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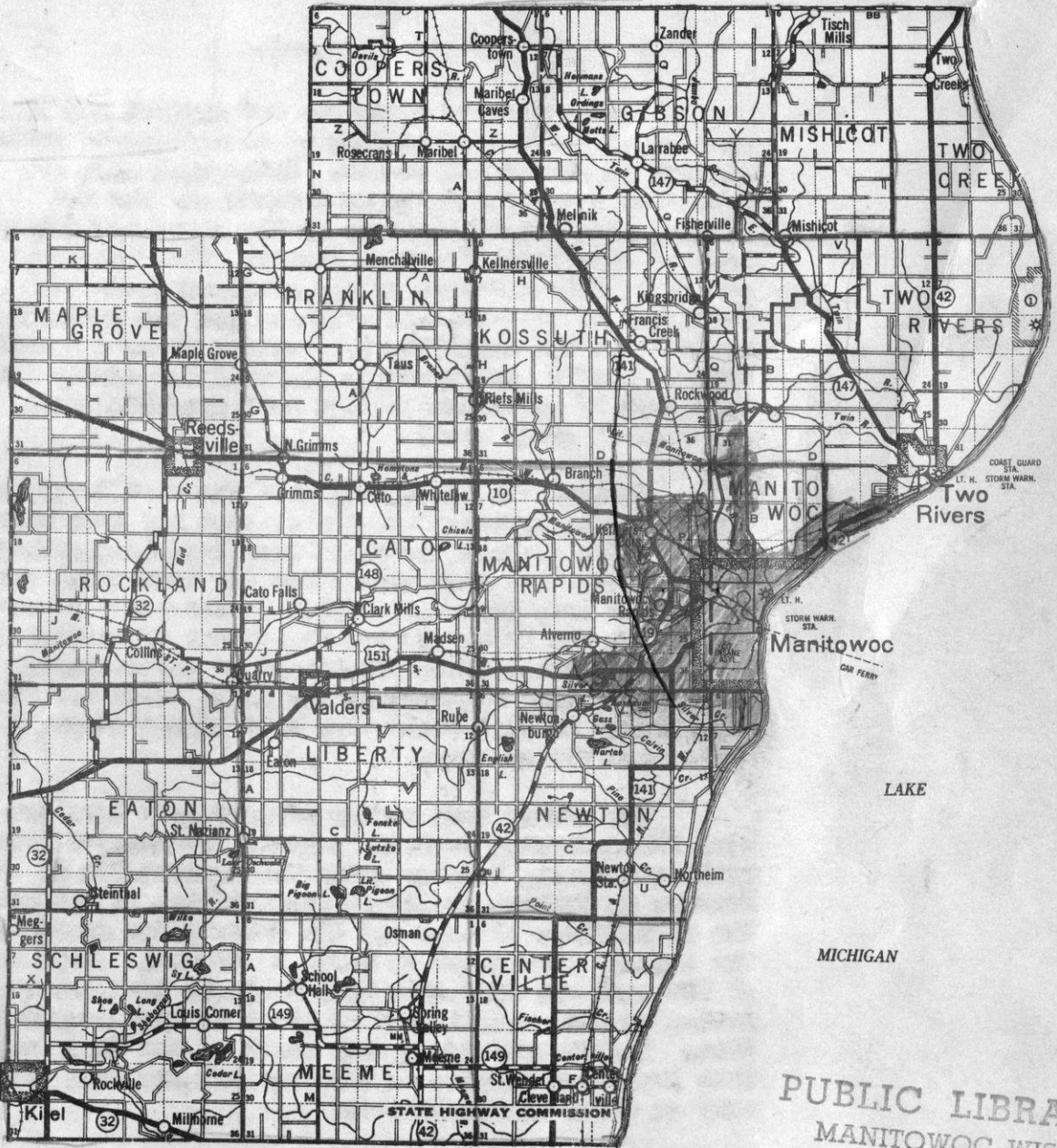
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MANITOWOC COUNTY WISCONSIN AGRICULTURAL STATISTICS



WISCONSIN CROP AND LIVESTOCK REPORTING SERVICE	
State Capitol, Madison	
UNITED STATES DEPARTMENT OF AGRICULTURE Agricultural Marketing Service	WISCONSIN DEPARTMENT OF AGRICULTURE Division of Agricultural Statistics

Nineteen forty marks the one hundred and first anniversary of the collection of statistics of agriculture in the United States. While such data are published for the country as a whole and for the states, little has been done in the separate publication of statistics for each county. With the great change in conditions which has occurred since the World War of 1914-18, the planning and the programs of agriculture are requiring information in more detail than formerly. So urgent is the need for county data that some of the organizations have assembled such material at great cost.

To meet the increasing need for more localized statistics on agriculture, the attempt has been made in Wisconsin through the State Crop Reporting office to bring together some statistics for individual counties. The Crop Reporting office in Wisconsin represents both the United States Department of Agriculture and the Wisconsin State Department of Agriculture. The cooperative plan of handling the work, which was first established in this state, has been widely adopted throughout the country.

The county data herein offered have been assembled from existing records in state and federal documents and files, largely under the supervision of Francis J. Graham, assistant statistician in the office. The preparation of maps and the descriptive manuscript was largely supervised by Emery C. Wilcox. Since much of the work was done with Work Projects Administration funds, special credit must be given to that organization. Continuous work by the staff of the Wisconsin Crop Reporting Service on this project has been necessary in order to complete it.

PREFACE

A growing demand for county agricultural data has taken place in recent years. While some of the figures are quite readily available, data covering an extended period of time have been very difficult for most people to obtain.

Because agricultural leaders, teachers, and other interested persons make frequent requests for agricultural data showing county trends, the Wisconsin Crop Reporting office began organizing such material about six years ago. This material was found in the census records, old publications of the State Department of Agriculture and Markets, and unpublished material in the office files. Assistance in the project was obtained first under the CWA program and subsequently from the Wisconsin Work Projects Administration, through Projects 465-53-3-19, 665-53-31, and 65-1-53-81 (Work Projects 6761, 8605, and 10016, respectively).

While some of the recent county data were published in Bulletins numbers 140, 150, and 188, of the Department of Agriculture and Markets, there has been no opportunity up to now to publish the long-time trend material for each of the counties. The compilations, however, have been completed largely through the Works Progress Administration projects (now Work Projects Administration) under the supervision of workers of the Wisconsin Crop Reporting office, representing the State Department of Agriculture and the United States Department of Agriculture. The compilations from 1915 to 1936, as well as the earlier census material, were made largely by WPA workers, and the 1937 and 1938 material was prepared in the Crop Reporting office.

In developing the material, data were drawn from Wisconsin Department of Agriculture and Markets Bulletins 11, 14, 21, 28, 34, 48, 65, 74, 90, 120, 140, 150, 176, 188, and Supplement to Bulletin 90. Data were also taken from the work sheets of the Crop Reporting office, the assessors' crop and livestock reports, and the United States Census volumes. So far as possible, the series have been revised so that they are in agreement with the latest estimates for the various items. Subsequent data will probably become available in bulletins or in the monthly "Wisconsin Crop and Livestock Reporter" published by the State Department of Agriculture.

Special credit must be given to Wisconsin assessors and tax officials who collect data on crops and livestock as required under the Wisconsin laws. Without these data by towns and counties, detailed agricultural statistics would be less accurate and less complete.

Madison, Wisconsin
August, 1940

Walter H. Ebling, Director
Division of Agricultural Statistics

MANITOWOC COUNTY'S RANK

as compared with other counties in Wisconsin is

<u>First in:</u>		<u>Year</u>
Evaporated and condensed whole milk - pounds	160,677,000	1938
Total condensery products - pounds	160,677,000	1938
<u>Third in:</u>		
Percent farm income from grains	7.8	1936
Barley acreage - acres	48,690	1938
Barley production - bushels	1,801,530	1938
<u>Fourth in:</u> Clover seed production - bushels	6,050	1936
<u>Fifth in:</u>		
Value land and buildings - dollars	33,548,714	1935
American cheese production - pounds	15,486,000	1938
Apple trees - total number	69,226	1934
<u>Sixth in:</u>		
Value of land and buildings per acre - dollars	94.26	1935
Cheese factories - number	88	1938
<u>Seventh in:</u>		
Total cheese production - pounds	15,505,000	1938
Tame hay production - tons	114,441	1937
Alfalfa seed production - bushels	770	1936
Cherry trees - total number	9,957	1934
Sugar beet acreage - acres	480	1936
<u>Eighth in:</u> Milk production - pounds	284,160,000	1938
<u>Ninth in:</u>		
Population per square mile		
Clover and timothy production		
<u>Tenth in:</u>		
Clover and timothy hay acreage		
Milk cows & heifers per 100 acres		
<u>Eleventh in:</u>		
All cattle per 100 acres		
Milk cows and heifers		
Egg production		
Oat production		
<u>Twelfth in:</u>		
Population, total		
Plum trees - number		
Land in crops		
Gross farm income from crops		
<u>Thirteenth in:</u>		
Number of farms		
All tame hay acreage		
Chickens		
Silos		
<u>Fourteenth in:</u>		
Total gross farm income		
All cattle		
<u>Sixteenth in:</u> Alfalfa hay - tons		
<u>Eighteenth in:</u> Farm land value		
<u>Thirtieth in:</u> Land in farms		
<u>Forty-eighth in:</u> Land area		
<u>Fifty-ninth in:</u> Size of farms		

MANITOWOC COUNTY

Manitowoc County, Wisconsin, is located on the shore of Lake Michigan in the east-central part of the state. Brown and Kewaunee Counties form the northern border which is only 14 miles from Green Bay. The western border, formed by Calumet County, is about 13 miles east of Lake Winnebago. The southern boundary of the county, formed by Sheboygan County, is about 98 miles north of the Wisconsin-Illinois boundary.

The city of Manitowoc, the county seat, is 84 miles from Milwaukee, 131 miles from Madison, and 179 miles from Chicago, Illinois by highway.

Area:

Although larger than the four adjoining counties, Manitowoc is one of the smaller counties in actual land area, ranking forty-eighth in size among the 71 counties. The total area, 380,027.98 acres, is about 1.1 percent of the total area of the state. The county is slightly larger than Richland County and slightly smaller than Lafayette, two counties in the southwestern part of the state. Approximately 94 percent of the area of Manitowoc County was in farms in 1935.

There are 18 civil towns in the county. Along the lakeshore these towns are quite irregular in shape, but elsewhere they agree with the government townships. As a result, there is considerable difference between the largest and the smallest towns but with the majority about the same size. Kossuth, with an area of 25,615.97 acres, is the largest town; Two Creeks, with 9,652.62 acres, is the smallest town.

Topography:

The topography of Manitowoc County varies from level to rough. The relief is nowhere great but there is considerable difference in elevation from west to east. Surface irregularities are largely the result of glacial deposition for the entire county was covered by the continental ice sheet during the Wisconsin stage of glaciation. In general, the hilly area extends through the county in a northeasterly direction, on each side of which are rolling areas. Beyond the zone of rolling country on the eastern side of the hills are the level areas near Lake Michigan. The depth of the glacial till cover varies in different parts of the county but averages between 70 and 100 feet. It is somewhat deeper in the southern and eastern sections of the county.

