconsin Farms  
United States Census, 1900-54



year. From 1945 to 1950 there occurred the sharpest drop in tenancy in the county--from 9.2 to 6.6 percent. The 1954 Census reported 5.9 percent of the farms rented. This ranked the county forty-ninth in the percentage of rented farms. The state percentage in 1954 was 14.4 percent and the proportion of tenancy in Manitowoc County has been lower than the state in each of the census years beginning with 1900. The accompanying table indicates that while the percentage of full-owner operators of farms has remained quite stable in recent years, the percentage of operators who rent land in addition to that owned has become increasingly important.

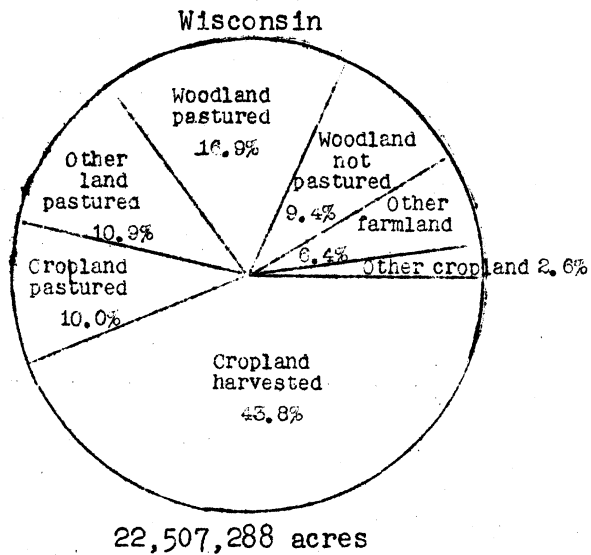
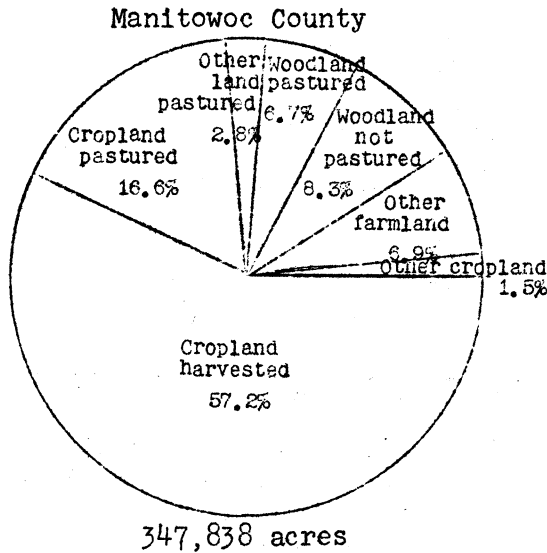
UTILIZATION OF FARMLAND

The 347,838 acres of land in Manitowoc County farms is used for various purposes. Cropland harvested accounted for 57.2 percent of the land in farms in 1954 and cropland pastured 16.6 percent. Other cropland amounted to 1.5 percent of the land in farms. Woodland pastured and woodland not pastured together made up 15.0 percent, while other land pastured accounted for 2.8 percent. The classification of "other farmland" includes building areas, roads, and wasteland and accounted for 6.9 percent of the total farmland in Manitowoc County in 1954.

Farms by Tenure of Operator, Manitowoc County, Wisconsin  
United States Census, 1900-54

Year	Farms	Full owners		Part owners		Managers		Tenants	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
1900	4,073	3,738	91.8	165	4.0	16	.4	154	3.8
1910	3,906	3,644	93.3	97	2.5	25	.6	140	3.6
1920	3,904	3,561	91.2	127	3.3	47	1.2	169	4.3
1925	3,887	3,596	92.5	120	3.1	10	.3	161	4.1
1930	3,767	3,382	89.8	132	3.5	31	.8	222	5.9
1935	3,839	3,392	88.4	186	4.8	13	.3	248	6.5
1940	3,741	3,171	84.8	227	6.1	19	.5	324	8.6
1945	3,691	3,054	82.7	277	7.5	20	.6	340	9.2
1950	3,519	2,934	83.4	342	9.7	11	.3	232	6.6
1954	3,321	2,691	81.0	420	12.7	14	.4	196	5.9

Utilization of Land in Farms, Manitowoc County and Wisconsin  
United States Census, 1954



Utilization of Farmland, Manitowoc County, Wisconsin<sup>1/</sup>

Town	Cropland harvested	Crop-land pastured	Other crop-land	Wood-land pastured	Wood-land not pastured	Other pasture land	Other farmland <sup>2/</sup>
	Acres	Acres	Acres	Acres	Acres	Acres	Acres
Cato	13,567	4,310	218	959	1,247	490	1,542
Centerville	10,427	2,663	120	320	814	137	1,286
Cooperstown	10,746	3,698	74	1,544	1,828	926	1,344
Eaton	9,914	2,598	235	2,004	3,703	889	2,071
Franklin	12,633	4,696	876	1,815	1,072	337	1,102
Gibson	11,504	3,228	356	2,576	1,496	628	1,043
Kossuth	14,307	3,992	475	1,817	1,485	886	1,102
Liberty	11,147	3,336	135	1,407	2,362	1,069	1,113
Manitowoc	4,201	890	128	245	309	221	328
Manitowoc Rapids	12,638	3,426	105	792	1,193	400	1,171
Maple Grove	11,386	3,483	267	2,497	2,406	659	1,435
Meeme	13,977	3,725	98	775	1,945	359	1,640
Mishicot	11,635	3,093	376	1,050	1,186	358	1,104
Newton	12,917	3,662	153	697	1,395	421	1,504
Rockland	10,620	3,477	414	2,091	1,892	906	1,920
Schleswig	11,266	3,110	231	1,411	2,007	415	2,860
Two Creeks	6,215	1,625	197	551	623	188	474
Two Rivers	10,006	2,712	673	784	1,822	333	1,096
<b>County</b>	<b>199,106</b>	<b>57,724</b>	<b>5,131</b>	<b>23,335</b>	<b>28,785</b>	<b>9,622</b>	<b>24,135</b>

<sup>1/</sup>Includes land utilization in incorporated places within towns. Data are primarily 1954 Federal Agricultural Census totals. Adjustments to get individual town totals were based on Wisconsin assessors' farm enumerations. Minor civil division data shown are based on federal census enumeration districts.

<sup>2/</sup>Waste land, building areas, roads, etc.

Acreage in Woodland and as a Percent of the Land Area,  
by Towns, Manitowoc County, Wisconsin, 1938<sup>1/</sup>

WOODLAND:	COOPERSTOWN	GIBSON	MISHI-COT	TWO CREEKS
Acres . . . . .	5,291	3,907	2,164	940
Percent of total land . . .	23	17	11	10

MAPLE GROVE	FRANKLIN	KOSSUTH	TWO RIVERS
5,009	3,674	3,801	4,740
22	16	15	20

ROCKLAND	CATO	MANITOWOC RAPIDS	MANITOWOC
4,685	2,841	1,972	980
20	12	9	10

EATON	LIBERTY	NEWTON
6,914	4,508	2,768
30	20	13

SCHLESWIG	MEEME	CENTERVILLE
4,021	3,366	1,907
18	14	12

COUNTY DATA:  
Woodland:  
Acres --- 63,488  
Percent of land area --- 16.7

<sup>1/</sup>Estimated by Wisconsin Crop Reporting Service from Land Economic Inventory survey by government townships. Includes wooded swamps.

The accompanying table indicates the utilization of farmland in the county by towns. There are big acreage differences among the towns for some of the utilizations. The land area, kind of terrain, and kind of soil are all factors affecting the comparative farmland uses among the towns.

WOODLAND ACREAGE AND USES

Woodland is found in all of the towns of Manitowoc County, but the acreage varies considerably among the towns according to a survey made in the late 1930's. The town of Eaton led with 6,914 acres of woodland while Two Creeks was last with 940 acres. This includes wooded swamps. The accompanying map indicates the woodland acreages for the towns together with the corresponding percentages of the land area. For the county as a whole less than 17 percent of the land area was in woodland.

The 1954 Census indicated that Manitowoc County woodland is used in various ways. A considerable part of it is pastured. Wood was cut for fuel, fence posts, and sawlogs but the amount was not great and the rank of the county was low for these items. Maple sirup is another forest product. In 1954 with over 770 gallons made the county ranked sixteenth in output. The county is an important honey producer and in 1955 the production was estimated at over 767,800 pounds. This ranked the county fifth.

TEMPERATURE, PRECIPITATION, AND DEGREE DAY PATTERNS

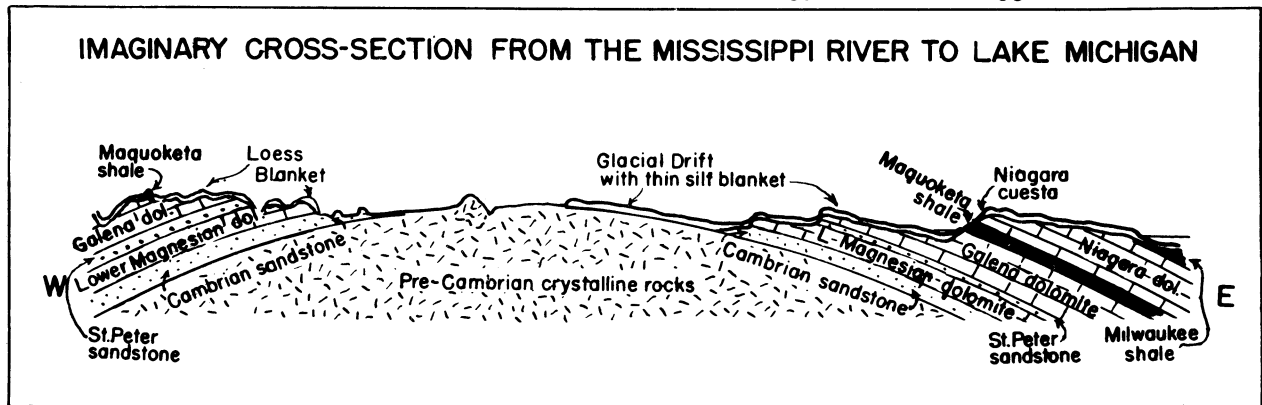
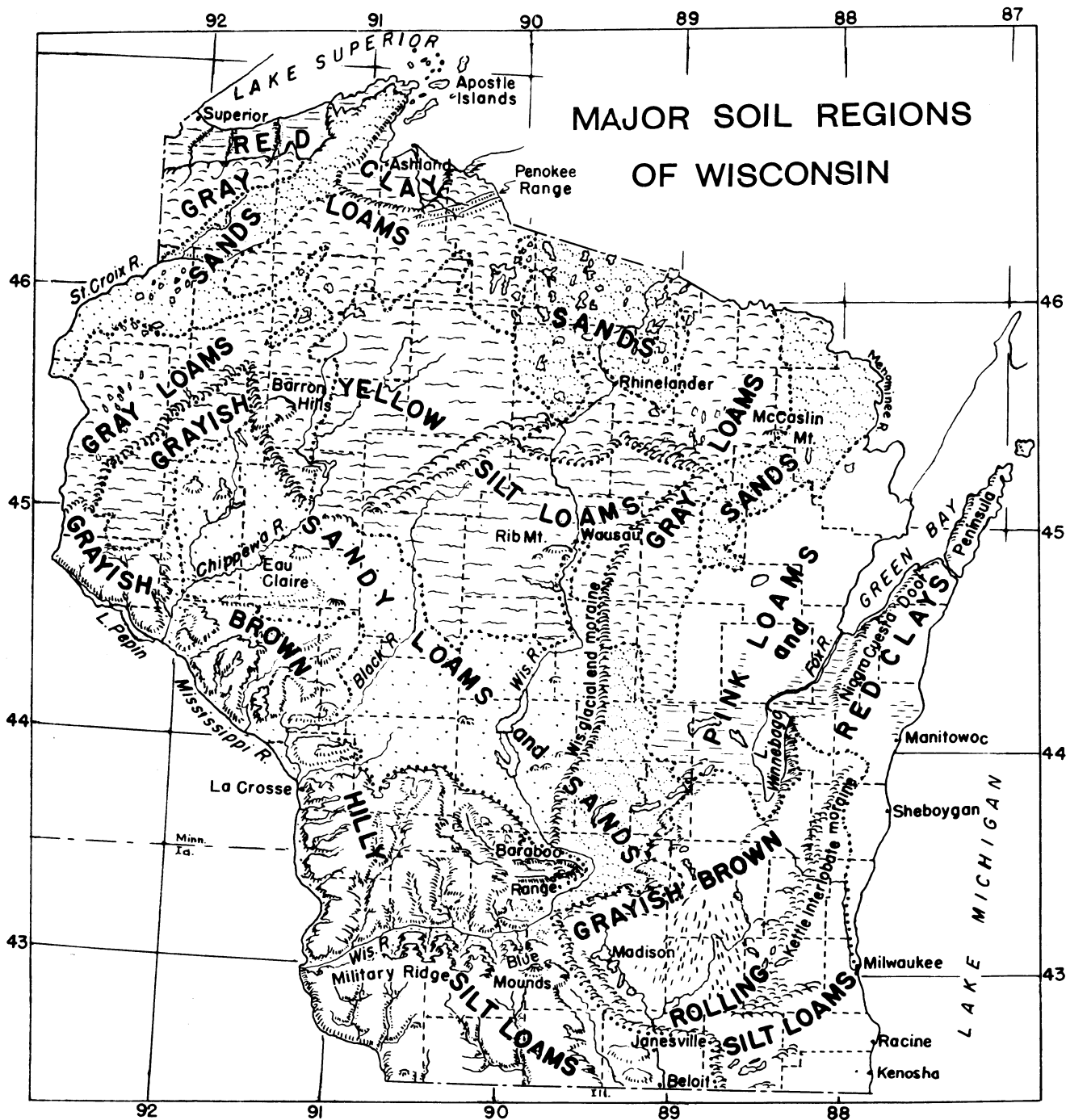
The degree day concept is relatively new as far as climate is concerned. Degree days are divided into two types: the growing and heating degree day. The growing degree day is measured positively from any base temperature desired. Data on growing degree days are valuable as a guide in crop planting and in forecasting dates of crop maturity. The heating degree day on the other hand is measured as a departure of 1 degree per day below 65 degrees. The heating degree day was designed as an accurate index of the fuel required to heat a building. If the average temperature outdoors for a day is 40 degrees, the number of heating degree days for the 24-hour period would be 65 minus 40 or 25. Unfortunately the Weather Bureau does not compute growing degree days so heating degree days with a base temperature of 65 degrees are used on the accompanying table. It must be remembered that this is a negative value for it measures degree days below a base temperature. Thus the smaller the number of heating degree days in a month the lower will be the fuel required and the greater will be the temperature efficiency for the growth of crops.