Manitowoc County is situated on the Niagara Upland which is formed on the back slope of the Niagara cuesta. (A cuesta is a ridge with one steep slope, and one long, gentle slope). The steep slope of the Niagara cuesta faces Lake Winnebago in Calumet County where it is known locally as "The Ledge." The resistant limestone which is responsible for the formation of the cuesta and the upland is identical with that over which the Niagara River flows at Niagara Falls. Geologists have traced this

rock strata from New York State through the southern part of the province of Ontario in Canada, and into Upper Michigan. Entering Wisconsin it forms Door County, extends southward into Illinois where it turns westward into Iowa and extends northward along the Mississippi River. The actual elevation of the Niagara limestone under the covering of glacial drift is about 1,100 feet in Calumet County near the edge of the escarpment and 500 feet at Manitowoc on the lakeshore.

Extending from the southwest corner of the county in the town of Schleswig to the town of Cooperstown is the scenically beautiful Kettle Moraine. This rough, hilly region was formed between the Green Bay and Lake Michigan lobes of the Wisconsin ice sheet. The moraine is wider in the south than in the north, and in the central part of the county is less conspicuous than in either the north or south. The name arises from the fact that the melting of blocks of ice buried in the moraine resulted in depressions which were called "pots and kettles" or "potash kettles." Some of the kettle holes are oval, some are round, and some are oblong. They vary greatly in size and depth. Small lakes and swamps occupy the bottoms of some of the larger depressions; some are swampy only in wet weather. Much of the area is too rough or stony for agriculture.

As the Lake Michigan lobe melted and retreated to the north a glacial lake called Lake Chicago was formed at its southern edge. This lake covered a much larger area than the present Lake Michigan, extending into the Fox River--Lake Winnebago lowland. A heavy, red clay, most of which was derived from materials farther north, was deposited in the lake, thus covering much of present Manitowoc County. After retreating northward for a considerable period of time, during which a spruce forest grew to maturity, the ice readvanced in eastern Wisconsin. The red clays were reworked into red till and some red clay moraines were deposited across the older terminal moraines. The black spruce forest buried beneath the red till is now revealed along the shore of Lake Michigan between Manitowoc and Two Rivers.

Soils:

The Soil Survey of Manitowoc County, published in 1926, mapped 34 soil types including peat and muck, rough, broken land, and dune sand. Under the guidance of Professor A. R. Whitson, Department of Soils, College of Agriculture, University of Wisconsin, the 34 types are divided into 5 classes which are designed to give a general picture of the soils in the county. Several of the more important soil types in the Soil Survey are divided into phases such as level phase, shallow phase or rolling phase which distinguish minor differences within the same type.

I Heavy Soils

Kewaunee silty clay loam	Kewaunee silt loam
Kewaunee loam	Superior clay loam
Superior silt loam	Bellefontaine silt loam
Fox silt loam	Clyde silty clay loam

- | | |
|-------------------------------|-----------------------|
| II Loams and Fine Sandy Loams | |
| Genesee fine sandy loam | Superior loam |
| Superior fine sandy loam | Bellefontaine loam |
| Bellefontaine fine sandy loam | Fox loam |
| Fox fine sandy loam | Rodman gravelly loams |
| III Sandy Soils | |
| Berrien loamy fine sand | Coloma fine sand |
| Plainfield fine sand | |
| IV Poorly Drained Soils | |
| Poygan silty clay loam | Wabash silt loam |
| Ewen silty clay loam | Maumee loam |
| Genesee silt loam | Genesee loam |
| Sagautuk fine sand | Granby fine sand |
| Muck | Peat |
| V Miscellaneous | |
| Bellefontaine gravelly loam | Longrie stony loam |
| Bridgman fine sand | Rough, broken land |
| Dune sand | |

Almost 75 percent of the area of Manitowoc County is good agricultural land. **Heavy** soils are the most extensive of the 5 soil classes, accounting for 59.4 percent of the area of the county and loams and fine sandy loams account for 14.2 percent of the total. Poorly drained soils comprise 20.8 percent of the total; sandy soils, .6 percent, and miscellaneous soils, 4.0 percent.

Heavy soils predominate in all of the 18 towns in the county, ranging from 43.3 percent of the area of the town of Eaton to 86.2 percent of the area of the town of Two Creeks. No town has less than 40 percent in this class. Fourteen towns have over 50 percent heavy soils; 9 have over 60 percent; 5 have 70 percent; and 1 has over 80 percent. Rockland has the highest percentage of area in poorly drained soils with 45.7 percent and Eaton is second with 40.6. Franklin has the highest percentage in loams and fine sandy soils, 32.2, and Cooperstown is second with 26.5. Miscellaneous soils account for 12.3 percent of the area of Two Rivers, and 10.4 percent of the area of Schleswig. Two Rivers, with 9.5 percent of its area in sandy soils, and Manitowoc, with 8.6 percent, are first and second in this class.

About one-quarter of the total area of Manitowoc County is in one soil type--Kewaunee silty clay loam. This soil occupies 57 percent of the town of Two Creeks and between 40 and 50 percent of the towns of Meeme, Liberty, Newton, Manitowoc Rapids, and Rockland. The surface soil consists of a dark, gray-brown clay loam underlain by a brown or yellow-brown silt loam, but has a distinctly reddish tinge when cultivated. The subsoil is a stiff, red clay occurring anywhere from 8 to 26 inches below the surface. Because of its texture this soil is hard to till in wet

Table 1. Soil Classification by Towns
Manitowoc County, Wisconsin
Estimated by Wisconsin Crop Reporting Service 1/

Towns	I Heavy Soils	II Loams & Fine Sandy Loams	III Sandy Soils	IV Poorly Drained Soils	V Miscel- laneous
	Percent	Percent	Percent	Percent	Percent
Cato	71.3	8.8	.3	18.7	.9
Centerville	60.4	15.1	4.0	18.2	2.3
Cooperstown	44.5	26.5	.1	22.4	6.5
Eaton	43.3	6.5		40.6	9.6
Franklin	51.9	32.2	.1	14.6	1.2
Gibson	53.8	23.7		17.7	4.8
Kossuth	66.8	16.2	2.1	13.1	1.8
Liberty	61.0	11.0	1.0	22.1	4.9
Manitowoc	49.0	27.4	8.6	13.5	1.5
Manitowoc Rapids	73.2	7.7	.8	16.0	2.3
Maple Grove	63.4	3.7	.3	31.7	.9
Meeme	74.4	8.4	.1	12.9	4.2
Mishicot	54.5	25.5	2.0	16.2	1.8
Newton	71.0	11.7	3.2	12.7	1.4
Rockland	51.5	2.4		45.7	.4
Schleswig	59.4	17.4		12.4	10.8
Two Creeks	86.2	2.0	.3	9.6	1.9
Two Rivers	43.4	10.6	9.5	24.2	12.3
County total	59.4	14.2	1.6	20.8	4.0

Table 2. Woodland, Swamp, and Marsh
Acreage by towns 2/
Wisconsin Land Economic Inventory

Woodland <u>3/</u>	Swamp and Marsh		
	Open	Wooded	Total
Acres	Acres	Acres	Acres
2,841	267	1,557	1,824
1,907	207	542	749
5,291	299	2,449	2,748
6,914	1,535	5,391	6,926
3,674	394	950	1,344
3,907	584	1,917	2,501
3,801	274	625	899
4,508	659	3,024	3,683
980	277	604	881
1,972	480	862	1,342
5,009	870	3,037	3,907
3,366	600	997	1,597
2,164	694	884	1,578
2,768	392	162	554
4,685	2,562	4,054	6,616
4,021	773	1,446	2,219
940	316	503	819
4,740	1,138	1,708	2,846
63,488	12,321	30,712	43,033

1/ Estimated from Soil Survey of Manitowoc County, 1926.

2/ Estimated by Wisconsin Crop Reporting Service from Land Economic Inventory surveys by government townships.

3/ Includes wooded marsh.

weather and the planting is usually done rather late in spring compared with lighter soils in the same latitude.

Bellefontaine silt loam, concentrated largely in Schleswig, Gibson, Cooperstown, and Cato, is the second most extensive soil in the county, accounting for 14.2 percent of the total area. The surface soil is about 8 inches deep and consists of gray-brown silt loam. Clay does not appear in the subsoil until between 19 and 30 inches. The greater part is gently rolling but a gently undulating or level phase is recognized.

Superior clay loam, a heavy soil, is third in importance from the standpoint of area and comprises as high as 35 percent of the town of Two Rivers and 30 percent of the town of Manitowoc, but comprises less than 10 percent of the total area of the county. Carlisle muck is fourth in the county, with 7.7 percent of the total area; and Kewaunee silt loam is fifth with 6.6 percent.

Swamp and Woodland:

According to a survey of the Wisconsin Land Economic Inventory made in 1937, there were 63,488 acres of woodland in Manitowoc County, of which 48,329 acres were classed as merchantable timber. The major part of the timber is mixed hardwoods. Upland hardwoods, 25,315 acres, and swamp hardwoods, 21,192 acres, together account for 73 percent of the total woodland. Hardwoods comprise 96 percent of the merchantable timber. Cedar was third in total acreage of woodland, with 6,710 acres, followed by white pine, hemlock, and tamarack respectively.

The largest acreages of woodland occur in the towns west of or including the Kettle Moraine. Eaton was first in 1937 with 6,914 acres, followed by Cooperstown with 5,291 acres and Maple Grove with 5,009 acres. Manitowoc and Two Creeks, the two smallest towns, had less than 1,000 acres of woodland. Manitowoc Rapids, a town approximately the same size as Eaton, had only 1,972 acres of woodland.

Wooded swamp accounted for about 70 percent of 43,033 acres of all swamp and marsh mapped by the Wisconsin Land Economic Inventory. The remainder was open marsh. More than two-thirds of the wooded swamp was in hardwoods; 6,710 acres were white cedar; and 2,810 acres were tamarack. The open marsh included 5,964 acres of tag alder, 3,397 acres of grass marsh, 2,445 acres of sedge marsh, and 280 acres of cattail marsh.

Three adjoining towns along the western border of the county had the largest acreages of swamp and marsh within their borders. Eaton had 6,926 acres. Rockland had 6,616 acres, and Maple Grove had 3,907 acres. Liberty was the only other town with over 3,000 acres in this classification. Most of the towns along the lakeshore were fairly well drained, only Two Rivers having more than 1,000 acres of swamp and marsh.

Every town had some open swamp or marsh. Rockland led in open marsh with 2,562 acres, followed by Eaton with 1,535 and Two Rivers with

1,138. Thirteen towns had mostly tag alder while four towns, Eaton, Gibson, Kossuth, and Mishicot, had more grass marsh than any other type of open swamp. Rockland had more sedge marsh.

Some wooded swamp was found in each of the 18 towns, ranging from 162 acres in the town of Newton to 5,391 acres in the town of Eaton. Between 3,000 and 4,000 acres of swamp hardwoods were reported in Eaton and Rockland. White cedar predominated in Newton, Gibson, Mishicot, and Two Creeks--the latter three of which are adjoining towns on the northern border of the county. Cooperstown and Maple Grove respectively led in the acreage of tamarack swamp.

Population:

Marquette and Joliet, early French explorers who skirted the Wisconsin shore of Lake Michigan in 1673, left no record to indicate that they halted anywhere within the boundaries of the present Manitowoc County. Father St. Cosme, a missionary, told of stopping at a new Jesuit mission in 1698, presumably at the mouth of the Manitowoc River. At least one fur post supposedly was established in this territory before Jacques Vieau of Mackinac Island, father-in-law of Solomon Juneau, founder of Milwaukee, built two posts in the present county in 1795--one in the town of Gibson and the other on the Manitowoc River near the falls.

Table 3.- Population: Manitowoc County, Wisconsin, 1850-1940
(U. S. Census)

Year	Total	Urban	Rural
1850	3,702		
1860	22,416		
1870	33,364		
1880	37,505		
1890	37,831		
1900	42,261	15,570	26,691
1910	44,978	17,877	27,101
1920	51,644	24,868	26,776
1930	58,674		
1940	61,421		

Permanent white settlement began in 1835 when titles for land near Manitowoc and Manitowoc Rapids were registered in the land office at Green Bay. Manitowoc was established as a county in 1836 by the territorial legislature of Wisconsin from part of Brown County. The name, an Indian word, is thought to mean "spirit land" or "abode of the good spirit." Township 21 north, ranges 22-25 east, were annexed from Brown County in 1850, establishing the boundaries as they are at present.

The total population of Manitowoc County in 1850 was 3,702 persons, according to the United States Census. There was a steady increase in population in each succeeding decade. In 1860 the population went over 20,000; in 1870 it exceeded 30,000; in 1900 it went over 40,000, and in

Table 4.- Population and farm tenure by towns: Total and farm population and distribution of tenure
Manitowoc County, Wisconsin
(U. S. Census)

Town	Population			Distribution of Operators ^{4/}			
	Total 1930	Farm - 1935		Full owners	Part owners	Man- agers	Ten- ants
	^{1/}	Total ^{2/}	Per Sq. Mile ^{3/}				
Number	Number	Number	Pct.	Pct.	Pct.	Pct.	
Cato	2,329	1,341	36.9	84.1	6.0	1.2	8.7
Centerville	1,320	896	34.6	92.3	4.4		3.3
Cooperstown	1,282	921	25.5	92.2	7.3		0.5
Eaton	1,095	783	21.9	86.8	5.0	2.5	5.7
Franklin	1,515	1,290	35.2	81.5	10.7		7.8
Gibson	1,193	1,094	31.2	93.6	3.4		3.0
Kossuth	1,894	1,378	34.4	94.8	2.1		3.1
Liberty	1,166	995	27.5	82.3	5.9		11.8
Manitowoc	23,368	546	35.6	85.3	11.2		3.5
Manitowoc Rapids	1,811	1,446	40.5	96.4	3.0	0.6	
Maple Grove	1,584	991	27.6	86.2	3.3		10.5
Meeme	1,442	1,235	34.1	89.1	4.4		6.5
Mishicot	1,349	959	31.8	82.9	6.5	0.5	10.1
Newton	1,459	1,350	39.2	85.8	5.3		8.9
Rockland	1,151	941	26.2	86.8	2.1	0.5	10.6
Schleswig	2,794	1,032	29.1	83.3	4.4	0.4	11.9
Two Creeks	489	419	27.8	88.3		1.1	10.6
Two Rivers	11,433	888	23.7	94.9	2.0		3.1
County	58,674	18,505	31.2	88.4	4.8	0.3	6.5

^{1/} Includes population of cities and villages located in respective town.

^{2/} Includes farm population of cities and villages.

^{3/} Farm population divided by square miles of land area, table 6.

^{4/} U. S. Census 1935; historic county tenancy data in table 5.

1920 there were over 50,000 residents in the county. The 1940 total was 61,421 persons, according to the figures released by the Census Bureau, August 19, 1940. Although there was an increase in total population from 1920 to 1940, Manitowoc dropped from eleventh among the 71 counties to twelfth in 1930 and thirteenth in 1940. With about 103 persons per square mile, the county was well above the state average in this respect.

Changes in the census classification of rural and rural-farm residents makes it impossible to compare urban and rural residents for all the census decades. On the basis of urban residents being only those people residing in cities with 2,500 or more inhabitants, the county has been about equally divided between the two classes in the 1920 and 1930 census reports. (The 1940 data are not available at this time). However, when comparing the number residing in incorporated cities and villages with those in unincorporated towns and hamlets, Manitowoc is now predominantly

urban. In 1900, 60 percent of the people were rural residents; in 1910, 56.3; in 1920, 47.9; and in 1930, 39.0 percent.

The towns of Manitowoc and Two Rivers, each including a city of the same name, ranked first and second respectively in total population in 1930. Farm population was largest in the town of Manitowoc Rapids, according to the 1935 Census of Agriculture; Kossuth, Newton, and Cato followed in the order named. The town of Two Creeks, with the lowest total, was the lowest in farm population. The number of farm residents per square mile was about 40 for the town of Manitowoc Rapids compared with an average of 31 for the entire county. Eaton had the lowest average with about 22 farm persons per square mile.

Farms: Number and Size:

The Census of 1860 showed 809 farms in Manitowoc County. Twenty years later the number of farms, 4,361, was the largest ever reported. From 1880 to 1930 there was a steady decline in farm numbers, but in 1935 there was an increase of 79 farms over the 3,767 reported in 1930. The acreage of land in farms was greatest in 1900 when 363,133 acres were reported. The acreage ranged between 350,000 and 360,000 acres since 1900. In 1935 Manitowoc County ranked thirteenth in farm numbers among the 71 counties of the state but was only thirtieth in the acreage of farm land.

Table 5.- Farms: Number, land area, size, and tenancy
Manitowoc County, Wisconsin, 1880-1935

Year	Farms			Tenancy
	Total Number	Acreage Acres	Av. size Acres	Percent
1880	4,361	350,225	80.3	1.9
1890	4,076	345,571	84.8	2.3
1900	4,073	363,133	89.2	3.8
1910	3,906	359,406	92.0	3.6
1920	3,904	358,511	91.8	4.3
1925	3,887	352,674	90.7	4.1
1930	3,767	350,069	92.9	5.9
1935	3,839	355,909	92.7	6.5
Rank 1935	13	30	59	68

The eastern lakeshore of Wisconsin is a region of rather small farms--the average size of farms in the eight counties bordering on Lake Michigan not exceeding 104 acres. Manitowoc County ranked fifty-ninth in the state in the average size of farms in 1935, with 92.7 acres per farm. Before 1900 the average was less than 90 acres. The 80-acre farm is the most popular size in the county, with 33.5 percent of all the farms ranging between 70 and 89 acres, according to the reports of the assessors in 1933. For the state as a whole, 26 percent of the farms fell in this class. Second most popular in the county was the 120-acre farm--13.8 percent being between 110 and 129 acres. Almost 62 percent of all the

Table 6.- Total land area and United States Census data on farms by towns, Manitowoc County, Wisconsin

Town	Total land area <u>1/</u> Acres	Farms, farm land, and farm values 1935					
		Number of farms No.	Land in farms		Average size of farms Acres	Average Value	
			Acres	Percent <u>2/</u> Pct.		Per farm Dollars	Per acre Dollars
Cato	23,264.33	252	23,250	99.9	92.3	9,495	103
Centerville	16,560.87	182	15,594	94.2	85.7	9,588	112
Cooperstown	23,140.69	205	21,503	92.9	104.9	7,922	76
Eaton	22,923.70	159	20,962	91.4	131.8	10,212	77
Franklin	23,475.04	270	23,005	98.0	85.2	8,261	97
Gibson	22,449.59	234	21,709	96.7	92.8	7,346	79
Kossuth	25,615.97	287	24,351	95.1	84.8	8,277	98
Liberty	23,131.25	204	21,146	91.4	103.7	8,532	82
Manitowoc	9,813.58	116	6,435	65.6	55.5	7,824	141
Manitowoc Rapids	22,859.82	303	21,089	92.2	69.6	10,346	149
Maple Grove	22,952.83	210	22,216	96.8	105.8	9,982	94
Meeme	23,173.60	230	22,490	97.0	97.8	8,675	89
Mishicot.	19,286.29	199	19,279	99.9	96.9	7,517	78
Newton	22,068.23	281	22,211	<u>3/</u> 93.7	79.0	8,641	109
Rockland	22,982.23	189	21,041	91.6	111.3	9,108	82
Schleswig	22,689.38	228	20,693	91.2	90.8	8,425	93
Two Creeks	9,652.62	94	9,452	97.9	100.6	8,897	88
Two Rivers	23,987.96	196	19,483	81.2	99.4	7,966	80
County	380,027.98	3,839	355,909	93.7	92.7	8,739	94

1/ Computed by Crop Reporting Service and published in Wis. 1935 Blue Book.

2/ Land in farms expressed as percent of total land area.

3/ Farm land includes part of adjoining towns.

farms in the county were less than 90 acres in extent, while the total for the state was only 48 percent. Farms of less than 50 acres comprised 16.5 percent of the total, while those over 210 acres were less than 1 percent of the total.

Farms were most numerous in the central part of the county, according to the 1935 Census of Agriculture. The town of Manitowoc Rapids had 303 farms and the adjoining town of Kossuth had 287 farms. Eleven of the 18 towns had over 200 farms each. Two Creeks had the smallest number of farms, 94, while the town of Manitowoc had 116 farms. Eaton, with a large amount of swamp and marsh, was third lowest in farm numbers, with 159. The acres of land in farms ranged from 24,351 in the town of Kossuth to 6,435 in the town of Manitowoc. All towns except Manitowoc and Two Rivers, both with large urban areas within their borders, had more than 90 percent of their total area in farms. The farms averaged largest along the northern and western borders of the county where, with two exceptions, they were larger than 100 acres. In the town of Eaton they were

about 132 acres compared with 56 in the town of Manitowoc. Farms in Rockland averaged 111 acres and in Manitowoc Rapids, 70 acres.

Farm Values:

The value of farm land and buildings in 1935 was \$33,548,714, according to the United States Census. This was \$6,300,000 lower than in 1930 and about \$16,100,000 lower than the value in 1920. However, some other counties declined relatively more, so that although Manitowoc ranked twelfth in 1920, when the valuation in the county was at its peak, it ranked eighth in 1930 and fifth in 1935. The average value per acre declined from \$138.60 in 1920 to \$94.26 in 1935 but rose from fourteenth to sixth. Per farm values dropped from \$12,728 to an average of \$8,739 between 1920 and 1935, but the county rose from twenty-second to tenth. Dane, Dodge, Marathon, and Fond du Lac, all larger, were the only counties in the state which exceeded Manitowoc in total value. None of the adjoining counties approached Manitowoc in total value of farm land and buildings. Nor did any of the adjoining counties exceed Manitowoc in total value of farm land and buildings per acre and per farm.

Table 7.- Land and buildings: Value and rank, Manitowoc County, Wisconsin compared with other counties in the state (U. S. Census 1910-35)

Year	Value of land excluding buildings		Value of land and buildings					
			Total value		Value per acre		Value per farm	
	Dollars	Rank	Dollars	Rank	Dollars	Rank	Dollars	Rank
1910	21,103,709	14	29,015,795	13	80.73	17	7,429	21
1920	34,801,075	13	49,688,933	12	138.60	14	12,728	22
1925	24,167,893	15	42,016,528	9	119.14	11	10,810	25
1930	18,821,922	18	39,820,575	8	113.75	11	10,571	22
1935	(not available)		33,548,714	5	94.26	6	8,739	10

In only two towns did the per farm values exceed \$10,000 in 1935. One was the town of Manitowoc Rapids where the value per acre was highest, probably because of adjacent urban areas, and the other was the town of Eaton where the farms were the largest. The lowest values per farm were found in the northern towns, Gibson, Mishicot, Manitowoc, Two Rivers, and Cooperstown, where the values per acre were generally lower. In the town of Manitowoc it was the small farm which reduced the per farm valuation since the value per acre, \$141, was second only to the \$149 reported in the town of Manitowoc Rapids. Cooperstown, Eaton, and Mishicot had per acre values of 76, 77, and 78 dollars per acre respectively.