The representative station for degree day data in eastern Manitowoc County is the city of Manitowoc. The western part of the county is represented by Chilton which is not in the county, but only six miles from its western border. Manitowoc has five months when the degree day totals exceed 600. When the number of degree days in a month is over 600 it is considered to be a winter month or a dormant season in the growing of crops. Months that have degree day totals under 300 are generally believed to be entirely within the growing season. This is not true, however, when a modifying influence like Lake Michigan is present. Although May has over 300 degree days it is definitely within the growing season throughout the entire county. The months of April and October are transitional between the growing season and the dormant season for crops. It is in these months i.e., late April and mid-October that the last spring and first fall killing frosts usually occur in the eastern part of the county. In the west, however, the first fall killing frost comes in early October and the last spring frost in early May. Thus the growing season averages from 160-170 days along Lake Michigan to 150-160 days farther west. Maps showing the length of growing season and the pattern of annual precipitation in Wisconsin are found inside the back cover of this publication.

Temperature, Precipitation, and Degree Days, Manitowoc County, Wisconsin  
Monthly Averages for Wisconsin and for Area Stations

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Average temperature - Degrees Fahrenheit													
Wisconsin	14	17	29	43	55	65	70	67	60	48	33	20	43
Chilton	17	17	31	45	56	66	71	68	62	49	35	21	45
Manitowoc	19	21	31	42	53	62	69	67	60	49	36	25	45
Average precipitation - - Inches of rainfall													
Wisconsin	1.2	1.2	1.6	2.5	3.5	4.2	3.4	3.4	3.7	2.4	1.9	1.3	30
Chilton	1.4	1.3	1.8	2.4	3.5	3.8	3.1	2.9	3.4	2.0	1.8	1.4	29
Manitowoc	1.5	1.5	2.1	2.4	3.0	3.4	3.3	3.0	3.3	2.4	2.2	1.6	30
Number of degree days <sup>1</sup> - 65-degree base													
Chilton	1425	1164	1095	538	271	58	8	23	150	439	879	1279	7329
Manitowoc	1328	1087	1049	574	307	95	6	14	139	427	837	1189	7052

<sup>1</sup>/Average for five years, 1951-55.



Map from Bulletin No. 79, "Introduction to Soils of Wisconsin," Soil Survey Division, Wisconsin Geological and Natural History Survey, University of Wisconsin.

MAJOR SOIL REGIONS OF WISCONSIN<sup>1</sup>

On the basis of the general kinds of soils, Wisconsin can be divided into eight soil regions. The map on the preceding page shows their extent by means of heavy dotted boundaries. As one drives across the state, the eight regions appear to the eye as distinctly different agricultural landscapes. The agriculture of Wisconsin is broadly based on these soil resources.

**Red Clay Region**

The Red Clay region is a lowland bordering the shores of Lake Superior in Wisconsin. It is bounded on the south by the upland of Gray Loams, and Sands, which stand about 500 feet above the Red Clay lowland. The lowland stands at about 700 feet above sea level. Lake Superior affects the climate of the lowland favorably, by lengthening the growing season to about 140 days, in contrast with 120 and 110 days on the adjacent upland to the south. The red clay soils have formed from ancient lake deposits, laid down when the lake stood much higher. At a depth of two or three feet below these acid soils, the clays contain lime. The major soils are the Ontonagon red clay soils, which are moderately well drained, and the Bergland black clay soils, found in poorly drained hollows. Although these soils warm up slowly in the spring and are somewhat hard to work, they are considered to be fertile and productive, especially when properly managed.

**Pink Loams and Red Clays Region**

This region in northeastern Wisconsin includes lowlands around Lake Michigan, Green Bay, and Lake Winnebago, and adjacent upland ridges. Most of the area has elevations between 600 and 800 feet above sea level. The soils are formed for the most part from red clays, both lake-laid and ice-laid. At a depth of two to three feet below these acid soils, the clays contain lime. The presence of large bodies of water favors a relatively long growing season, which ranges from about 140 days to over 160 days. The major soils are the level Oshkosh red clays, the somewhat hilly Kewaunee red clays, and the hilly Onaway pink loams. The Poygan black clays occupy wet depressions. These soils are somewhat hard to work, but are productive of agricultural crops.

**Sands Region**

In northern Wisconsin are three extensive areas of level and hilly sands, all of which touch the northern boundaries of the state. Elevations are between 1,000 and 1,500 feet above sea level. Lakes and bogs are numerous, especially in the north-central and northwestern sands. The level sands were spread out by melt waters from glaciers long ago. The hilly sands were pushed into ridges by the ice-sheet. Some wind erosion has occurred, forming dunes locally. The major soils are the Omega brown sands and the Hiawatha red sands, both of which are acid. With irrigation and proper fertilization, some level areas have become productive of agricultural crops. There are usually 120 to 130 frost-free days each year. The hilly soils are being used for timber, wild life, and recreation.

**Sandy Loams and Sands Region**

This region extends across the heart of the state, and includes the central lowland and the sandy ridges as far south-east as the limestone ledges of Columbia County, due north of Madison. The region has an elevation of about 1,000 feet above sea level. The bedrock is Cambrian sandstone, some few layers of which are hard, as in Friendship Mound, but most of which is rather soft. In the counties through which the Wisconsin River flows are extensive level sand plains, deposited by melt waters from the ancient glaciers. Buried beneath these sands in a few places are red, limy lake-laid clays. The Hixton sandy loam is extensive in the northwestern part of the region, the level dark Sparta sand and light colored Plainfield sand in the central portion, and the rolling Coloma

<sup>1</sup>Prepared by Professor Francis D. Hole, in charge, Soil Survey Division, Wisconsin Geological and Natural History Survey, University of Wisconsin.

sand in the glaciated southeast. Wind erosion is a problem in some localities. There are extensive areas of peat and other wet soils in the central lowland. By means of irrigation and fertilization, the agricultural productivity of some level sand areas has been raised considerably. The growing season ranges from less than 120 days in the vicinity of the large peat areas, to about 155 days at the western and eastern extremities of the region. Much of the area of rolling sandy loams is in farms. However, many square miles of the sand plains are in jack pine and scrub oak. Some of this is used for paper pulp production.

**Gray Loams Region**

The Gray Loams occupy five fairly distinct portions of northern Wisconsin. With few exceptions, the soils are acid and rather stony. The landscape is rolling to hilly, and lakes and peat bogs are numerous. In Taylor County, in north-central Wisconsin, a narrow, rough belt of these soils extends for many miles from northeast to southwest. Common elevations range between 1,000 and 1,500 feet above sea level. The Barron Hills reach 1,770 feet. The major hilly soils of the region are the Kennan gray loams on the east and the Milaca reddish gray loams on the west. Among the hills are several plains of Antigo silt loams, which are level and highly productive. The growing season varies widely from less than 100 days on the extreme north to 140 days on the west and 150 days on the southeast.

**Grayish-Yellow Silt Loams Region**

In north-central Wisconsin are three large areas of yellow silt loams, on which some of Wisconsin's best dairy farms have developed. Lime, fertilizer, and drainage have made these level to gently rolling acid soils productive even of alfalfa. A yellowish soil two or three feet thick overlies stony material. The shallower soils are called Freer silt loams, and the deeper ones, Almena silt loams. The growing season is about 150 days in length. Elevations between 1,000 and 1,500 feet are common. Rib Mountain stands at more than 1,940 feet.

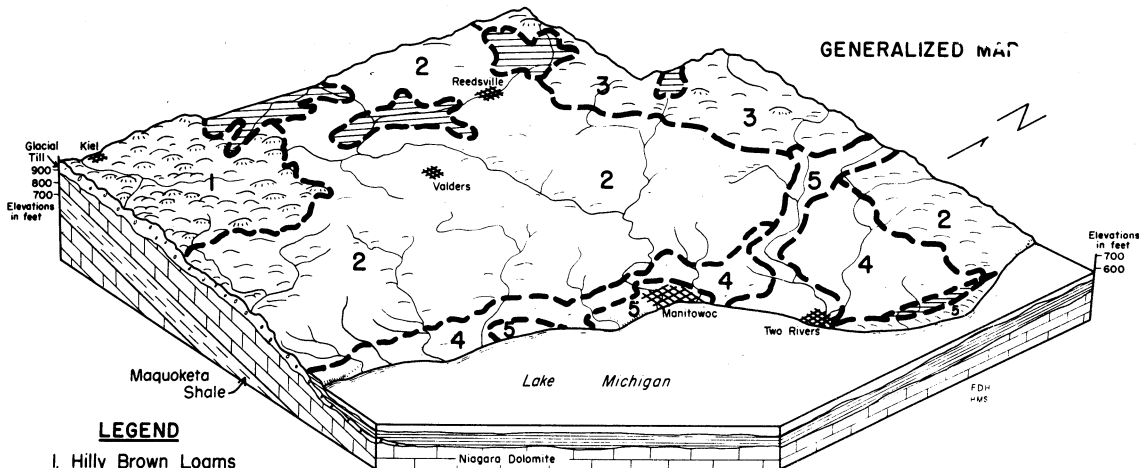
**Grayish-Brown Rolling Silt Loams Region**

This region occupies the southeastern section of the state. Here are many productive soils underlain by limy materials at a depth of a few feet. There are prairie soils and associated light colored soils, with black soils in the depressions. Parallel, elongated hills, shown on the map as dashes east of Madison, are called drumlins, and were shaped by the ice. Irregular ridges, called moraines, were also formed by the glacier. Most of the area stands at 900 to 1,000 feet above sea level. Holy Hill rises to 1,361 feet. The most extensive prairie soil is the Parr silt loam, and associated lighter colored soils are called Dodge and Miami. The black, wet Elba and Clyde soils occupy depressions, many of which have been artificially drained. The growing season is 150 to 170 days long. This is considered to be the most intensively cultivated agricultural region of Wisconsin.

**Grayish-Brown Hilly Silt Loams Region**

Much of southwestern Wisconsin was not invaded by glacial ice, and therefore has many more deep valleys and high, rock-cored ridges than other parts of the state. A silty layer several feet in thickness, deposited by dust storms thousands of years ago, covers the bedrock over most of the region. Productive dark (prairie) soils, called Dodgeville and Tama, and light colored soils, called Fayette and Dubuque, have formed in this silty material. About 15 to 20 percent of the area consists of soils too steep and stony for cultivation, but useful for pasture and forestry. In the main river valleys are some broad benches of both light and heavy soils. Elevations commonly range from 600 feet to 1,300 feet above sea level. Blue Mounds rise to 1,716 feet. Damage by erosion on the valley slopes, and by destructive action of flood waters on the bottomlands presents serious problems in many parts of this region. Yet the region rates high in agricultural production, and is famous for beautiful scenery.

SOILS OF MANITOWOC COUNTY, WISCONSIN



**LEGEND**

- |   |  |  |
|---|--|--|
| <p>1. Hilly Brown Loams<br/>(Miami, Bellefontaine, Rodman)</p> <p>2. Rolling Pink Silty Clay Loams<br/>(Kewaunee, Poygan)</p> | <p>3. Rolling Brown Loams<br/>(Onaway, Miami)</p> <p>4. Nearly Level Pink Clay Loams<br/>(Oshkosh, Poygan)</p> | <p>5. Beach Sands and Alluvial Soils</p> <p>≡ Muck</p> |
|---|--|--|

SOILS<sup>1/</sup>

Manitowoc County soils are practically all the products of weathering of glacial materials. Some of these materials were glacio-lacustrine deposits laid down in the bottom of Lake Chicago; some were deposits dropped where the ice stopped and melted; and some were sorted and reworked by the waters from the melting ice sheet. The peat and muck soils are the result of accumulation of grass, sedge, and moss fill in bogs.

Heavy soils are the most extensive and are also the most important from the standpoint of agriculture. The other soils are loams, sands, and muck. Almost 75 percent of the area of Manitowoc County is good agricultural land.

Rolling pink silty clay loams and nearly level pink clay loams are the heavy soils which predominate in the county. The surface soil usually consists of a pinkish-brown silty clay loam underlain by a brown clay loam. The subsoil is a stiff, red clay occurring anywhere from 8 to 26 inches below the surface.

The hilly brown loams are found in the southwestern corner of the county and the rolling brown loams are located in the northwestern portion of the county. The surface soil is usually about 8 inches deep and is a gray-brown loam. A clayey subsoil extends from 19 to 30 inches.

Beach sands are found along the western shores of Lake Michigan in areas north of Two Rivers and south of Manitowoc. Alluvial soils are most extensive in the northern part of the county.