Farm Tenancy:

Only 3 counties in Wisconsin--Kewaunee, Florence, and Vilas--had lower percentages of farm tenancy than Manitowoc County in 1935. Two percent of the farms were rented in 1880, 4 percent in 1900, and 6.5 percent

in 1935. Full owners, those farmers owning all their land, operated 88.4 percent of the farms in 1935, while part owners, those owning part of their land and renting part, accounted for an additional 4.8 percent. Managers operated less than .5 percent of the farms in the county.

Tenant farms and owned farms averaged about the same size according to the 1935 Census of Agriculture. Tenants controlled 6.7 percent of the farm land and 6.5 percent of the farms while owners controlled 92.3 percent of the farm land and 93.2 percent of the farms. However, the average value of owner-operated farms was over \$484 greater than the average for tenant farms. The value of owned farms was \$95.02 per acre compared with \$86.35 per acre for tenant farms.

The percentage of farms operated by tenants ranged from 0.5 percent in Cooperstown to 11.9 percent in the town of Schleswig. Six towns had above 10 percent; 6 had less than 5; the remaining 6 had between 5 and 10 percent tenancy. No town had less than 85 percent of the farms operated by **both full owners and part owners**; six towns had between 85 and 90; while 12 towns had over 90 percent of their farms under owners.

Farm Income:

Manitowoc County is divided among 3 of the 22 geographic regions of Wisconsin as established by Professor Loyal Durand Jr. of the Geography Department, University of Wisconsin. (See Bulletins 120, 140, and 150, Wisconsin Department of Agriculture and Markets). The largest of the 3 regions is the Eastern Lakeshore Red Clay Dairy region which includes practically the entire northern half of the county and the southeastern quarter. The cities of Manitowoc and Two Rivers, which are situated within the limits of the Red Clay region, are included in the Eastern Lakeshore Urban and Manufacturing Belt. The southwestern quarter of Manitowoc County is part of the Southeastern Dairy Region.

There are some distinctive features in each of the three geographic regions. The urban and industrial landscape around Manitowoc and Two Rivers distinguishes that region. The Eastern Lakeshore Red Clay Dairy Region is distinguished by the color of the soil; the part of the Southeastern Dairy Region in Manitowoc County includes the rough Kettle Moraine. The big, red barn and adjoining silo are found in nearly every farm in the two dairy regions. Black and white Holsteins graze in summer pastures while in nearby fields winter feed is grown. About the same percentage of farm land is devoted to crops and to pasture, but in the Southeastern Dairy Region about twice as much of the cropland is devoted to corn as in the Red Clay Dairy Region where it matures less often and is practically all used for silage. There were about 77 silos per 100 farms in 1937 compared with 99 per 100 farms in Sheboygan County which has a smaller area of red clay soils. The assessors reported 3,875 silos in the county in 1937.

Manitowoc County ranked fourteenth in gross farm income in 1936, with an estimated total of \$7,510,484. This amount is about \$2,300,000 smaller

smaller than the income estimated for 1927, but is \$2,130,000 larger than that estimated for 1931. The value of products manufactured within the county is much greater than the gross farm income. As in most Wisconsin counties, dairy manufactures account for some of the total manufactures, but aluminum products and ship building are the two main industries--the city of Manitowoc being one of the two great centers of the aluminum industry in the world. In 1935 the products of 180 manufacturing plants were valued at \$39,368,220 and, in 1937, 184 plants produced goods valued at \$4,629,835. The city of Manitowoc alone produced manufactures valued at \$31,734,559, almost 70 percent of the 1937 total.

	1927	1936	
	Percent	Percent	Rank in Pct.
Milk	59	50.1	28
Poultry and eggs	7	12.0	20*
Cattle and calves	10	10.6	24*
Hogs	8	10.3	35*
Grains	3	7.8	3
Potatoes	2	2.0	61
Other items	11	7.2	
Total	100	100.0	

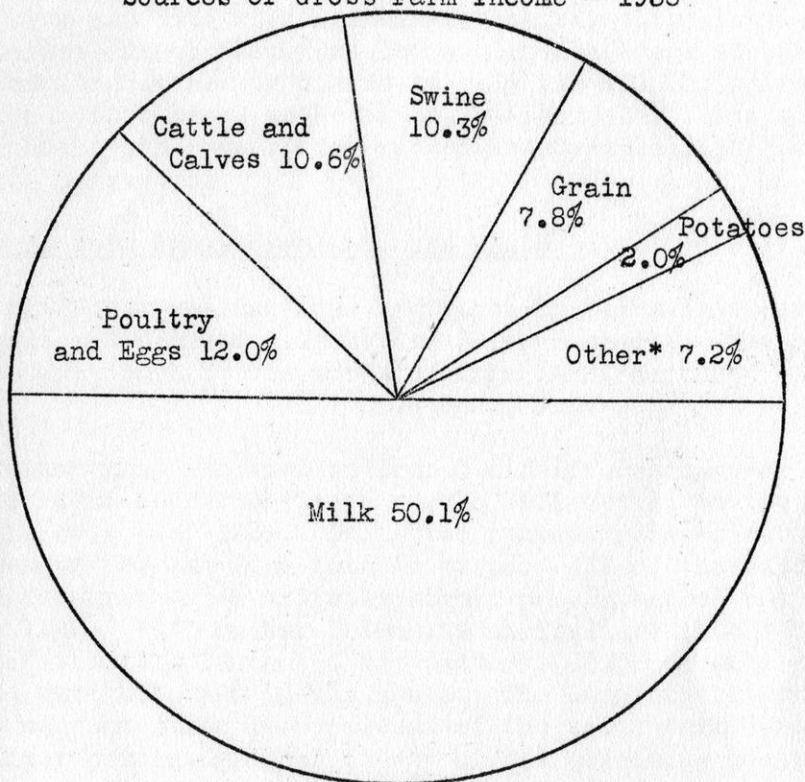
* Tied with one or more counties

Livestock and livestock products accounted for 83 percent of the total gross farm income in 1936 compared with 84 percent in 1927. Although Manitowoc County ranked fifteenth in the amount derived from livestock and livestock products in 1936 and eleventh in 1927, the county was tied for thirty-third in 1936 and was tied for thirty-ninth in 1927 in percentage of income from this source. Changes in percentage of income from the various sources from 1927 to 1936 are particularly noticeable in milk which dropped from 59 to 50 percent; poultry and eggs which increased from 7 to 12 percent; grains, 3 to 8 percent; swine, 8 to 10 percent, and seeds, which declined from 4 to 0.7 percent. The income from cattle and calves, potatoes, and hay remained at about the same percentages in 1936 as they were in 1927.

Cheese factories and condenseries were the two primary outlets for the milk produced on Manitowoc farms in 1935. Scattered over the entire county, 54.2 percent of the farms sold to cheese factories and 33.4 sold to condenseries. Located adjacent to the Manitowoc-Two Rivers urban area, a considerable number of the farms, 4.5 percent of the total, sold to city markets. Creameries attracted only 2.4 percent of the farmers and 5.5 percent of the farmers had other uses for their milk or did not report. As is true in most counties where there are a large number of cheese factories, Holsteins are the predominant breed of cattle, being found on 53.5 percent of the farms. Guernseys are found on 23 percent of the farms; Jersey, Ayrshire, and Brown Swiss on 9.3, and all other breeds on 14.2 percent of the farms.

Manitowoc County, Wisconsin

Sources of Gross Farm Income - 1936



*Other includes: Hay, 1.8%; Seeds, .7%; Fruits, .5%; Peas for canning, .4%; Sheep, wool, honey and beeswax, .1%; Miscellaneous products, 3.7%.

Table 8.- Gross farm income: Manitowoc County, Wisconsin estimated 1927, 1931, 1933, and 1936

Year	Total	Livestock and livestock products		Crops		Averages	
						Per farm	Per acre land in farms
	Dollars	Dollars	Per-cent	Dollars	Per-cent	Dollars	Dollars
1927	9,814,100	8,249,600	84	1,564,500	16	2,525	27.83
1931	5,380,400	4,801,800	89	578,600	11	1,428	15.37
1933	5,034,144	3,787,553	75	1,246,591	25	1,336	14.38
1936	7,510,484	6,218,561	83	1,291,923	17	2,017	21.53

Rank of county in state

1927	8	11	39**	7	31**	24	12
1931	14	15	17**	24	51**	30	16
1933	7	13	51**	4	17**	17	11
1936	14	15	33**	12	34**	23	15

** Tied with one or more counties

With an average of 52.0 acres of cropland harvested per farm in 1934, Manitowoc was tied with Ozaukee for thirty-third. All of the adjoining counties except Sheboygan had a higher average acreage per farm. The gross farm income per crop acre in 1936 was \$39.63, which was larger than that for either Brown or Kewaunee, but somewhat below the average for Calumet and Sheboygan. Manitowoc ranked twenty-second in gross farm income per crop acre harvested.

Utilization of Farm Land, Cropland, and Pasture:

The different utilizations are shown by towns in the table on the following page and individually by the 3 large charts. The area of each circle is proportional to the acres of farm land, cropland, or pasture in each town.

Farm land has been divided into 3 classifications--cropland, pasture, and all other land in farms--based on the 1930 United States Census reports for the crop year 1929. Manitowoc ranked twenty-first in the state, with 55.4 percent of the farm land in crops. All of the adjoining counties except Kewaunee had a slightly higher percentage of the farm land in cropland in 1929. With rather intensive agriculture in the county, the percentage of the farm land used for pasture (29.8 percent) placed the county among the 10 lowest in the state. The land other than cropland and pasture accounted for 14.8 percent of the total farm land in 1929, a somewhat larger percentage than in any of the adjoining counties.

Assessors' acreages of 14 crops (corn, oats, barley, rye, winter wheat, spring wheat, clover and timothy hay, alfalfa hay, sweet clover, potatoes, tobacco, cabbage, dry peas, and canning peas), which were reported for the years 1929 through 1933, are included in the cropland study. These data showing percentages in each of the major classifications, corn and small grains, hay, and cash crops, are in the following table and figure 2. The change in percentages between towns and counties is due in part to the varying number of crops in the total of 14 reported by assessors, several towns not raising all the crops included in the group.

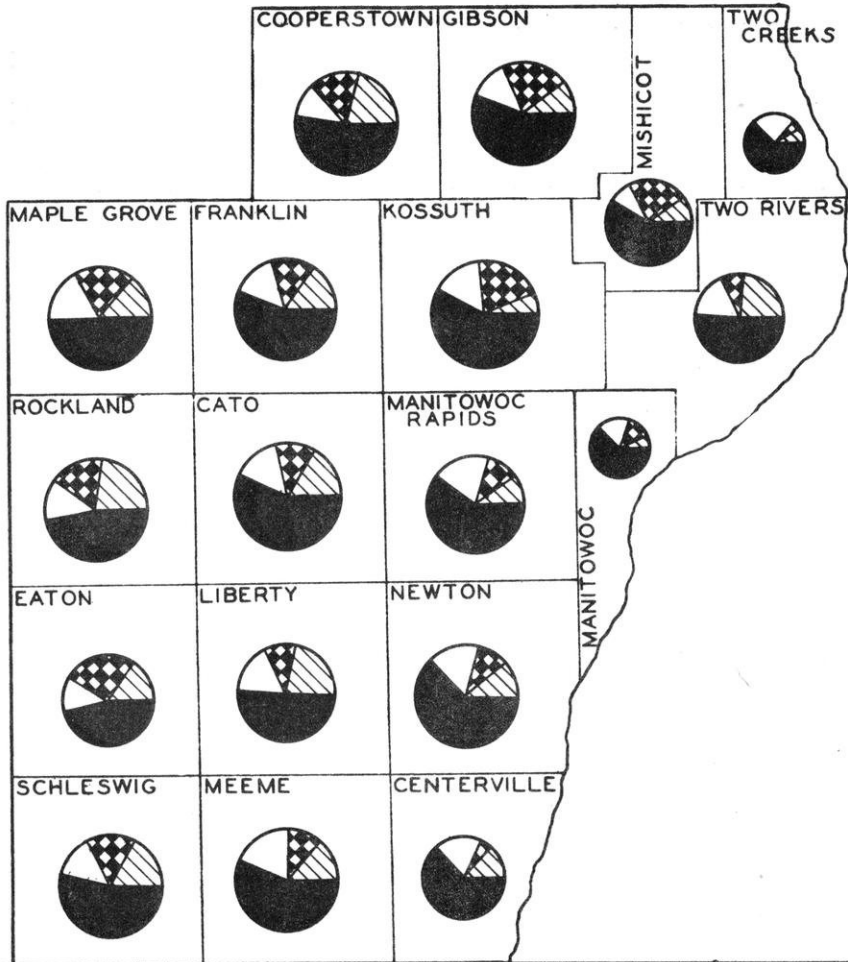
The percentage of the average acreage in 14 crops in 1929-1933 which was devoted to corn and small grains was 58.9 percent--slightly smaller than the percentage in Calumet and Sheboygan but larger than for those counties bordering on the north. Hay crops accounted for 36.3 percent of the 14 crop average acreage which was smaller than the percentage in Brown and Kewaunee counties but higher than in the other two adjoining counties. This percent placed the county thirty-third in the state. Cash crops included in the group of 14 accounted for 4.8 percent of the average acreage. Manitowoc was thirty-eighth in the state in percentage of land in 14 crops which was devoted to corn and small grains, thirty-third in percentage in hay and thirty-seventh in percentage in cash crops.

A study of pasture land as reported by assessors in 1929 makes possible the distribution by towns as is also given in the following table.

Table 9.- Distribution and utilization of farm land, cropland, and pasture land
Manitowoc County, Wisconsin

Town	Farm Land U. S. Census - 1930				Cropland Assessors' 1929-33			Pasture Assessors' - 1929			Wood- land Pct.
	Crop- land	Pasture		All Other Land	Corn and small grains	Hay	Cash crops	Rota- tion	Permanent		
		Plow- able	Other						Plow- able	Unplow- able	
Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	
Cato	57.1	14.2	12.4	16.3	53.9	39.9	6.2	8.7	40.0	20.1	31.2
Centerville	63.1	17.6	5.0	14.3	61.1	34.9	4.0	46.4	19.4	20.6	13.6
Cooperstown	51.9	11.2	16.2	20.7	59.5	33.9	6.6	8.2	27.2	29.7	34.9
Eaton	46.3	12.0	26.1	15.6	59.6	33.0	7.4	22.1	3.8	33.4	40.7
Franklin	55.9	14.5	13.7	15.9	55.9	37.2	6.9	33.0	10.4	25.5	31.1
Gibson	55.9	12.3	21.7	10.1	56.6	39.0	4.4	27.0	9.5	17.0	46.5
Kossuth	58.3	15.2	20.4	6.1	58.2	37.4	4.4	26.1	17.1	20.4	36.4
Liberty	51.2	16.7	10.3	21.8	60.1	34.6	5.3	28.3	12.6	22.0	37.1
Manitowoc	63.2	16.6	13.2	7.0	51.9	43.3	4.8	45.1	15.8	20.4	18.7
Manitowoc Rapids	61.1	18.2	10.5	10.2	53.7	41.1	5.2	33.8	15.4	21.0	29.8
Maple Grove	49.6	17.0	19.6	13.8	63.9	30.8	5.3	17.5	26.1	20.2	36.2
Meeme	56.6	18.5	10.7	14.2	61.3	34.5	4.2	40.5	13.1	17.0	29.4
Mishicot	58.9	8.6	23.0	9.5	57.5	39.9	2.6	26.1	18.0	27.6	28.3
Newton	63.1	15.8	9.6	11.5	58.4	36.6	5.0	38.4	19.0	18.5	24.1
Rockland	47.4	12.6	17.7	22.3	66.2	29.7	4.1	12.1	23.9	32.6	31.4
Schleswig	53.6	13.3	15.2	17.9	64.7	29.9	5.4	30.4	15.2	16.1	38.3
Two Creeks	62.5	23.5	4.3	9.7	58.9	40.5	0.6	55.7	22.3	3.6	18.4
Two Rivers	51.2	16.1	8.6	24.1	57.0	41.5	1.5	22.1	15.5	35.7	26.7
County	55.4	14.9	14.8	14.9	58.9	36.3	4.8	27.0	16.9	23.3	32.8

MANITOWOC



ALL LAND IN FARMS

ACRES

23931

11066

2450



DISTRIBUTION AND UTILIZATION OF FARM LAND

1929

Prepared By Wisconsin Crop Reporting Service
From Census Data

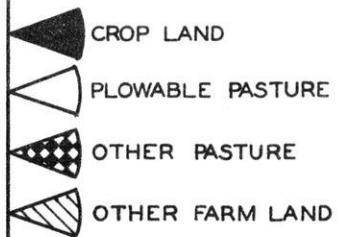
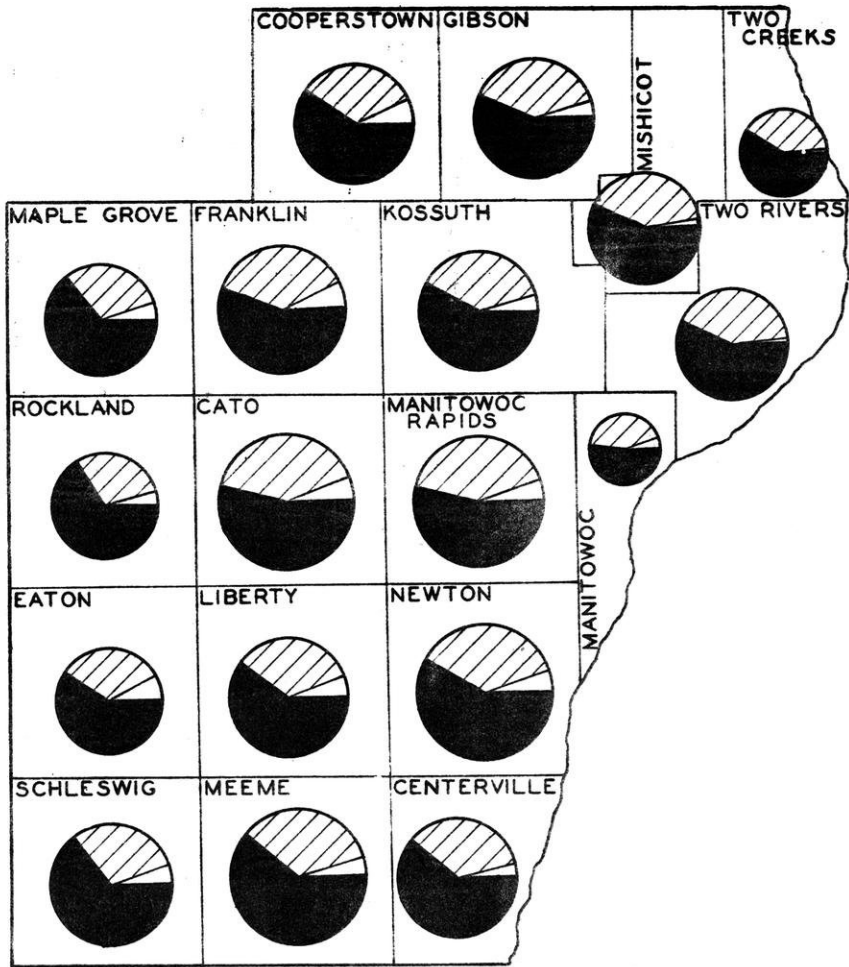


Figure 1. Over 55 percent of the farm land was cropland in Manitowoc County in 1929, according to the census of 1930. Pasture accounted for 30 percent, and all other farm land for 15 percent. About one-half of the pasture was plowable. The county data and those by towns are given in an accompanying table. The areas of the circles are proportional to the land in farms in the respective towns.

Only 3 of the towns in the county had less than one-half of the farm land in cropland in 1929. There were 5 towns with over 60 percent, most of them located along the lakeshore. At least 22 percent of the farm land was in pasture in every town; over 30 percent of the farm land was in pasture in 6 towns, 3 in the north-central section and 3 along the western border. Farm land other than cropland and pasture accounted for the smallest part of the total in the towns in the northeastern section of the county.

MANITOWOC



ACRES

13036

5198

1273

CROP LAND UTILIZATION

AVERAGE FOR

14 SELECTED CROPS

1929-1933

Prepared By Wisconsin Crop Reporting Service
From Assessors Data



CORN AND GRAIN



HAY

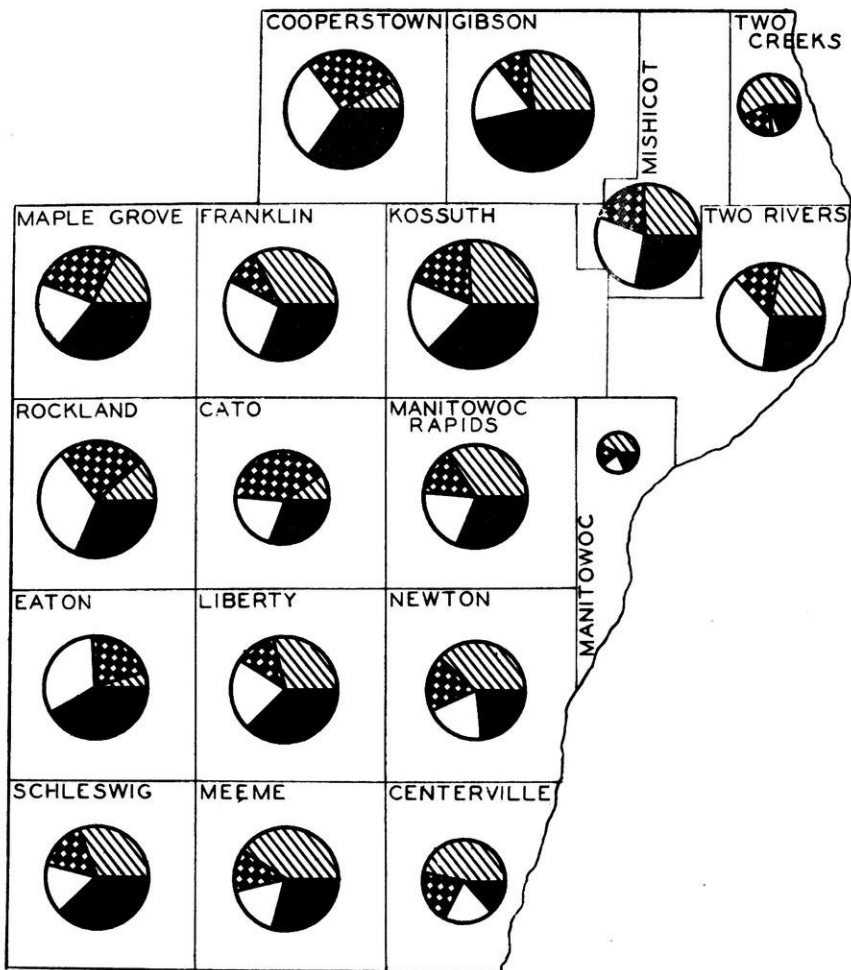


LEADING CASH CROPS

Figure 2. Corn and small grains accounted for nearly 59 percent of the county's average acreage in 14 crops in the period 1929 to 1933, according to reports from assessors. Hay crops accounted for 36 percent and cash crops for 5 percent of the average acreage. County and town data are given in an accompanying table. The areas of the circles are proportional to the 14 crop average acreage during the 5 years.