<sup>1/</sup>The new generalized soils map was prepared by Francis D. Hole, Associate Professor of Soils, in charge, Soil Survey Division, Wisconsin Geological and Natural History Survey, who assisted also in the preparation of the general soils material. Further information about the soils can be found in Bulletin No. 79 of the Soil Survey Division at the University.



Soil Productivity Ratings by Towns as a Percent  
of the County Rating of 100, Manitowoc County, Wisconsin<sup>1/</sup>

	COOPERSTOWN 108	GIBSON 110	MISHI- COT 95	TWO CREEKS 100
MAPLE GROVE 102	FRANKLIN 103	KOSSUTH 108		TWO RIVERS 95
ROCKLAND 88	CATO 105	MANITOWOC RAPIDS 100	MANITOWOC 90	
EATON 85	LIBERTY 92	NEWTON 103		
SCHLESWIG 100	MEEME 100	CENTERVILLE 103		

For town comparison,  
the county soil pro-  
ductivity is set at  
100 in this book.

<sup>1/</sup>Based on preliminary data prepared by F. D. Hole, Associate Professor of Soils, in charge, Soil Survey Division, Wisconsin Geological and Natural History Survey.

### SOIL PRODUCTIVITY RATINGS BY TOWNS

The soil productivity scoring card used in the study included eleven items grouped under three headings, namely, soil physical characteristics, growing season, and soil fertility level. In the soil productivity rating study, ratings were first estimated by towns and then a county rating was calculated from averaging the town soil ratings. In this book the county productivity soil rating was arbitrarily set at 100 and then the rating of each town was calculated as a percentage of 100. This provides a general means of comparing the soil productivity rating of one town with another in the county.

On the basis of a soil rating of 100 for Manitowoc County, Gibson had a rating of 110, the highest for any town in the county. The towns of Coopers-town and Kossuth were next with ratings of 108. It should be realized, however, that a given town is likely to have several kinds of soil, and that ratings given here are for various mixtures or combinations of soils in the landscape, and not for individual soils. A given soil may occur in different landscapes, some of which have a high average productivity for a town, and others of which may have an average productivity which is low. The accompanying county map by towns on soil productivity ratings indicates other towns with ratings of over 100 as well as the three towns just mentioned. Likewise there are a number of towns that rate under the county average.

Manitowoc County's Rank Among All Wisconsin Counties for Specified Items

<u>General census data</u>	1940		<u>Latest year available</u>	
		Rank	Year	Rank
Land area - acres (not census)			1954	48
Number of farms	3,741	12	1954	9
Land in farms - acres	356,166	27	"	29
Land in farms - percent of total	93.7	13*	"	13
Average size of farms - acres	95.2	61	"	68
Cropland harvested - acres	197,783	14	"	14
Percent of tenancy	8.6	66	"	49
Population - total number	61,617	13	1950	14
			1954	
<u>Cash farm income</u>				
Total cash farm income - dollars	19,258,000	17	1954	17
Per farm - dollars	5,473	29	"	36
Total from crops - dollars	2,815,000	12	"	12
Total from livestock and livestock products - dollars	16,443,000	20	"	19
From milk - dollars	10,452,000	12	"	10
From cattle and calves - dollars			"	21
From hogs and pigs - dollars			"	37
From eggs - dollars			"	13
From chickens and broilers - dollars			"	21
			1954	
<u>Livestock numbers and production</u>				
All cattle & calves - number Jan. 1	73,700	10	1956	19
Cows and heifers, 2 years or over kept for milk - number Jan. 1	49,200	11	"	15
Hogs and pigs - number Jan. 1	25,000	27	"	32
Horses and mules - number Jan. 1	10,100	18	"	20*
Sheep - number Jan. 1	1,000	60*	"	57*
Chickens - number Jan. 1	296,700	16	"	16
Egg production - number	34,120,000	15	1955	16
Producing cows - number	47,200	11*	"	14*
Milk production per cow - pounds	6,600	7*	"	16*
Milk production - pounds	311,520,000	7*	"	13
Creamery butter - pounds	1,284,342	48	"	36
American cheese - pounds	16,775,889	5	"	4
Cheese (excl. cottage) - pounds	17,117,389	6	"	6
Ice cream - gallons	133,657	18	"	16
			1954	
<u>Crop acreages</u>				
All corn	20,390	48	1955	47
Oats	48,350	15	"	9
Barley	42,550	3	"	3
All wheat	1,350	24	"	13
Rye	1,070	35	"	24
Buckwheat	110	36*	"	4*
All tame hay	81,390	11	"	8
Alfalfa hay	44,370	2	"	6
Clover and timothy hay	32,550	28	"	32
Soybeans for all uses	970	40*	"	46*
Potatoes	1,760	32	"	20
Corn for canning	70	34*	1954	16
Peas for canning	3,290	10	"	9
Flaxseed	880	3	1955	7*

\*Tied with one or more counties.

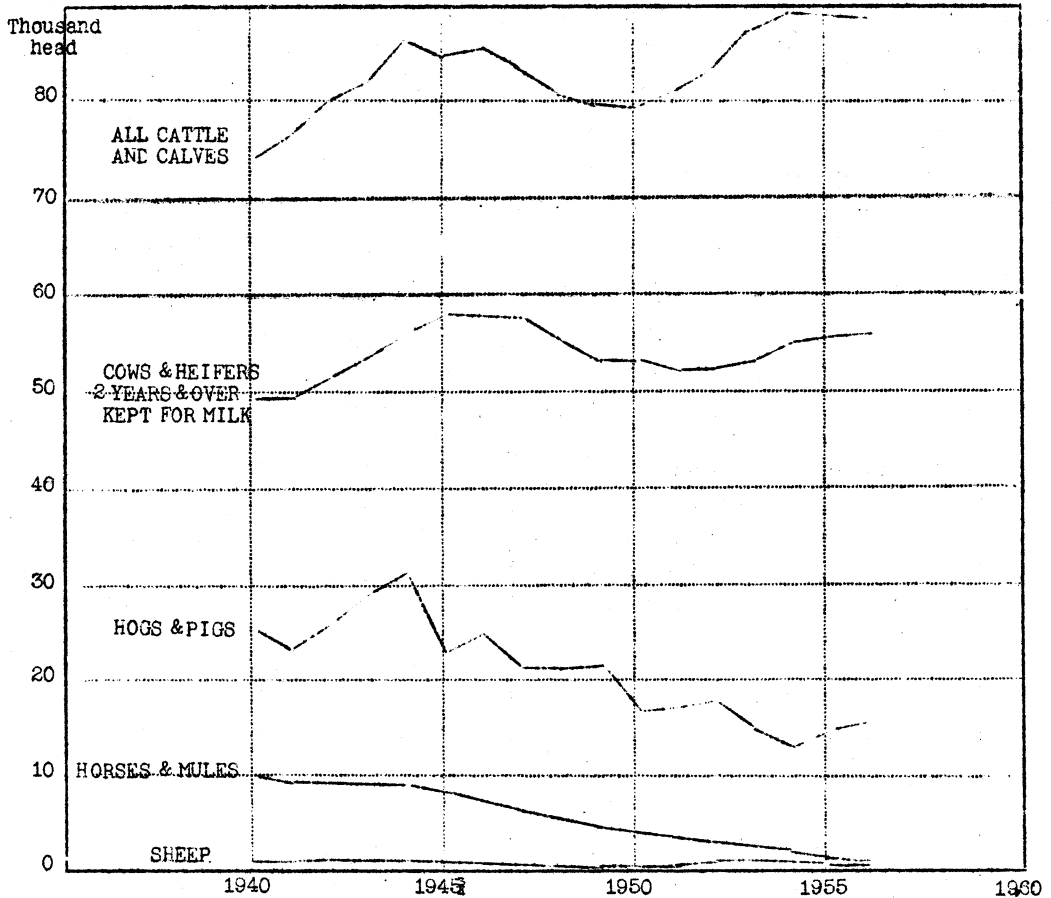
## Wisconsin's Rank Compared With Other States

<u>Livestock</u>	<u>Rank</u>	<u>Number on farms</u>	<u>Year</u>
All cattle and calves	4	4,384,000	Jan. 1, 1956
Cows and heifers 2 years and over kept for milk	1	2,604,000	"
Horses and mules	17	84,000	"
All sheep and lambs	28	260,000	"
Stock sheep	29	206,000	"
All hogs	8	1,831,000	"
Chickens	11	13,578,000	"
		<u>Production</u>	
Egg production	8	2,328,000,000 eggs	1955
Turkeys raised	11	1,836,000 turkeys	"
Pigs saved - spring crop	8	2,503,000 pigs	"
- fall crop	7	1,435,000 pigs	"
Honey produced	4	18,512,000 pounds	"
		<u>Dairy products</u>	
Milk production	1	16,547,000 pounds	1954
Creamery butter	2	219,906,000 pounds	"
Cheese:			
American cheddar	1	480,979,000 pounds	"
Brick and Munster	1	27,564,000 pounds	"
Swiss (drum and block)	1	38,132,000 pounds	"
Italian	1	28,607,000 pounds	"
Total (excluding cottage)	1	607,996,000 pounds	"
Evaporated whole milk	1	441,968,000 pounds	"
Powdered skim and whole milk	1	473,422,000 pounds	"
Ice cream	10	19,306,000 pounds	"
		<u>Crops</u>	
Principal crops, harvested acreage	12	10,124,000 acres	1955
Corn for grain	14	1,667,000 acres	"
Corn for silage	1	1,095,000 acres	"
Oats	5	2,807,000 acres	"
Barley	28	63,000 acres	"
All hay	4	3,904,000 acres	"
Alfalfa hay	2	2,147,000 acres	"
Clover and timothy hay	5	1,568,000 acres	"
Tobacco	11	14,200 acres	"
Potatoes	6	55,000 acres	"
Green peas for processing	1	116,000 acres	"
Green lima beans for processing	3	6,800 acres	"
Snap beans for processing	2	15,100 acres	"
Sweet corn for processing	1	93,400 acres	"
Beets for canning	1	7,200 acres	"
Cabbage for kraut	2	4,100 acres	"
Cucumbers for pickles	2	16,200 acres	"
Maple trees tapped	6	341,000 trees	"
<u>Cash receipts from farm marketings</u>	9	974,941,000 dollars	1955
<u>Cash receipts from milk</u>	1	501,798,000 dollars	1954

**PART IV. - MANITOWOC COUNTY FARM PRODUCTION AND MARKETING**

While Manitowoc County ranks below a number of Wisconsin Counties in agricultural production its agriculture is of considerable importance. This part of the book describes along with other items, trends in livestock numbers in the county as well as crop trends. Data on the marketing of several important farm products are included for Manitowoc County and also for the rest of the Wisconsin counties.

Livestock on Farms on January 1  
Manitowoc County, Wisconsin, 1940-56



**MARKET CONDITIONS AFFECT LIVESTOCK NUMBERS**

Livestock numbers have increased for some classes in Manitowoc County during the past few years. There are more cattle of all classes now than in 1940. Hog and sheep numbers have varied but in recent years the hog total has declined. Horse and mule numbers have declined steadily since 1940.

The number of cattle and calves in Manitowoc County was a record high at the beginning of 1954 when 89,000 head were reported on farms. On January 1, 1956, 88,600 head of all cattle were reported in the county. During World War II the cattle and calf population ranged upward, but in the following years there was an adjustment to a peacetime economy with a consequent decline

in the number of cattle and calves on farms. In 1950 an uptrend began which continued until 1954. However, since that time the number of all cattle has declined slightly. The trend in the number of cows and heifers two years and over kept for milk has been similar to that of all cattle, but milk stock now make up a smaller proportion of all cattle than formerly. January 1 percentages ranged downward from 69 percent in each of the years 1948 and 1949 to about 61 percent in 1953. Data for January 1956 show that about 62 percent of all cattle in Manitowoc County were milk cows and heifers.

Hog numbers in the county have generally ranged downward since the World War II peak of 30,800 head on Manitowoc County farms on January 1, 1944. The number declined to a low of 13,100 in 1953. Hog numbers climbed slightly in 1954 and again in 1955 when 15,700 head were reported on January 1. Sheep numbers have not varied significantly in Manitowoc County since 1940. The January 1 number on farms in that year was 1,000 head compared with 800 in January, 1956. Horses and mules had declined to 1,500 by January 1, 1956.