No town had less than 50 percent in corn and small grains and 6 towns had over 60 percent of the 14 crop acreage in corn and small grains. Hay crops accounted for over 40 percent of the average acreage in 4 towns, nearly all of which were along the northern lake shore. In Rockland and Schleswig, less than 30 percent of the cropland was in hay crops. Cash crops accounted for less than 3 percent of the 14 crop average in only the 3 towns in the northeastern part of the county.

MANITOWOC



<p>ALL LAND IN PASTURE</p>	ACRES	<p>AMOUNT AND KINDS OF PASTURE 1929</p> <p>(ESTIMATE)</p> <p>PREPARED BY WISCONSIN CROP REPORTING SERVICE FROM ASSESSORS DATA</p>	
	8,000		
	3,700		
900			

Figure 3. Nearly one-third of the pasture was woodland in Manitowoc County in 1929, 27 percent was on rotation land, 23 percent was classed as permanent pasture on unplowable land, and 17 percent was permanent pasture on plowable land. These estimates were based on assessors' crop reports for 1929 and available census data. The pasture acreage in each town is represented by the area of the respective circle.

Only Two Creeks of the 18 towns had over one-half of the pasture in a single class--having 56 percent in rotation pasture. Three other towns had between 40 and 50 percent in this class. Cato, with 40 percent of the pasture permanent plowable, ranked well above all other towns in this respect. No town had over 40 percent of the pasture acreage classed as permanently unplowable and only Gibson and Eaton had over 40 percent of the pasture classed as woodland.

Preparation of County Crop Estimates

County acreage figures are usually estimated on the basis of the assessors' crop reports. Since assessors' reports are at times incomplete, the county estimates of acreages are usually higher than the totals of the assessors. The United States Census figures have been used as bench-marks of acreage levels for the census years, and the estimates between the census years have been adjusted where necessary to conform to the general trend as shown by the census data.

Crop yields are obtained from the averages of figures given each year by crop reporters, and the production for each county is arrived at by multiplying the acreage by the average yield. For the more important crops, both the acreage and production data had already been published in bulletins of the Wisconsin Department of Agriculture and Markets, but many of these early figures have had to be revised somewhat because of adjustments which arose out of the establishment of newer levels by the census reports. For some of the more important crops, county series were published as far back as 1915 or in some cases, 1917. For other crops, the data were available only back to 1924. All of the old series have been carefully reworked and the county figures published herewith usually differ a little from those previously published in the state bulletins.

Wherever possible the 20-year averages for the years 1917 to 1936 are shown for acreage, yield, and production, and these are given in the table on the following page along with the latest available (1938, 1937, or 1936) data and also in the tables for the different crops. Averages for a 10-year period, 1927 to 1936, were also calculated. On the following pages are shown the revised series of acreages, yields, and productions for the more important crops, together with the long-time averages. Charts have been prepared which indicate the important trends and these are given after the respective tables. Space has been provided in these tables for subsequent estimates, which will be published from time to time by the Crop Reporting Service.

On pages 34 and 35 of Wisconsin Department of Agriculture and Markets Bulletin No. 188, "Wisconsin Agriculture", state total series may be found which go back to 1918 or 1919. The same bulletin also shows the 20-year averages for the state and the important crop data by counties.

Table 10.--Crop Summary: Manitowoc County, Wisconsin, latest available annual data and averages

Crop	Acreage		Yield Per Acre		Production		Unit	
	1938 Preliminary	1917-36 Average	1938 Preliminary	1917-36 Average	1938 Preliminary	1917-36 Average		
	Acres	Acres						
Cereals	Corn	20,600	20,859	43. d	35.1 ^d	885,800 ^d	731,848 ^d	Bus.
	Oats	46,850	48,976	41.	37.4	1,920,850	1,830,240	"
	Barley	48,690	24,724	37.	30.1	1,801,530	743,614	"
	Rye	2,640	6,944	15.	16.0	39,600	110,993	"
	Wheat							
	Spring	560	1,972	21.	16.8	11,760	33,148	"
	Winter	610	2,773	20.	17.4	12,200	48,211	"
	All	1,170	4,745	20.5 ^b	17.1	23,960	81,360	"
	Buckwheat	30 ^b	84	13. b	13.0	390 ^b	1,096	"
	Other Grains and Grasses	Dry Peas	100 ^a	4,118 ^f	14. a	14.7 ^f	1,400 ^a	60,333 ^f
Dry ed. beans		10 ^b	70 ^f	420. b	481. f	4,200 ^b	33,593 ^f	Lbs.
Flax		130 ^b	258 ^g	12. b	12.3 ^g	1,560 ^b	3,175 ^g	Bus.
Seeds								
Clover						6,050 ^b	9,705 ^h	"
Alfalfa						770 ^b	2,065 ^h	"
Timothy						190 ^b	705 ^h	"
Hay								
All tame		70,020 ^a	68,698	1.6 ^a	1.5	114,441 ^a	103,092	Tons
Alfalfa		22,500 ^a	16,623 ^e	2. a	2.0 ^e	45,000 ^a	33,963 ^e	"
Clover and timothy	36,450 ^a	44,465 ^e	1.5 ^a	1.4 ^e	54,675 ^a	61,848 ^e	"	
Wild	1,410 ^b	1,895	1.1 ^b	1.0	1,551 ^b	1,958	"	
Other Field Crops	Potatoes	1,980	2,252	110.	109.5	217,800	246,649	Bus.
	Sugar beets	480 ^b	767 ^j	10. b	8.1 ^j	4,800 ^b	6,231 ^j	Tons
	Canning peas	2,220	2,359 ^e	2,100.	1,517.0 ^e	4,662,000	3,579,445 ^e	Lbs.
	Cabbage	10	52 ^e	10.	7.4 ^e	100	389 ^e	Tons

a 1937 data.

b 1936 data.

c Estimated less than 10.

d Corn--equivalent in feeding value

e 10-year average, 1927-36.

f 9-year average, 1928-36.

g 8-year average, 1929-36.

h 4-year average, 1933-36.

j 3-year average, 1934-36.

Table 11.- Corn: Acreage of all corn and corn for silage:
Yield of all corn, and utilization of all corn acreage,
Manitowoc County, Wisconsin
All corn 1917-1938 and averages, other corn data 1930-1938

Year	All Corn		Corn for silage Acreage	Utilization of Total acreage		
	Acreage	Yield		Grain	Silage	Other
	Acres	Bushels	Acres	Pct.	Pct.	Pct.
1917	15,250	21.0				
1918	19,260	34.0				
1919	20,350	38.8				
1920	22,830	40.0				
1921	22,460	43.1				
1922	22,390	42.7				
1923	21,140	30.7				
1924	22,350	17.4				
1925	22,310	43.1				
1926	19,850	27.9				
1927	19,650	27.4				
1928	19,590	33.5	15,280			
1929	19,810	34.0	18,420			
1930	18,760	38.0	17,070	3	91	6
1931	20,840	33.8	18,340	6	88	6
1932	24,400	44.0	19,280	14	79	7
1933	23,320	48.0	18,420	19	79	2
1934	23,570	36.0	18,860	11	80	9
1935	20,900	31.0	17,760	12	85	3
1936	18,150	28.0	15,610	7	86	7
1937	22,150	30.0	18,160	12	82	6
1938	20,600	43.0	17,310	12	84	4
Averages						
1917-36	20,859	35.1				
1927-36	20,899	35.8				

Since 1918 the total corn acreage has ranged between 18,150 and 24,400 acres, averaging about 21,000 acres from 1917 to 1936. The record acreage (24,400 acres) was harvested in 1932, but in 1936 the acreage harvested was the smallest since 1917. At least 78 percent of the corn was harvested as silage in each of the years from 1930 through 1938.

The yield of all corn is given in bushels per acre equivalent in feeding value, regardless whether harvested for grain corn, fodder, or silage. Comparisons can thus be made from year to year.

Manitowoc County, Wisconsin

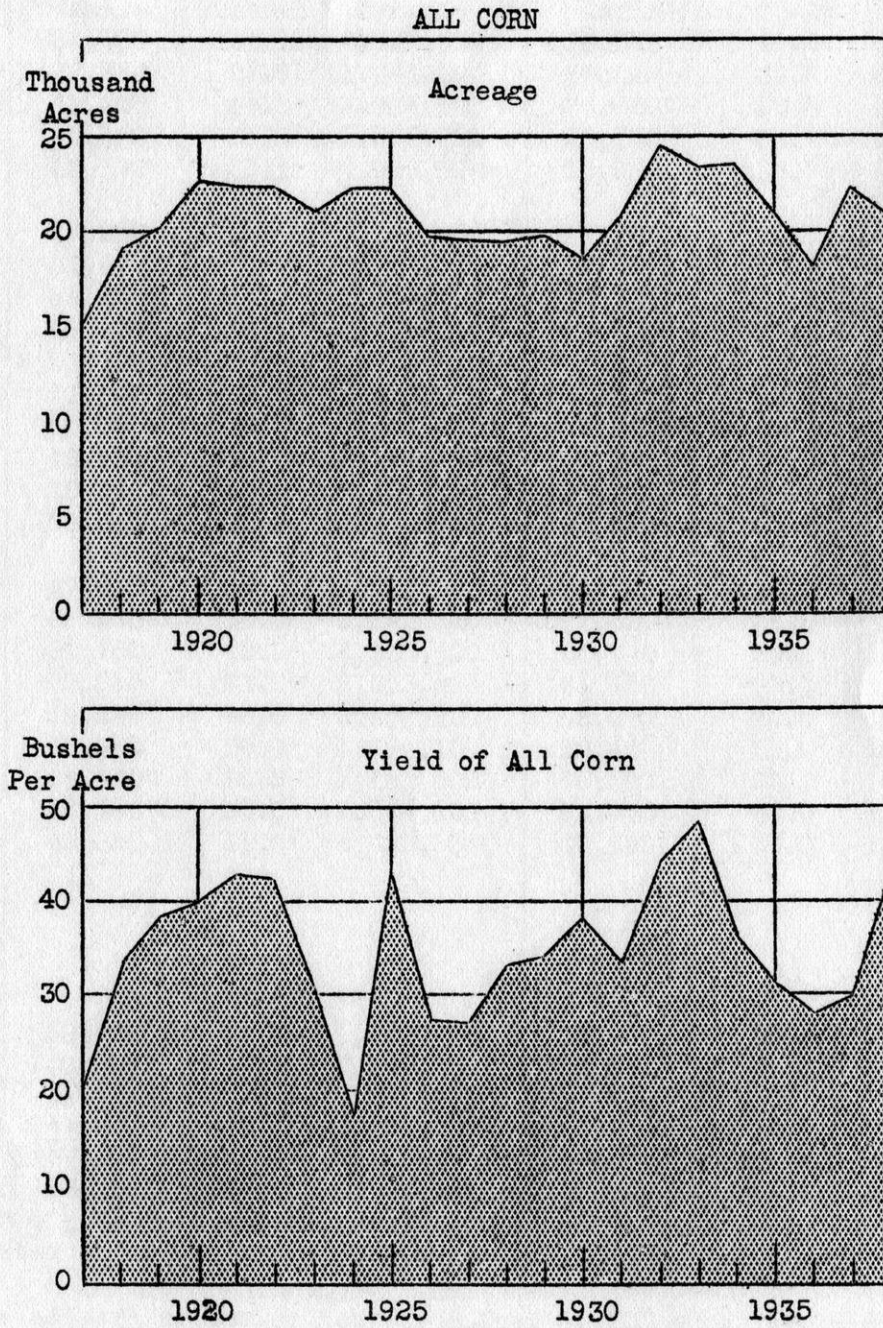


Figure 4.