#### EGG PRODUCTION AND MARKETING

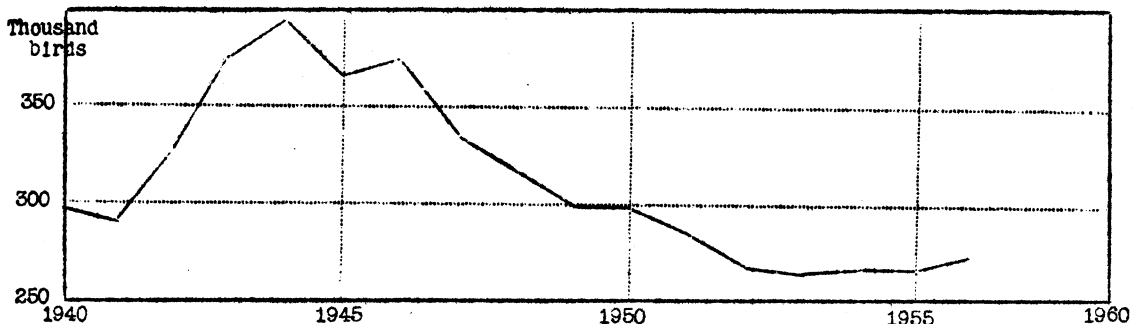
Manitowoc County had 272,200 chickens, excluding broilers, on farms on January 1, 1956. For 1955, egg production totaled 46,388,000 eggs. January 1

#### Livestock: Number on Farms on January 1 Manitowoc County, Wisconsin, 1940-56

Year	All cattle and calves	Milk cows & heifers 2 years old & over kept for milk	Hogs and pigs	Horses and Mules	Sheep
	Number	Number	Number	Number	Number
1940	73,700	49,200	25,000	10,100	1,000
1941	75,900	49,700	23,200	9,900	1,000
1942	79,700	51,200	25,500	9,600	1,100
1943	81,300	53,800	28,600	9,400	1,100
1944	85,400	56,000	30,800	9,000	1,000
1945	84,200	57,500	22,200	8,100	900
1946	85,000	57,500	24,600	7,300	800
1947	83,300	57,500	21,400	6,400	700
1948	80,000	55,200	21,200	5,800	600
1949	79,200	53,000	21,600	4,800	600
1950	78,700	53,100	16,300	4,200	600
1951	80,100	52,200	17,000	3,900	700
1952	82,700	52,200	17,500	3,200	900
1953	87,900	53,700	15,300	2,600	1,000
1954	89,000	55,000	13,100	2,200	1,000
1955	88,700	55,200	14,400	1,800	900
1956	88,600	55,200	15,700	1,500	800
Rank					
1956	19	15	32	20*	57*

\*Tied with one or more counties.

Number of Chickens on Farms on January 1  
Manitowoc County, Wisconsin, 1940-56



chicken numbers were at a peak in 1944 when estimates showed 393,300 birds on farms. Following the wartime high, chickens decreased in number for several years. While total egg production has followed a trend similar to that of chicken numbers the gradual increase in the rate of lay per bird has helped raise the level of egg production. The annual high in egg production and marketing occurs in the spring months.

The latest estimates of turkey production in the county are for 1954. These estimates show that Manitowoc County farmers raised 6,936 birds that year compared with 14,284 for 1949. In 1954 the county ranked forty-second among all the counties in turkeys raised. Estimates for the state show that 1,783,000 birds were raised in 1954 while 821,000 were raised in 1949.

Producing Cows and Milk Production: Chickens and Egg Production  
Manitowoc County, Wisconsin, 1940-56

Year	Producing cows Number	Production per cow Pounds	Total milk production Pounds	Chickens on farms, Jan. 1 Number	Egg production Number
1940	47,200	6,600	311,520,000	296,700	34,120,000
1941	48,200	6,700	322,940,000	290,800	36,641,000
1942	50,100	6,800	340,680,000	325,700	41,364,000
1943	51,300	6,400	328,320,000	374,600	46,825,000
1944	52,200	6,500	339,300,000	393,300	48,376,000
1945	52,500	6,900	362,250,000	364,600	46,669,000
1946	52,500	6,800	357,000,000	372,900	47,731,000
1947	52,100	6,900	359,490,000	335,700	47,334,000
1948	49,900	6,500	324,350,000	318,200	45,503,000
1949	48,500	7,100	344,350,000	298,300	43,850,000
1950	48,100	6,900	331,890,000	298,400	42,970,000
1951	47,700	7,200	343,440,000	283,500	41,356,000
1952	48,100	7,100	341,510,000	267,000	40,050,000
1953	48,900	7,400	361,860,000	264,300	41,759,000
1954	49,200	7,500	369,000,000	266,900	43,505,000
1955	49,200	7,500	369,000,000	266,600	46,388,000
1956				272,200	
Rank					
1955	14*	16*	13		16
1956				16	

\*Tied with one or more counties.

Number of Milk Cows as a Percent of the County Total,  
by Towns, Manitowoc County, Wisconsin, 1955<sup>1/</sup>

	COOPERSTOWN	GIBSON	MISH- ICOT	TWO CREEKS
	5.1	5.4	4.3	3.1
MAPLE GROVE	FRANKLIN	FOSSUTH		TWO RIVERS
5.8	6.3	6.6		4.4
ROCKLAND	CATO	MANITOWOC RAPIDS	MANI- TOWOC	
6.2	7.5	5.7	1.2	
EATON	LIBERTY	NEWTON		
4.9	6.1	7.1		
SCHLESWIG	MEEME	CENTERVILLE		
5.8	8.6	5.9		

<sup>1/</sup>Computed from assessors' state farm enumeration. Includes milk cows in incorporated places within towns.

MILK COW DISTRIBUTION AND HERD SIZES

Aside from the town of Manitowoc which has a largely urban population, the total number of milk cows does not vary greatly from town to town in

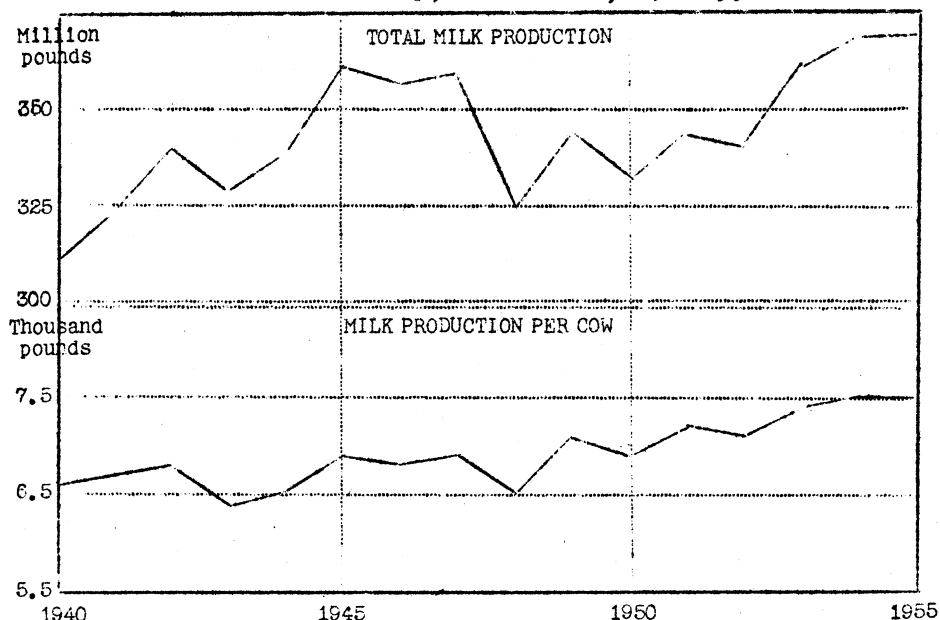
Distribution of Milk Cows by Size of Herds  
Manitowoc County and Wisconsin, 1952 and 1955<sup>1/</sup>

Size of herd	Percent of all cows		Percent of all herds	
	1952	1955	1952	1955
<u>Manitowoc County:</u>				
10 or less	11.8	7.2	25.7	18.0
11 - 15	26.4	19.7	30.6	26.0
16 - 20	29.5	28.0	25.2	27.0
21 - 30	25.0	32.5	15.6	23.1
31 or more	7.3	12.6	2.9	5.9
Total	100.0	100.0	100.0	100.0
<u>Wisconsin:</u>				
10 or less	13.0	8.3	30.6	22.9
11 - 15	22.4	16.8	25.8	22.1
16 - 20	26.9	25.1	22.7	24.1
21 - 30	27.2	33.6	16.8	23.7
31 or more	10.5	16.2	4.1	7.2
Total	100.0	100.0	100.0	100.0

<sup>1/</sup>Computed from state assessors farm enumeration.

Manitowoc County. Milk cow distribution by size of herd for 1955 compared with 1952 shows that dairy herds are becoming larger in the county. In 1955 almost 13 percent of the dairy cows were in herds of over 30 milk cows as compared with 7 percent in 1952. Data for 1955 also show that 7.2 percent of the dairy cows were in herds of 10 head or less. This compares with 11.8 percent in 1952. The data on milk cow herd sizes are collected by the assessors.

Total Milk Production and Production per Cow  
Manitowoc County, Wisconsin, 1940-55



MILK PRODUCTION AND MARKETINGS UP

Milk production per cow has increased considerably in Manitowoc County. In 1955 the average per cow was 7,500 pounds. This is a record high for the county and 900 pounds above 1940. The average milk production per cow for the state in 1955 was 7,160 pounds. Milk production per cow has been increased through such factors as improved breeding, better feeding, and closer culling.

For both 1954 and 1955 record totals of 369,000,000 pounds of milk were produced in Manitowoc County. With 311,520,000 pounds, the 1940 output was lower than any later years. The rise was rather unsteady until 1952, but since that time production has increased each year. Producing cow numbers have risen since 1950 but the uptrend in milk production also reflects the increase in production per cow. The peak in milk production and marketing usually occurs in May or June.

DAIRY MANUFACTURES

The total cheese production of Manitowoc County is almost entirely American cheese. Only a small amount of other types of cheese has been made in the county in the last ten years. American cheese output was raised to high levels twice since 1946. The first was in 1949 when 22,663,000 pounds were produced and the other was the record production of 23,487,000 pounds in 1953. Since 1953 the drop in production has been small compared with that



after the peak in 1949. Butter manufacture has followed a pattern similar to that of American cheese with two peak years, 1949 and 1953. The record output of 1,617,000 pounds occurred in 1953. Ice cream manufacture reached its peak in 1950 in the 1946-55 period. Output has fallen from the 401,000 gallons produced in 1950 to 306,000 gallons in 1955. Evaporated whole milk unsweetened, case, has also been an important manufactured dairy product in the county. The county leads in the state in production of this product with the entire county output coming from one plant.

Dairy Manufactures, Manitowoc County, Wisconsin, 1946-55

Year	Butter Thous. pounds	Cheese		Ice cream Thous. gallons
		American Thous. pounds	Total <sup>1/</sup> Thous. pounds	
1946	1,207	17,591	19,284	209
1947	1,220	18,776	18,976	289
1948	1,018	16,789	17,226	275
1949	1,589	22,663	22,980	282
1950	885	14,923	15,200	401
1951	926	13,456	13,604	340
1952	1,065	13,641	13,678	351
1953	1,617	23,487	23,487	303
1954	1,561	23,403	23,418	296
1955	1,472	22,128	22,216	306
Rank 1955	36	4	6	16

<sup>1/</sup>Excludes cottage, pot, and bakers' cheese.

HOW MANITOWOC COUNTY MARKETINGS COMPARE

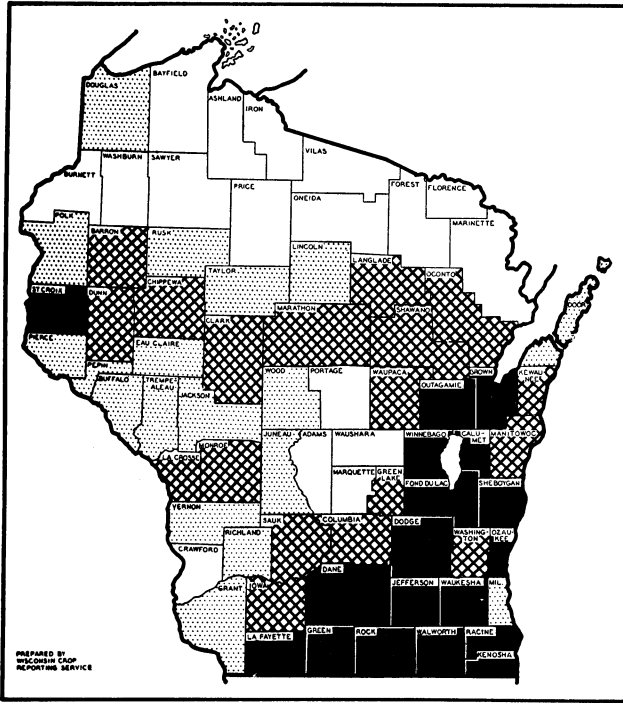
The most important source of income on Manitowoc County farms is milk. Farms in the county averaged \$3,725 gross returns from the sale of milk in 1954. This compares with the state average of \$3,590 per farm. The Manitowoc County average is slightly below all neighboring counties but Kewaunee to the north. A factor back of this somewhat lower return per farm as compared with most neighboring counties is the larger number of smaller sized herds in Manitowoc County. Cream sales added to the dairy income but only a very small proportion of the farms reported such sales.

Sales of hogs and pigs in 1954 averaged \$602 per farm in the county. Sales of cattle and calves averaged \$691 per farm with milk cows accounting for the major part of this figure. Egg sales were \$407 per farm and poultry sales, excluding broilers, were \$116 per farm. These averages refer to gross sales and costs of production and marketing should be deducted to get net sales returns which are considerably lower. Manitowoc County ranks in the second highest fourth of the counties in the state in sales per farm for whole milk and for eggs. In sales per farm for swine and for cattle and calf sales the county ranked in the second lowest fourth of the counties.

For the state as a whole the per farm gross return from the sale of whole milk in 1954 averaged \$3,590. In 1955 sales of cattle and calves averaged \$866 per farm and hogs and pigs \$1,555 per farm. Egg sales which are an important source of income on many farms averaged \$405 per farm for the state in 1954. Poultry sales, excluding broilers, averaged \$105 per farm.

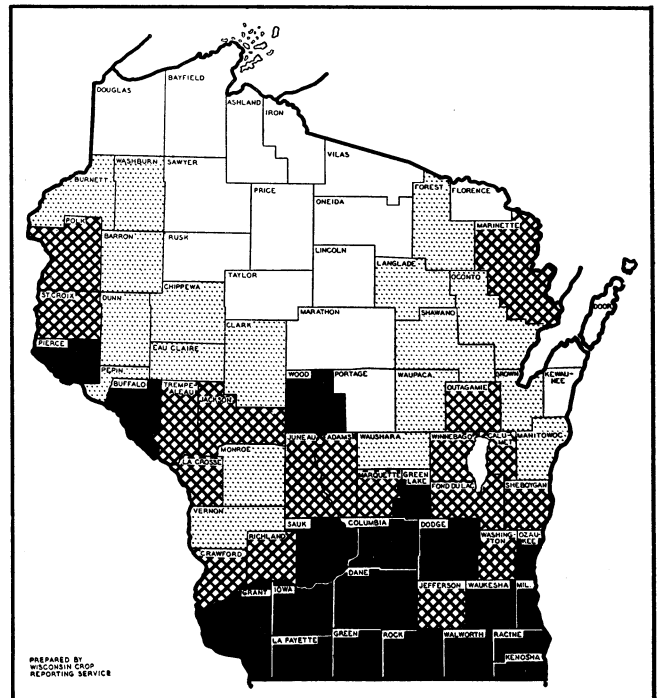
# HOW COUNTIES RANK IN MARKETING

AVERAGE DOLLARS PER FARM REPORTING<sup>1</sup>



— SALES OF  
WHOLE MILK

SALES OF  
CATTLE AND CALVES —



LEGEND

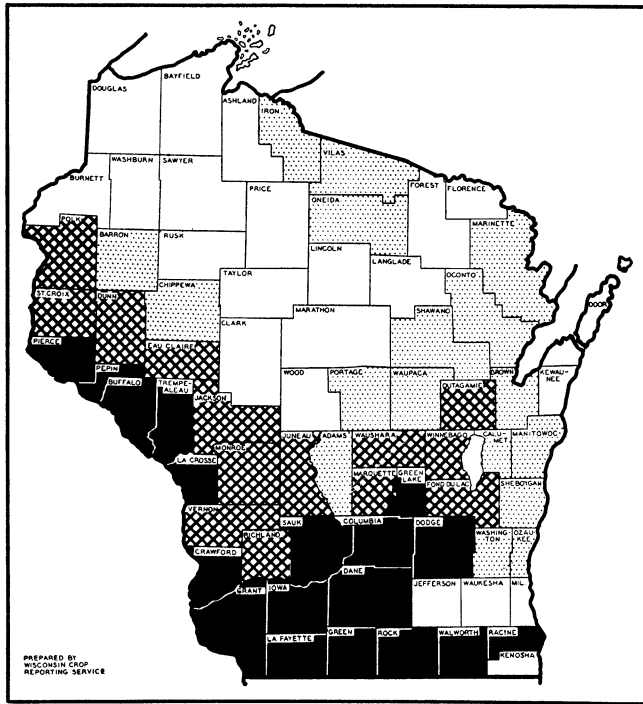
Ranking of counties in	County range in \$ per farm within quarters <sup>2</sup>	
	Whole Milk	Cattle & Calves
Highest Quarter	\$ 3,990 - 6,950	\$ 960 - 2,490
Second Highest Quarter	3,350 - 3,420	710 - 930
Second Lowest Quarter	2,620 - 3,240	550 - 690
Lowest Quarter	Under 2,620	Under 550

<sup>1</sup>Derived from Federal Census of Agriculture 1954

<sup>2</sup>Rounded to nearest ten dollars

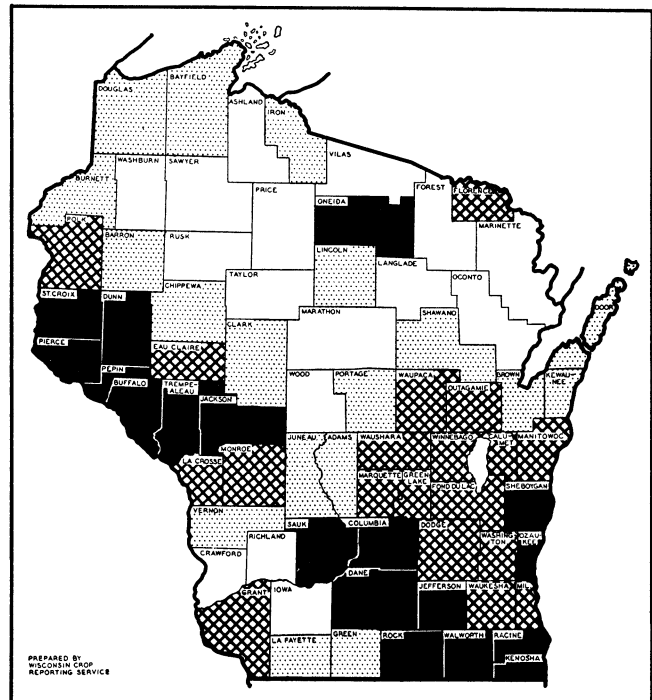
# HOW COUNTIES RANK IN MARKETING

AVERAGE DOLLARS PER FARM REPORTING<sup>1</sup>



← SALES OF SWINE

SALES OF EGGS →



## LEGEND

Ranking of counties in	County range in \$ per farm within quarters <sup>2</sup>	
	Swine	Eggs
Highest Quarter	\$ 1,580 - 3,330	\$ 480 - 720
Second Highest Quarter	840 - 1,520	380 - 470
Second Lowest Quarter	480 - 840	240 - 370
Lowest Quarter	Under 480	Under 240

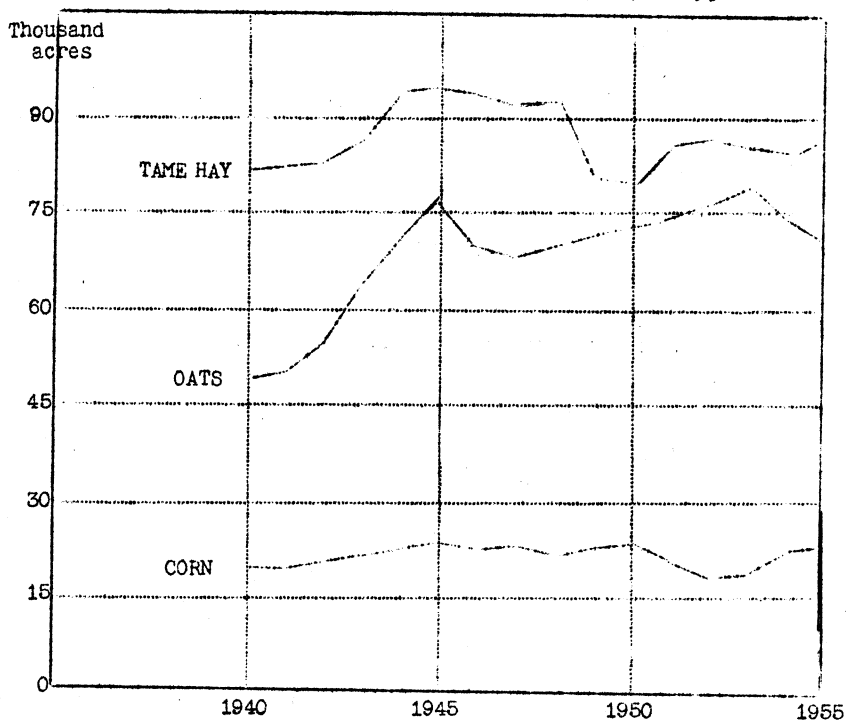
<sup>1</sup>Derived from Federal Census of Agriculture 1954

<sup>2</sup>Rounded to nearest ten dollars

VARIED TRENDS IN CROPS

The raising of crops is of great importance in the agricultural pattern of Manitowoc County. In recent years some crops have been increased in acreage and some have decreased. Still others have varied relatively little. Tame hay has historically been the leading crop in Manitowoc County. In 1955 almost 87,000 acres were harvested and the county ranked eighth in the state. This was below the 1945-49 average of 90,644 acres but above the 1940-44 average of 85,154 acres. Alfalfa hay acreage is on the increase and reached a record high of nearly 69,000 acres in 1955, the sixth highest alfalfa acreage in

Harvested Acreage of Corn, Oats, and Tame Hay  
Manitowoc County, Wisconsin, 1940-55

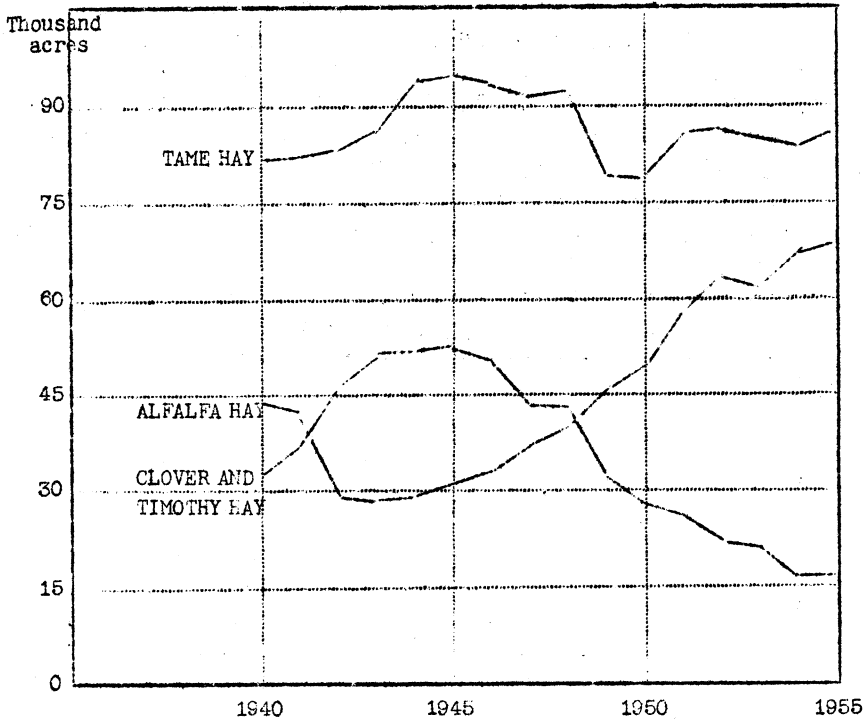


Crop Acreages Since 1860<sup>1/</sup>, Manitowoc County, Wisconsin

Year	Corn	Oats	Barley	Rye	Wheat	Potatoes	Tame hay
1860	72	1,948	190	1,727	3,110	524	2,711
1870	85	12,278	1,193	4,914	37,205	1,243	21,379
1880	668	23,732	5,290	5,396	60,894	2,088	31,969
1890	929	31,945	9,880	11,414	38,675	2,838	46,975
1900	2,827	44,196	19,788	14,700	30,238	2,982	49,220
1910	3,126	39,197	26,652	13,243	4,264	2,644	70,403
1920	22,830	47,880	16,130	11,620	8,965	2,400	73,650
1930	18,760	47,950	20,410	3,600	3,160	1,810	69,580
1940	20,390	48,350	42,550	1,070	1,350	1,760	81,390
1950	23,430	72,540	17,980	450	2,130	710	79,540
1955	23,300	70,980	5,610	340	1,280	480	86,830

<sup>1/</sup>Based on data taken at 10-year intervals and shows general trends but does not account for variations occurring in intervening years. For more detailed information, other crop tables are given elsewhere in this section.

All Tame Hay, Clover and Timothy Hay, and Alfalfa Hay Acreage  
Manitowoc County, Wisconsin, 1940-55



any Wisconsin county. This acreage is nearly double the 1945-49 average of 37,318 acres. Clover and timothy hay acreage has been declining. The 1955 acreage of 16,800 acres compares with the 1945-49 average of 44,556 acres.

Oats is the second leading crop in the county from the acreage standpoint. There were 70,980 acres of this feed crop harvested in 1955 compared with the 1945-49 average of 71,260 acres. In 1955 the average yield was 52 bushels per acre. This yield is a slight decrease from the 1945-49 average.

Corn is the third largest crop in the county acreagewise. In 1955 the corn acreage for Manitowoc County totaled 23,300 acres, a little above the 1945-49 average of 22,636 acres. Nearly nine-tenths of the total corn acreage is utilized for silage. Grass cut for silage totaled 1,645 acres in 1954 which was a substantial increase over the 1950 Census acreage. The average yield of corn for grain was 60 bushels per acre in 1955. This compares with the 1945-49 average of 46 bushels per acre.

Manitowoc County is one of the leading barley producing counties in the state with 5,610 acres harvested in 1955. This ranked the county third. For the 1940-44 average, 27,450 acres were harvested. Wheat, flax, and potato acreages are all on the decline while rye, soybean, and buckwheat acreages have varied slightly. The crop tables indicate recent year acreages and earlier averages. The acreages of canning peas and sweet corn in 1954 were 3,980 and 1,570 acres respectively, and are slightly above the 1945-49 averages.

#### FEED CROPS RAISED IN COUNTY

Feed crop production is reported for every town in Manitowoc County but as a percentage of the county total the acreages in some towns are considerably

Acreage of Corn, Oats, and Tame Hay as a Percent of the County Total, by Towns  
Manitowoc County, Wisconsin, 1955<sup>1/</sup>

PERCENT OF COUNTY TOTAL OF 100% IN:		COOPERSTOWN	GIBSON	MISH-ICOT	TWO CREEKS
Corn.....		6.1	5.6	7.7	3.3
Oats.....		4.0	4.8	4.1	2.1
Tame hay.....		6.1	6.4	5.5	3.8

MAPLE GROVE	FRANKLIN	KOSSUTH	TWO RIVERS
5.4	6.7	8.8	4.8
4.9	5.4	4.5	2.6
6.0	6.8	7.9	5.8

ROCKLAND	CATO	MANITOWOC RAPIDS	MANITOWOC
5.9	6.5	4.7	2.8
5.5	7.8	4.6	.8
4.9	6.0	4.9	1.5

EATON	LIBERTY	NEWTON
4.9	5.6	5.9
5.8	7.9	7.4
4.4	5.4	6.9

SCHLESWIG	MEEME	CENTERVILLE
4.9	6.1	4.3
7.1	12.2	8.5
5.8	7.3	4.6

<sup>1/</sup>Computed from assessors' state farm enumeration. Includes acreages in incorporated places within towns.

larger than in others. Several factors affect the relative importance of the feed crops from the acreage standpoint from town to town. These factors include the size of the town, the amount of land that can be worked, and the comparative number and species of livestock kept on farms.