Table 12.- Oats and barley: Acreage, yield, and production, Manitowoc County, Wisconsin, 1915-1938, and averages

Year	Oats			Barley		
	Acreage	Yield	Production	Acreage	Yield	Production
	Acres	Bushels	Bushels	Acres	Bushels	Bushels
1915	35,830	54.1	1,939,370	23,590	40.6	956,680
1916	37,340	27.9	1,041,360	34,540	34.8	1,200,720
1917	41,000	36.8	1,508,100	23,800	26.2	622,550
1918	43,450	51.9	2,255,890	20,120	35.7	717,290
1919	45,130	20.1	906,970	16,900	15.7	265,430
1920	47,880	40.0	1,916,930	16,130	28.7	463,470
1921	51,670	28.0	1,446,960	16,960	18.7	316,440
1922	49,830	37.2	1,854,210	15,340	32.8	503,600
1923	49,950	38.4	1,918,270	15,690	26.5	415,110
1924	54,920	33.7	1,852,240	16,420	30.0	492,510
1925	53,000	48.5	2,570,220	18,640	36.8	685,480
1926	50,670	39.6	2,004,480	19,700	28.8	566,480
1927	48,430	39.1	1,893,170	20,370	35.0	713,840
1928	48,630	40.2	1,954,150	22,610	34.7	784,330
1929	50,660	35.0	1,773,100	23,800	29.0	690,200
1930	47,950	42.0	2,013,900	20,410	34.0	693,940
1931	49,690	28.0	1,391,320	23,420	26.0	608,920
1932	51,700	45.0	2,326,500	28,770	35.0	1,006,950
1933	50,060	41.0	2,052,460	34,150	32.0	1,092,800
1934	51,210	42.0	2,150,820	42,070	38.0	1,598,660
1935	47,260	35.0	1,654,100	50,480	30.0	1,514,400
1936	46,440	25.0	1,161,000	48,690	23.0	1,119,870
1937	48,790	38.0	1,854,020	52,740	30.0	1,582,200
1938	46,850	41.0	1,920,850	48,690	37.0	1,801,530
Averages						
1917-36	48,976	37.4	1,830,240	24,724	30.1	743,614
1927-36	49,203	37.3	1,837,052	31,477	31.2	982,391

Oats led all grain crops in acreage from 1915 to 1938, except in the three years, 1935 to 1937 inclusive, when the acreage of barley was first. In 1938 the harvested acreage of both crops was about equal. The production of oats has varied considerably, ranging between 906,970 bushels estimated in 1919 and 2,570,220 bushels in 1925.

The acreage of barley decreased from 34,500 acres in 1916 to between 15,000 and 20,000 from 1919 through 1926. After 1926 the acreage was larger, with a sharp increase after 1930. The production of barley has fluctuated less than that of oats, generally following acreage.

Manitowoc County, Wisconsin

OATS

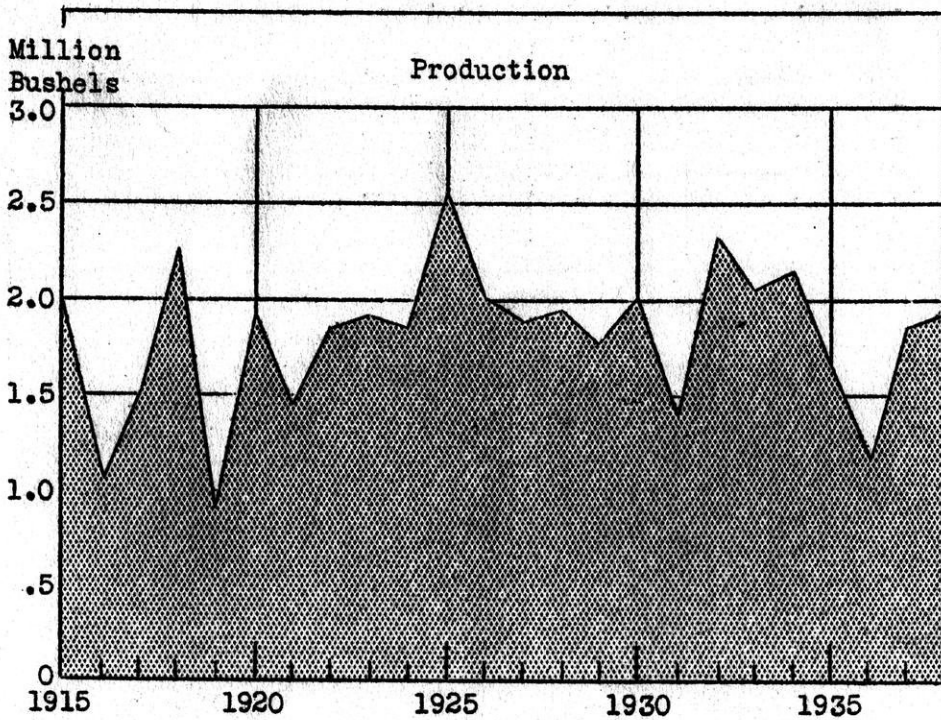
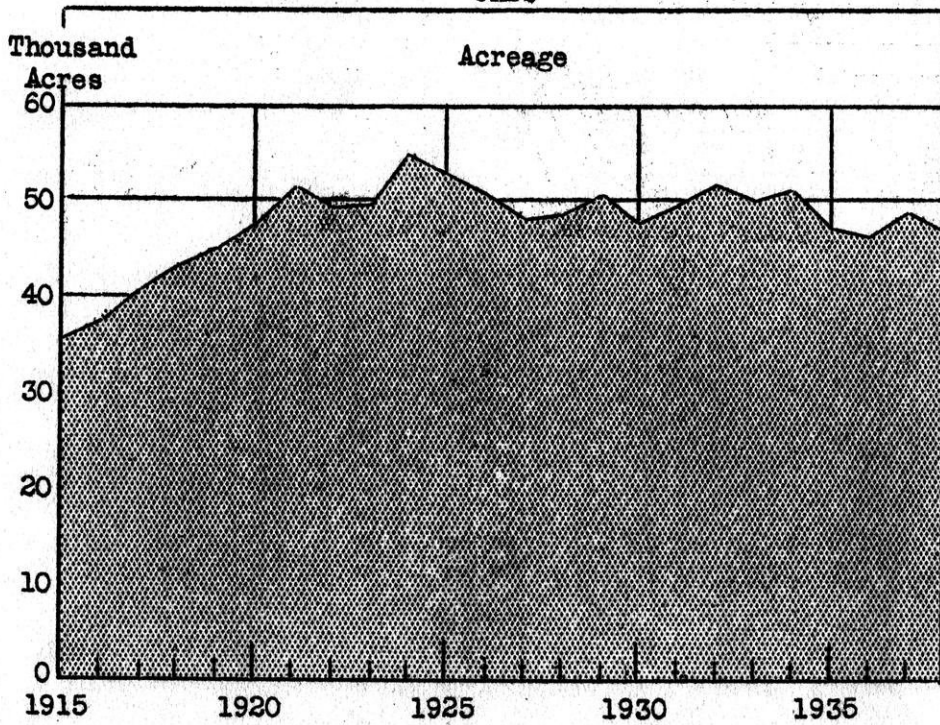


Figure 5.

Manitowoc County, Wisconsin

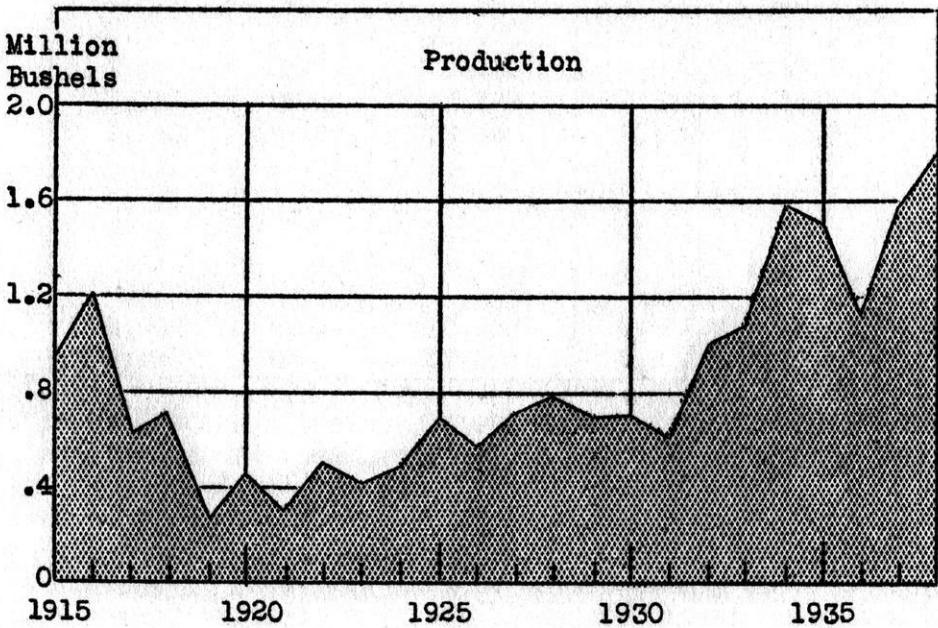
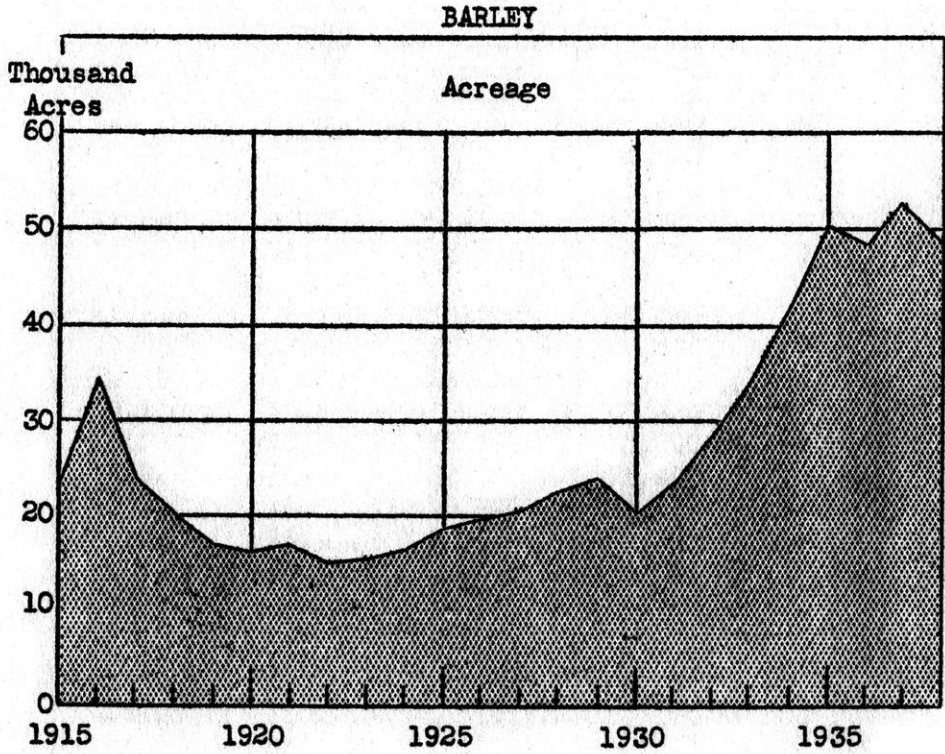


Figure 6.