In 1955 the town of Kossuth led with 8.8 percent and 7.9 percent of the tame hay and oats acreage respectively in the county. The town of Manitowoc ranked last in these two crops with 2.8 percent of the county's tame hay and 1.5 percent of the oats. Acreages in corn as a percent of the county total ranged from 12.2 percent for the town of Meeme to .8 percent for the town of Manitowoc.

OTHER CROPS RAISED AND SOME MARKETED

Manitowoc County has other crops in addition to those listed in the accompanying tables. The United States Census of 1954 lists several of these. The county ranks first among Wisconsin counties in sugar beet production with 24,829 tons harvested and ranked second in red clover seed production. The value of various vegetables harvested for marketing including green peas and sweet corn for canning totaled \$373,879. Sales of nursery and greenhouse products in 1954 amounted to \$117,592.

**Corn: Acreage, Yield, Production, and Utilization of Acreage  
Manitowoc County, Wisconsin**

Year	All corn acreage	Corn for grain		Utilization of total corn acreage		
		Yield	Production	Grain	Silage	Other
	Acres	Bushels	Bushels	Pct.	Pct.	Pct.
1940-44 av.	20,974	45	97,396	10	87	3
1945-49 av.	22,636	46	91,908	9	90	1
1950	23,430	40.5	151,065	16	83	1
1951	20,860	46.0	68,540	7	91	2
1952	18,110	59.5	41,650	4	95	1
1953	18,660	61.5	97,785	8	91	1
1954	22,490	60.5	122,210	9	90	1
1955	23,300	60.0	139,800	10	89	1
Rank 1955	47		54			

**Oats and Barley: Acreage, Yield, and Production  
Manitowoc County, Wisconsin**

Year	Oats			Barley		
	Acreage	Yield	Production	Acreage	Yield	Production
	Acres	Bushels	Bushels	Acres	Bushels	Bushels
1940-44 av.	57,346	45.8	2,623,588	27,450	32.5	893,096
1945-49 av.	71,260	53.9	3,841,418	15,320	40.9	627,270
1950	72,540	53	3,844,620	17,980	48	863,040
1951	73,200	55	4,026,000	15,560	39	606,840
1952	76,480	50	3,824,000	8,600	38	326,800
1953	78,510	46	3,611,460	7,600	34	258,400
1954	74,700	54	4,033,800	7,300	39	284,700
1955	70,980	52	3,690,960	5,610	32	179,520
Rank 1955	9		7	3		4

**All Wheat and Rye: Acreage, Yield, and Production  
Manitowoc County, Wisconsin**

Year	All Wheat			Rye		
	Acreage	Yield	Production	Acreage	Yield	Production
	Acres	Bushels	Bushels	Acres	Bushels	Bushels
1940-44 av.	1,978	21.2	41,896	656	15.3	10,164
1945-49 av.	2,800	26.6	74,561	452	18.7	8,464
1950	2,130	26.6	56,645	450	18.0	8,100
1951	1,980	25.3	50,160	560	16.5	9,240
1952	1,820	26.1	47,570	240	17.0	4,080
1953	1,580	24.2	38,180	260	16.5	4,290
1954	1,350	28.7	38,680	270	20.5	5,535
1955	1,280	25.8	33,060	340	20.0	6,800
Rank 1955	13		14	24		16

**Spring Wheat, Buckwheat, and Flax: Acreage and Production**  
Manitowoc County, Wisconsin

Year	Spring wheat		Buckwheat		Flax	
	Acreage	Pro-duction	Acreage	Pro-duction	Acreage	Pro-duction
	Acres	Bushels	Acres	Bushels	Acres	Bushels
1940-44 av.	1,010	22,140	128	2,174	498	5,888
1945-49 av.	1,782	46,839	418	6,381	560	7,459
1950	1,730	45,845	420	7,560	530	7,685
1951	1,760	44,000	420	6,300	690	7,935
1952	1,380	36,570	410	7,995	600	8,400
1953	1,160	27,260	410	7,585	470	6,580
1954	940	26,790	520	8,320	340	3,230
1955	890	21,360	480	6,720	200	2,200
Rank 1955	7	9	4*	4	7*	8

\*Tied with one or more counties.

**Tame and Wild Hay: Acreage, Yield, and Production**  
Manitowoc County, Wisconsin

Year	Tame hay			Wild hay		
	Acreage	Yield	Production	Acreage	Yield	Production
	Acres	Tons	Tons	Acres	Tons	Tons
1940-44 av.	85,154	2.0	167,303	388	1.5	575
1945-49 av.	90,644	1.8	160,132	742	1.4	1,012
1950	79,540	1.4	110,274	710	1.5	1,065
1951	85,930	2.1	177,077	470	1.3	611
1952	86,390	2.1	180,046	410	1.4	574
1953	85,240	1.9	162,928	460	1.2	552
1954	84,440	2.2	185,191	430	1.2	516
1955	86,830	2.3	200,609	400	1.5	600
Rank 1955	8		8	30*		25

\*Tied with one or more counties.

**Clover and Timothy, and Alfalfa Hay: Acreage, Yield, and Production**  
Manitowoc County, Wisconsin

Year	Clover and timothy hay			Alfalfa hay		
	Acreage	Yield	Production	Acreage	Yield	Production
	Acres	Tons	Tons	Acres	Tons	Tons
1940-44 av.	43,680	1.8	78,274	34,674	2.3	79,577
1945-49 av.	44,556	1.7	76,685	37,318	2.0	75,410
1950	28,050	1.2	33,660	49,790	1.5	74,685
1951	26,630	1.8	47,934	58,020	2.2	127,644
1952	21,730	1.8	39,114	63,160	2.2	138,952
1953	21,000	1.7	35,700	62,430	2.0	124,860
1954	16,390	1.8	29,502	66,960	2.3	154,008
1955	16,800	2.0	33,600	68,980	2.4	165,552
Rank 1955	32		31	6		9



Potato Acreage, Yield, and Production; Soybean Acreage and Utilization  
Manitowoc County, Wisconsin

Year	Potatoes			Soybean acreage and utilization			
	Acreage	Yield	Production	Total	For grain	For hay	Other uses
	Acres	Cwt.	Cwt.	Acres	Acres	Acres	Acres
1940-44 av.	1,628	50.7	82,565	814	246	430	138
1945-49 av.	1,076	69.0	74,286	282	126	128	28
1950	710	106	75,260	370	270	40	60
1951	710	104	73,840	170	120	--	50
1952	650	138	89,700	100	40	30	30
1953	900	126	113,400	100	50	40	10
1954	560	112	62,700	170	110	30	30
1955	480	100	48,000	200	150	20	30
Rank 1955	20		22*	46*	44	48*	38*

\*Tied with one or more counties.

Sweet Corn and Peas for Canning, Acreage, Yield, and Production  
Manitowoc County, Wisconsin

Year	Corn for canning			Peas for canning		
	Acreage	Yield	Production	Acreage	Yield	Production
	Acres	Tons	Tons	Acres	Pounds	Pounds
1940-44 av.	450	2.2	958	3,540	1,526	5,381,000
1945-49 av.	1,078	2.3	2,594	3,624	1,760	6,408,600
1950	1,050	2.1	2,205	3,210	2,100	6,741,000
1951	1,930	2.3	4,439	4,250	2,400	10,200,000
1952	2,100	2.8	5,880	4,010	2,600	8,020,000
1953	2,190	2.7	5,913	4,180	2,100	8,778,000
1954	1,570	3.0	4,710	3,980	1,900	7,562,000
Rank 1954	16		15	9		9

Other Crops: Manitowoc County, Wisconsin  
United States Census, 1954

Field crops and seeds				Fruits harvested for sale			
Crop	Acreage	Production	Unit	Crop	Bearing trees or vines	Pro- duction	Unit
Sugar beets	1,897	24,829	ton	Apples	12,812	10,658	bu.
Alfalfa seed	276	288	bu.	Peaches	31	10	bu.
Red clover seed	2,008	2,733	bu.	Pears	560	1,204	bu.
Timothy seed	83	14,693	lb.	Cherries	1,497	6,473	lb.
Small fruits harvested for sale				Plums	568	157	bu.
Strawberries	14	17,919	qt.	Grapes	321	2,770	lb.
Raspberries	9	6,128	qt.	Vegetables harvested for sale			
Crop	Acreage		Crop	Acreage			
Snap beans	266		Beets (table)	269			
Cabbage	19		Other vegetables (excluding				
Cucumbers and pickles	71		peas and corn for canning)	107			

Value of sales, 1954

Vegetables harvested for sale	- - - - -	\$ 373,879
Nursery and greenhouse products sold	- - - - -	\$ 117,592

**PART V. - MANITOWOC COUNTY AS A MARKET CONSUMER**

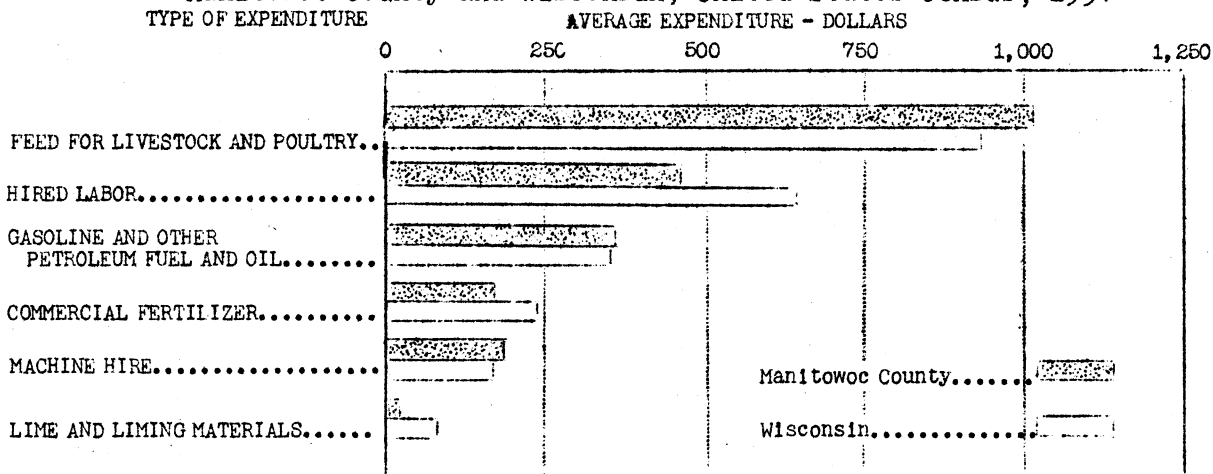
The preceding part of this book described the trends in farm commodity production, together with related items such as dairy manufactures. While Manitowoc County provides marketing outlets for farm products, it also serves as a market at which farm people can buy goods and services. Places of business exist in the county where items for both farm production and family living may be purchased. Manitowoc County also offers recreational facilities. A brief description of the level-of-living index for farm families is given.

**FEED COSTS HIGH**

Many expenditures occur in the business of farming and the census enumerated a few of them. There is considerable fluctuation among the types of expenditures and in the average amount spent per farm reporting. As for most

Average Expenditures per Farm Reporting for Specified Farm Expenditures

Manitowoc County and Wisconsin; United States Census, 1954

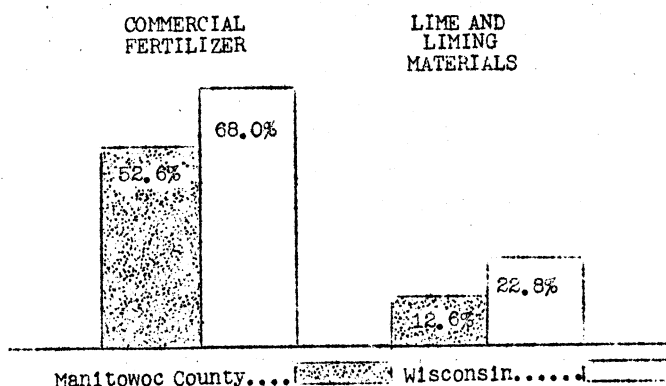


Specified Farm Expenditures, Manitowoc County, Wisconsin United States Census, 1954<sup>1/</sup>

Type of expenditure	Farms reporting as a percent of all farms	Amount of expenditure	
		Total	Average per farm reporting
	Percent	Dollars	Dollars
Machine hire	69.3	430,265	187
Hired labor	49.7	754,455	457
Feed for livestock and poultry	97.4	3,294,063	1,018
Gasoline and other petroleum fuel and oil	99.4	1,207,347	365
Commercial fertilizer	52.6	302,715	173
Lime and liming materials	12.6	11,865	28

<sup>1/</sup>Estimates made on the basis of reports from a sample of approximately 20 percent of the farms.

Farms Using Commercial Fertilizer and Lime  
and Liming Materials, as a Percent of All Farms  
Manitowoc County and Wisconsin; United States Census, 1954



counties, feed for livestock and poultry was the largest single item of expense for Manitowoc County farmers in 1954. On the average, this item cost farmers \$1,018. The state average for feed costs was lower than the county average. The second highest cost item for the county's farmers was hired labor, averaging \$57 per farm reporting for 1954. This was \$186 under the average for the state.

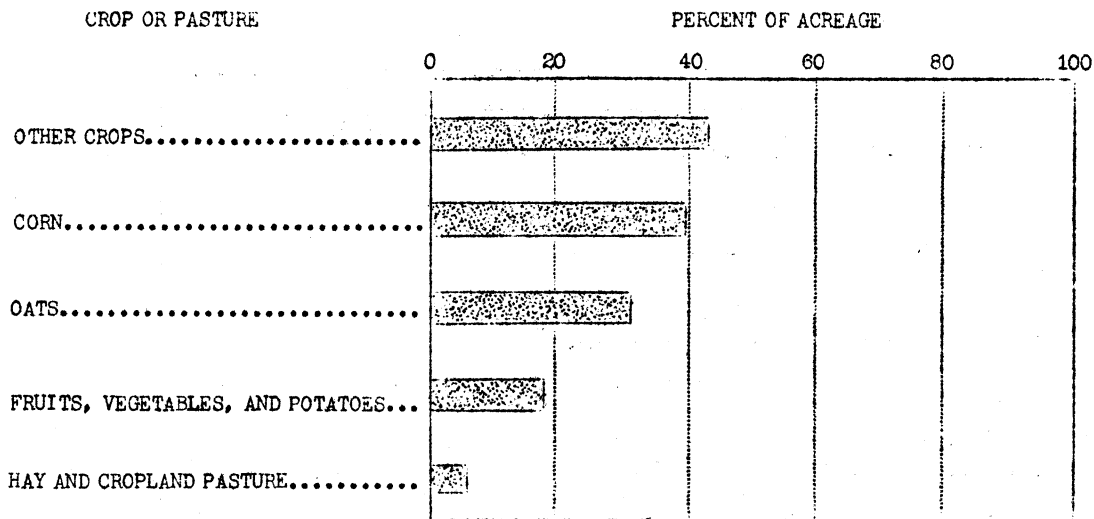
Petroleum costs averaged \$366 per farm reporting in the county in 1954 and \$353 in the state. This item included gasoline and other petroleum fuel and oil. Ranking next in expenses listed by the census was machine hire. Averages per farm of \$187 and \$173 were indicated for Manitowoc County and Wisconsin respectively. Commercial fertilizer costs per farm for the county were \$173 and lime and liming material costs were \$28. The county expenditure per farm for commercial fertilizer averaged lower than the state and the average lime and liming material costs were lower also.

Commercial Fertilizer and Plant Nutrient Use  
Manitowoc County, Wisconsin, 1954

Crops and pasture applied to	Commercial fertilizer				Plant nutrients used		
	Acreage fertilized	Percent of total acreage fertilized	Total amount used	Amount used per acre	Total nitrogen	Total phosphate	Total potash
	Acres	Percent	Tons	Pounds	Tons	Tons	Tons
Corn	8,580	41	992	234	80	160	160
Oats	22,745	31	2,279	200	46	319	329
Hay and cropland pasture	8,205	6	1,186	288	55	100	208
Fruits, vegetables, and potatoes	1,735	18	310	358	20	40	40
Other crops	4,855	43	747	310	42	84	126
Improved permanent open pasture	1,785		153	171	6	18	30

1/Assembled data from Emil Rauchenstein, Collaborator, Agricultural Economics, and Arthur E. Peterson, Assistant Professor of Soils, College of Agriculture University of Wisconsin. Commercial fertilizer tonnage and the acreage it is used on, are from the 1954 United States Census of Agriculture.

Percentage of Acreage of Crops and Pasture  
that Commercial Fertilizer was Used On  
Manitowoc County, Wisconsin, 1954



A large percentage of the farms in the county reported some of the types of expenditures discussed in the two preceding paragraphs. The mechanization of farming has brought wider use of petroleum products. The census indicated that over nine-tenths of the farms bought those products. Feed costs were reported by over nine-tenths of the farmers in Manitowoc County and machine hire by nearly seven-tenths. Commercial fertilizer expense was reported by over one-half and hired labor by nearly one-half of the farms. Nearly one-eighth of the farms had lime and liming materials expenditures.

COMMERCIAL FERTILIZER USED

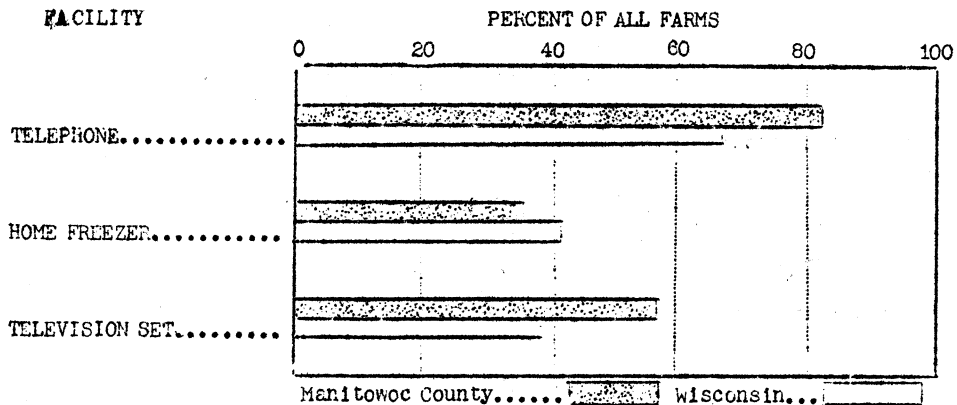
Farmers reported that commercial fertilizer had been applied to 41 percent of the corn acreage, 31 percent of the oat acreage, and 6 percent of the county's hay and cropland pasture acreage in 1954. Eighteen percent of the fruit, vegetable, and potato acreage had commercial fertilizer applied to it in 1954, and 43 percent of all other crop acreage was fertilized.

The accompanying table indicates the total amount of commercial fertilizer used and the amount used per acre for the various crops and pastures in the county. The largest amount used was the 2,279 tons applied to the oat acreage. Hay and cropland ranked next with 1,186 tons applied. The 358 pounds per acre applied to fruits, vegetables, and potatoes was the highest average per acre application. The quantities of plant nutrients used are also given in the table.

SIZEABLE MARKET FOR FARM FACILITIES AND EQUIPMENT

Some facilities are found on a very large percentage of the Manitowoc County farms while others are less common. The 1954 Census enumerated, on a sample basis, several facilities. Nearly all of the farms in the county had electricity. Other common facilities were telephones and piped running water each of which was indicated for about four-fifths of the farms. Home freezers

Farms Reporting Specified Household Facilities  
as a Percent of All Farms  
Manitowoc County and Wisconsin; United States Census, 1954



were listed for over 35 percent and television sets for nearly 60 percent of the county's farms. Television sets were more numerous in the county than in the state as were all the other foregoing facilities except home freezers. The location of television transmitters probably accounts for a large part of the difference between the county and state for this item.

Manitowoc County farms also have other time and labor saving facilities and equipment. Both automobiles and tractors, for example, were found on more than nine-tenths of the farms. Close to three-fourths of the farms had milking machines in 1954 while over one-half had motortrucks. A larger percentage was indicated for farms in the county than for the state in facilities

Specified Facilities and Equipment on Farms  
Manitowoc County and Wisconsin; United States Census, 1954<sup>1/</sup>

Facility or equipment	Manitowoc County		Farms reporting as a percent of all farms	
	Number of farms reporting	Number on farms	Manitowoc County	Wisconsin
	Number	Number	Percent	Percent
Telephones	2,751	xxx	82.8	67.2
Electricity	3,391	xxx	2/	96.8
Television sets	1,901	xxx	57.2	39.3
Piped running water	2,606	xxx	78.5	70.8
Home freezers	1,210	xxx	36.4	42.0
Electric pig brooders	206	xxx	6.2	7.1
Power feed grinders	435	xxx	13.1	16.8
Milking machines	2,506	xxx	75.5	65.6
Artificial ponds, reservoirs, and earth tanks	105	170	3.2	4.9
Field forage harvesters	991	1,001	29.8	17.3
Grain combines	821	836	24.7	20.6
Corn pickers	16	16	.5	15.2
Pick-up hay balers	501	501	15.1	16.7
Motortrucks	1,696	1,822	51.1	51.3
Tractors	3,216	5,910	96.8	88.5
Automobiles	3,336	4,464	2/	90.8

<sup>1/</sup>Estimates made on the basis of reports from a sample of approximately 20 percent of the farms. <sup>2/</sup>Accurate data not available.

such as automobiles, tractors, and milking machines. Field forage harvesters and grain combines were also reported by higher percentages of farms in the county than in the state.

### FARM FAMILY LEVEL-OF-LIVING INDEX NUMBERS

Farm family level-of-living index numbers have been calculated for each county in the United States. The index numbers are a measure of the relative levels of living between counties or sections of the country and in different periods of time for farm families. Index numbers are not available for non-farm families. The latest farm family index available by counties is for the year 1950 as constructed from the 1950 Census of Agriculture.

The farm family level-of-living index numbers are based on four items: (1) Percentage of farms with electricity, (2) percentage of farms with telephones, (3) percentage of farms with automobiles, and (4) average value of products sold in the year preceding the census. Although there are only four items used, these items are closely associated with other goods or services. For example, a home with electricity is very likely to have more facilities and conveniences than a home without electricity.

A base of 100 was used as the farm family level-of-living index for the average county in the United States in 1945. By 1950 the average had risen to 122 and by 1954 to 134. For Manitowoc County the index numbers have been well above the average county in the nation. The 1945 farm family level-of-living index was 157 for the county. In 1950 an index of 169 was indicated.

### RECREATIONAL FACILITIES AVAILABLE

While Manitowoc County has business places where goods and services for both farm production and family living can be had, it also has facilities of a recreational nature. These facilities are of importance to the county's economy. The county's lakes are among the natural resources that help the recreation business. There are 79 lakes with a total area of 1,094 acres.<sup>1/</sup> Many of the lakes offer excellent recreation in the way of fishing, boating, swimming, and sightseeing. Lake Michigan offers recreational advantages as do the rivers and streams. In addition to the water areas there are land areas as the Point Beach State Forest that help to meet the recreational needs of both natives and tourists. Bridle paths, hiking trails, beaches, camping, and picnic sites are available. A lighthouse may also be visited in this state forest.

Recreational facilities are offered in the fall and winter as well as in summertime. Public hunting grounds for example, are provided. Skiing, tobogganning, skating, and ice fishing are other cold weather activities. At Manitowoc a new toboggan slide and ice rink is open for public use.

Manitowoc County has many places where vacationers can find lodging. These range from hotels to cabins and fit the purse and the degree of "roughing it" wanted. Accommodations are found along highways, in towns, and on the shores of bodies of water.

<sup>1/</sup>Data from Wisconsin Conservation Department.

## PART VI. - CHANGES IN MANITOWOC COUNTY AGRICULTURE

Agriculture in Manitowoc County has changed considerably since the time of settlement. Development of new varieties of crops, mechanization of farming, livestock raising trends, transportation and communication developments, instruction in vocational agriculture, and population movements have been among the forces exerting great influence upon the agricultural pattern. Some crops for example, have been shifted substantially in acreage through the years. The introduction of power machinery, automobiles, and conveniences in the home have all allowed more time and energy available for both recreational needs and better farming.

### EARLY SETTLEMENT

The first white men to see Manitowoc County were probably Father Marquette and Louis Joliet as they skirted along the Wisconsin shore of Lake Michigan on their return from exploring the Mississippi in 1673. However, they left no record of having stopped anywhere within the present county boundaries. Father St. Cosme, a missionary, is known to have stopped in 1689 at a new Jesuit mission presumably at the mouth of the Manitowoc River. At least one fur post was established in this region before Jacques Vieau of Mackinac Island built two posts in 1795--one in the town of Gibson and the other near the falls of the Manitowoc River.

Manitowoc County was one of several counties which were created by the Territorial Legislature on December 7, 1836. The boundaries of the county at that time included all the present territory except that portion of township 21 North, Ranges 22, 23, and 24 East which was added on February 1, 1850. The county name is an Indian word which is thought to mean "spirit of the land" or "abode of the good spirit". Indian tradition is that a being, supposedly a spirit, was observed several times at the mouth of the river which gave the name to the county.

When settlement came to Manitowoc County in the middle of the 1830's the first efforts were devoted to developing the water power that existed on the Manitowoc and Twin Rivers. Lumbering was the first source of revenue since there was a wealth of pine and other trees throughout the region. The logs could be cut and shaped into shingles and boards, floated down the river to the mouth and transported by schooner to Milwaukee, Chicago, or more distant markets. Mills were built at Manitowoc Rapids, at Two Rivers, and at Shoto. Another enterprise--fishing--appeared soon, since the waters adjacent to the county were abounding in whitefish.

In these early days, agriculture was confined largely to small patches of ground sufficient to raise a little grain and potatoes for domestic consumption. Hiram McCallister who came to Manitowoc County from St. Lawrence County, New York, was the first real farmer. He started to cultivate the soil in 1838 on a farm which is still pointed out as one of the finest in the county.

The rapidly rising shipbuilding industry found the wealth of timber in the locality an ideal opportunity for expansion. The clipper type of schooner

built at Manitowoc and Two Rivers were the pride of the lakes even after the Goodrich Line began building its steamboats at Manitowoc in 1860. The emphasis during all these early years was on lake transportation. There were unsuccessful efforts to build a railroad in the 1850's but the county had no rail facilities until 1872. The local port became a point of entry for the Buffalo-Chicago boats and it was on this route that most of the families from Europe reached their new home.

### DAIRYING BEGINS

The history of agriculture in Manitowoc County was marked by the growing of wheat and barley and the development of dairying. The cultivation of wheat had increased in acreage from around 3,000 in the 1850's to around 60,000 in the 1870's and began to decline rapidly thereafter. The rise of the brewing industry in the state led to a larger production of barley and that crop soon assumed the lead among the grains. The greatest change, however, was the advent of dairying. Although there were only 80 cows in the county in 1840 there were over 27,000 by the turn of the century. Dairy manufacturing expanded particularly in the form of cheese and condensery production.

One of the leading pioneer cheese manufacturers of Manitowoc County was Henry H. Huhn of Manitowoc Rapids, who was born in 1866 on the old Huhn family homestead in the town of Center, Manitowoc County. At the age of 19 he located in Branch and worked in the cheese factory of Charles Bahr. Later he bought a cheese factory in Branch.

Among those who engaged in dairying at an early date should be mentioned Patrick Cahill who was born in Manitowoc in 1856. He developed a 190-acre farm and carried on general farming and marketed dairy products. Joseph Krizenesky, who was born in 1867, developed a 70-acre farm on which he conducted general farming. He also marketed dairy products, milking 12 cows and carrying grade stock; William F. Schuette, born in 1869, raised draft horses. He also built a creamery and sold butter in Manitowoc.

The county fair has been a feature of the agricultural development through the years. Founded in 1857, re-established in 1883 and again in 1900, it was held first at Washington Park in Manitowoc, then for some years at Clark's Mills and later on a 37-acre plot at the county seat.

In 1822 a trail along the lakeshore of Manitowoc County was the only regular course through the county. Later private parties cut roads through the county. In 1839 a county road was surveyed from the mouth of the river to the Rapids and Two Rivers. As the county became settled, roads were extended in all directions. The pioneers later began thinking about railroads. After several projects failed a railroad connection was finally established with Appleton in 1872 and a year later a direct connection with Milwaukee was made through the extension of the Milwaukee, Lake Shore, and Western Line from Sheboygan.

In 1905, according to a census of Wisconsin taken in that year which included data on the nativity of the population, the Germans had become the largest foreign group with about 58 percent of the total foreign-born population. The Bohemians were the second largest foreign group while Poles and Norwegians ranked third and fourth respectively.



Personnel in Agricultural Extension Work  
Manitowoc County, Wisconsin<sup>1/</sup>

Extension position and name	Tenure	
	From	To
<u>County Agricultural Agent</u>		
R. R. Smith	July 18, 1921	March 31, 1929
H. J. Weavers	May 5, 1929	September 30, 1943
Truman Torgerson	October 18, 1943	June 30, 1945
C. H. Nietzke	July 1, 1945	November 14, 1945
Truman Torgerson	November 15, 1945	August 18, 1946
Arnold G. Wochas	August 19, 1946	June 22, 1947
John R. Buchholz	June 23, 1947	
<u>Home Agent</u>		
Marie O'Conner	February 15, 1919	
Ruth Huchstead	January 30, 1939	May 31, 1942
Karen Van Derzee	June 1, 1942	December 31, 1943
Marion Hiekel	February 14, 1944	May 31, 1945
Jane A. Davies	June 1, 1945	October 8, 1947
Elizabeth Hasslinger	December 1, 1947	July 31, 1952
Ann C. Magnin	August 1, 1952	February 28, 1954
Marjorie J. Price		
(Mrs. H. F. Harder 10-9-54)	February 1, 1954	June 30, 1956
Joyce D. Schultz	July 1, 1956	
<u>4-H and Assistant Agent</u>		
John R. Buchholz	June 24, 1946	June 22, 1947
Reginald J. Rensink	October 15, 1947	
<u>Farm and Home Development</u>		
Leland Smith	September 1, 1954	
<u>Dairy Agent</u>		
Wesley A. Kron	October 1, 1948	February 28, 1951
Norbert E. Brandt	April 1, 1951	
<u>Emergency, Special and Miscellaneous</u>		
Charles W. Meisnest	June 7, 1943	August 31, 1943
Orrin I. Berge	November 16, 1943	April 30, 1944
Edwin A. Griffin	January 17, 1944	April 14, 1944
John A. Reis	March 1, 1944	June 30, 1946
Herbert J. Zimmer	April 13, 1944	September 16, 1944
Lucille E. Goedke	July 1, 1944	August 5, 1944
Mrs. Alice Peterson	July 1, 1944	July 25, 1944
Edwin A. Griffin	October 1, 1944	January 31, 1945
Orrin I. Berge	November 15, 1944	December 31, 1945
Gust Eggert	February 1, 1945	May 5, 1945
Edwin Griffin	July 1, 1945	October 31, 1945
Lynford Tremaine	February 1, 1946	June 30, 1946
Bruno Slotwinski	February 11, 1946	March 31, 1946
Don W. Niendorf	September 1, 1947	

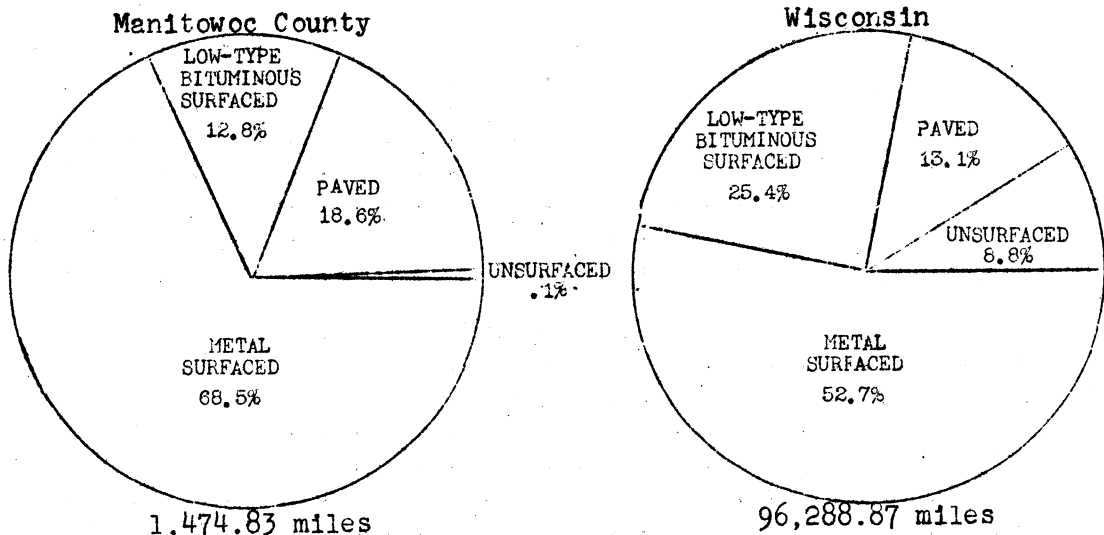
<sup>1/</sup>Data furnished by L. G. Sorden, Administrative Assistant, Agricultural Extension Service, College of Agriculture, University of Wisconsin.

AGRICULTURAL EXTENSION WORK IN MANITOWOC COUNTY

The county has had agricultural extension work since 1919 when the first home agent was employed, and the first county agricultural agent was hired in 1928. In addition to the Extension office there are other United States Department of Agriculture offices in Manitowoc County. The Agricultural Stabilization and Conservation Committee, Farm Home Administration, Soil Conservation Service, Production Credit Administration, and the National Farm Loan offices are located at Manitowoc.

Mileage of Public Roads and Streets by Kind of Surfacing  
as a Percent of the Total

Manitowoc County and Wisconsin, December 31, 1954<sup>1/</sup>



<sup>1/</sup>Computed from data obtained from Wisconsin Highway Commission.

HIGHWAYS ARE LINKS TO MARKETS AND SERVICES

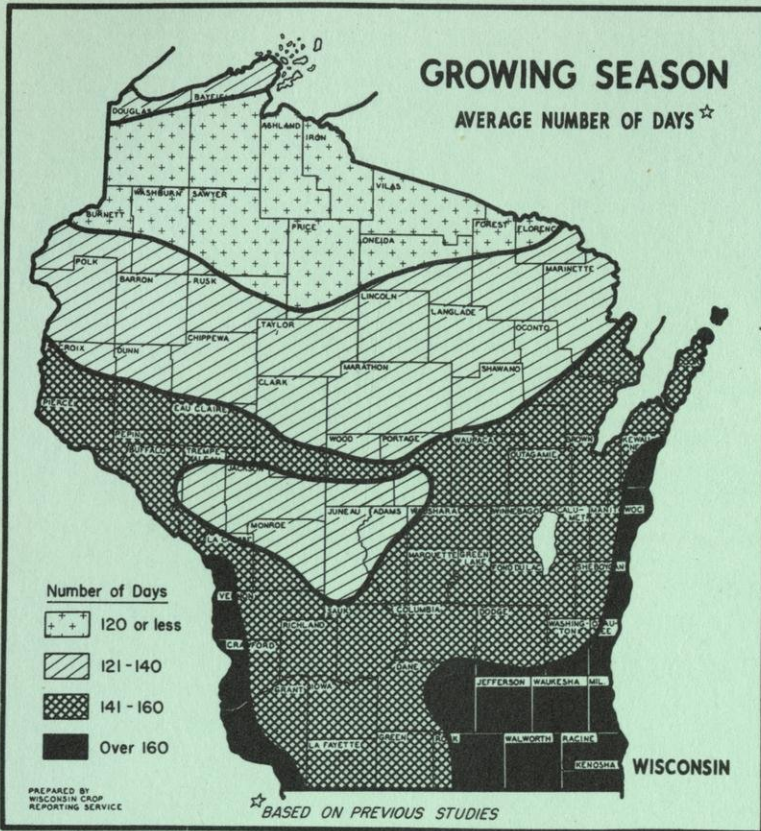
Highways are very important to rural as well as city living. Good roads permit rapid and regular hauling of farm products to market. This is particularly true for such commodities as milk. Rural fire protection, school transportation, mail delivery, and many other needs of farmers and others living in rural areas require good roads. Of the mileage in public roads and streets in Manitowoc County at the end of 1954 that with metal surfacing was highest. Roads with this kind of surfacing totaled about 1,010 miles. Paved surface roads were next with 274 miles. Nearly 190 miles had a low-type bituminous surface while almost 2 miles were unsurfaced.

RECENT CHANGES IN MANITOWOC COUNTY

The colored rank sheet found between parts III and IV of this publication shows to an appreciable extent Manitowoc County's place in the state's agriculture and population. The rank of Wisconsin among other states in agricultural production is also given. Changes in the county from 1940 or 1949 to the latest year available are indicated on the rank sheet. For example, farm numbers have dropped but farms have increased in average size. Also, some livestock species are up in numbers while others are down.

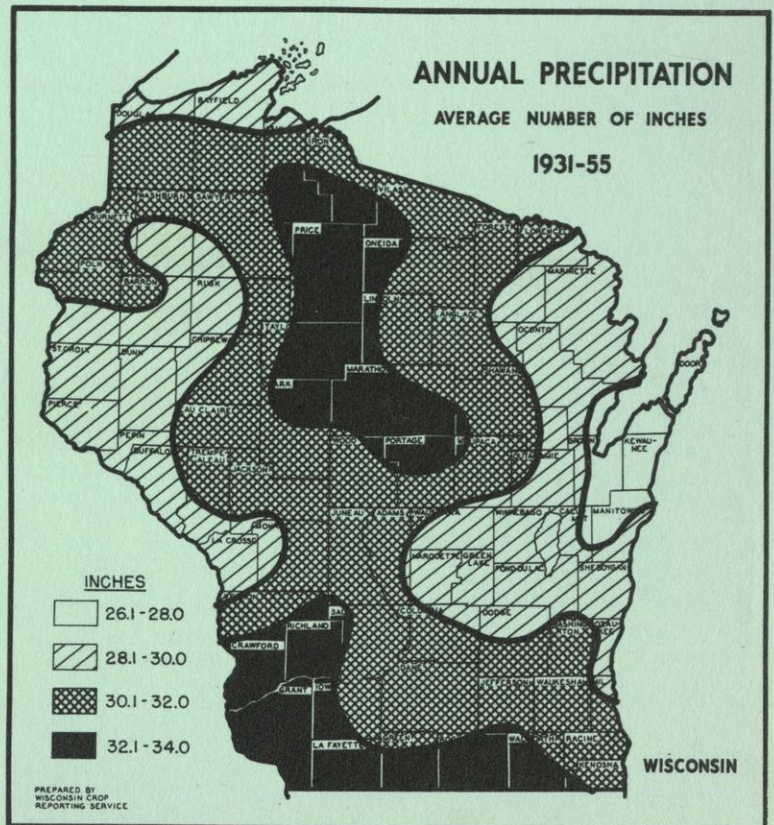
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There is considerable variation in the average length of the growing season in Wisconsin from one area to another. In two small areas in the state the average growing season is over 160 days in length while in the northern counties the average length is 120 days or less. However in the northern parts of Douglas and Bay-field Counties the growing season averages more than 120 days because of the moderating effect of Lake Superior. The average growing season in roughly two-thirds of the state is from 121 to 160 days. The growing season pattern determines in large part where various crops and even varieties can be grown.

The amount of precipitation as well as the distribution during the year has considerable bearing upon the agricultural pattern. A large part of the precipitation is in the form of rain, although snow is of importance not only from the standpoint of supplying moisture but also in providing insulation to wintering vegetation and thus protecting it from the cold. For Wisconsin the average annual precipitation ranges from 26 to 34 inches depending on the location. Precipitation averages lowest in the upper lakeshore <sup>townships</sup> counties where the average ranges from 26.1 to 28.0 inches. The highest average, 32.1 to 34.0 inches, is indicated in two separate areas on the accompanying map.



# MANITOWOC COUNTY ROADS