Table 13.- Rye and All Wheat: Acreage, yield, and production,
Manitowoc County, Wisconsin
Rye 1917-1938 and averages, All Wheat 1915-1938 and averages

Year	Rye			All Wheat		
	Acreage	Yield	Production	Acreage	Yield	Production
	Acres	Bushels	Bushels	Acres	Bushels	Bushels
1915				5,440	23.8	129,530
1916				4,230	20.7	87,530
1917	11,000	15.5	170,060	5,835	17.9	104,200
1918	11,380	17.0	193,160	10,325	19.7	202,930
1919	11,880	14.0	165,810	11,630	11.7	135,620
1920	11,620	18.1	210,700	8,965	16.7	149,980
1921	11,750	16.4	192,510	7,365	12.9	95,130
1922	13,930	16.1	224,720	7,075	15.6	110,680
1923	9,810	15.6	152,780	5,320	16.4	87,340
1924	9,320	17.0	158,190	3,640	22.6	82,410
1925	5,920	15.5	92,040	1,940	17.0	33,050
1926	5,490	14.6	79,970	3,480	17.1	59,490
1927	5,220	16.4	85,800	4,330	19.2	83,170
1928	4,150	14.5	60,360	3,050	17.1	52,120
1929	3,890	18.0	70,210	2,770	21.0	58,240
1930	3,600	19.2	69,120	3,160	21.1	66,720
1931	2,910	13.2	38,400	3,090	19.8	61,170
1932	5,380	13.8	73,980	3,200	17.9	57,230
1933	3,830	12.6	48,260	2,750	21.2	58,370
1934	4,040	18.0	72,720	2,870	20.2	58,050
1935	2,410	17.0	40,970	2,330	17.3	40,390
1936	1,340	15.0	20,100	1,770	17.5	30,900
1937	3,330	16.0	53,280	2,540	15.1	38,260
1938	2,640	15.0	39,600	1,170	20.5	23,960
Averages						
1917-36	6,944	16.0	110,993	4,745	17.1	81,360
1927-36	3,677	15.8	57,992	2,932	19.3	56,636

After the record of nearly 14,000 acres of rye harvested for grain in 1922, the acreage declined rapidly. In the 20 years, from 1917 to 1936, the acreage averaged 6,944 acres and in the 10-year period, 1927 to 1936, the average was 3,677 acres.

The acreage of wheat was largest in the county in 1919 when nearly 12,000 acres were harvested, but less than 3,000 acres have been harvested annually since 1926. The winter wheat acreage averaged nearly 800 acres larger than that of spring wheat in the years 1917 to 1936 while the average was 400 acres smaller from 1927 to 1936.

Manitowoc County, Wisconsin

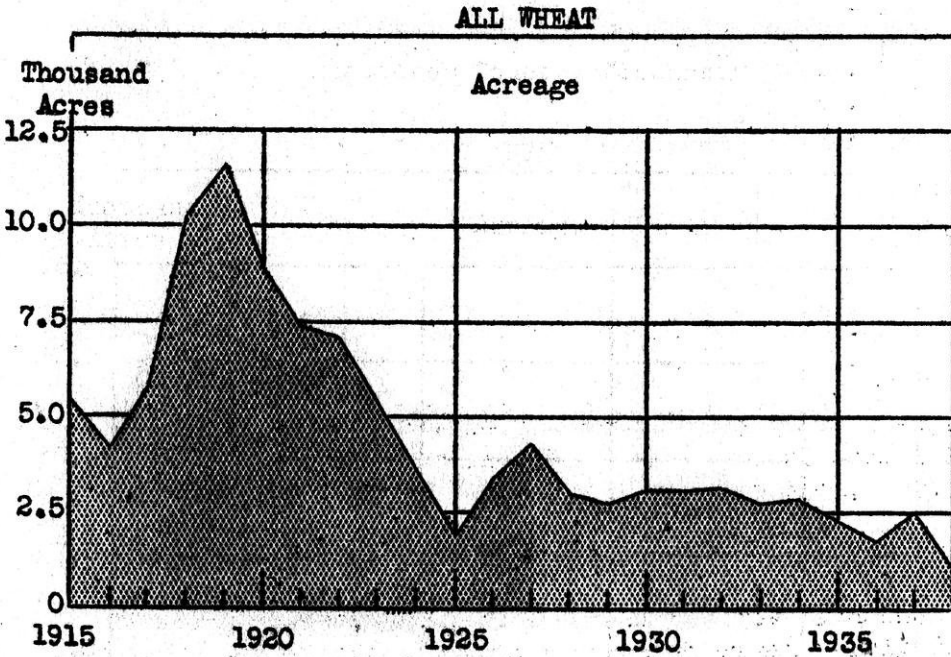
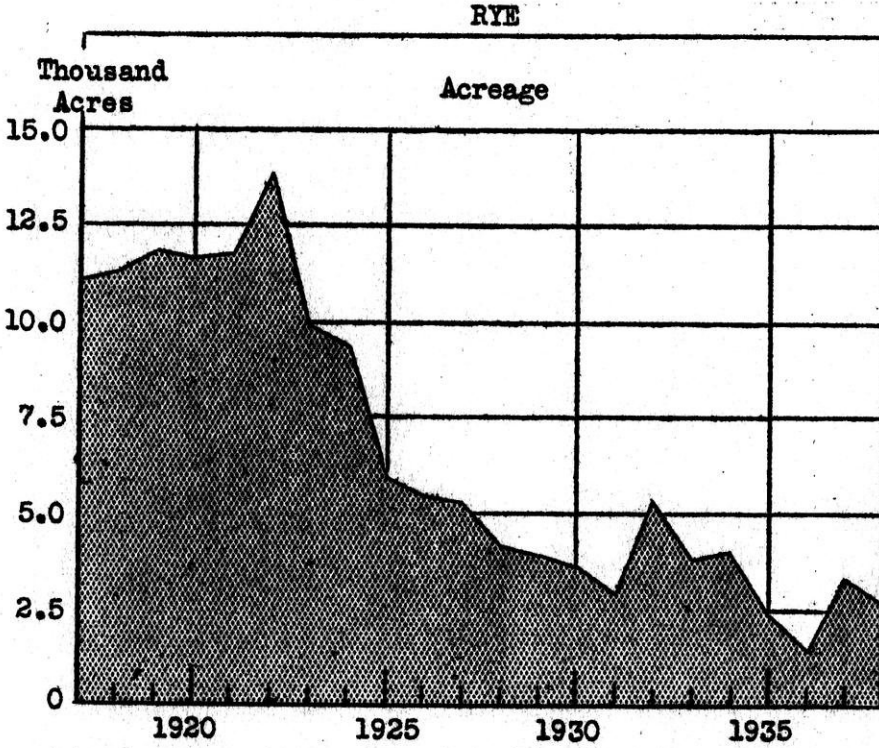


Figure 7.

Table 14.- Corn and small grains, flax, buckwheat,
dry peas, and dry edible beans
Acreage of all crops
Manitowoc County, Wisconsin
Available data and averages

Year	Corn and small grains <u>1/</u>	Flax	Buckwheat	Dry peas	Dry edible beans
		Acreage	Acreage	Acreage	Acreage
	Acres	Acres	Acres	Acres	Acres
1917	96,885		25		
1918	104,535	300	30		
1919	105,890	510	30		
1920	107,425	*	60		
1921	110,205	340	30		
1922	108,565	280	20		
1923	101,910	330	15		
1924	106,650	480	80	5,504	10
1925	101,810	480	90	4,770	50
1926	99,190	420	40	3,720	20
1927	98,000	190	90	4,230	30
1928	98,030	230	80	4,100	130
1929	100,930	320	350	5,230	170
1930	93,880	*	330	5,500	90
1931	99,950	170	30	4,410	30
1932	113,450	*	20	4,130	20
1933	114,110	210	170	5,850	*
1934	123,760	390	140	5,420	90
1935	123,380	*	20	1,670	60
1936	116,390	130	30	750	10
1937	129,550	*	*	100	*
1938	119,950	*	*	*	*
Averages					
1917-36	106,248		84		
1927-36	108,188	258	126	4,129	70

1/ Sum of acreages of corn, oats, barley, rye, and wheat.

* No data available for these years.

The acreage of corn and the small grains combined increased from less than 97,000 acres in 1917 to over 110,000 in 1921. Nearly 130,000 acres, the record, was harvested in 1937. The available data on the flax acreage are given in this table. There were over 500 acres in 1919 and only 130 acres in 1936. Prior to 1935 the acreage of dry peas harvested in the county ranged from about 4,000 to nearly 6,000 acres. In 1937 only 100 acres were estimated as harvested.

Table 15.- Potatoes and peas for canning: Acreage, yield, and production, Manitowoc County, Wisconsin
Potatoes, 1917-38 and averages, Peas for canning 1924-38 and averages

Year	Potatoes			Peas for canning		
	Acreage	Yield	Production	Acreage	Yield	Production
	Acres	Bushels	Bushels	Acres	Pounds	Pounds
1917	2,400	124.2	298,110			
1918	2,220	96.2	213,470			
1919	2,290	100.3	229,670			
1920	2,400	128.2	307,770			
1921	2,290	80.8	185,090			
1922	2,210	113.9	251,650			
1923	1,880	130.9	246,020			
1924	2,100	125.1	262,740	3,208	1,800	5,774,400
1925	2,430	131.2	318,930	3,156	2,200	6,944,100
1926	2,300	104.3	239,870	3,320	1,700	5,643,400
1927	2,210	110.0	243,100	2,500	2,000	5,000,000
1928	2,320	126.9	294,320	2,590	2,100	5,439,000
1929	1,840	89.1	163,930	2,850	1,530	4,360,500
1930	1,810	99.1	179,340	2,440	1,675	4,087,200
1931	2,270	118.0	267,900	1,650	1,145	1,889,250
1932	2,260	93.2	210,550	1,650	1,350	2,227,500
1933	2,350	112.9	265,370	2,050	1,680	3,444,000
1934	2,930	112.0	328,160	2,760	1,800	4,968,000
1935	2,450	105.0	257,250	3,140	1,070	3,359,800
1936	2,070	82.0	169,740	1,960	520	1,019,200
1937	2,070	95.0	196,650	2,350	1,500	3,525,000
1938	1,980	110.0	217,800	2,220	2,100	4,662,000
Averages						
1917-36	2,252	109.5	246,649			
1927-36	2,251	105.7	237,966	2,359	1,517	3,579,445

The acreage of potatoes harvested has been generally between 2,000 and 2,500 acres, averaging 2,252 over the 20-year period, 1917-1936. In 1934, 2,930 acres were estimated, the record for the county. With a range in yields from less than 81 bushels per acre to over 131, production has changed considerably from year to year. Over 300,000 bushels of potatoes were harvested in 1920, 1925, and 1934.

The acreage of canning peas has ranged between 1,650 and 3,320 acres. According to the available data, the largest acreage was estimated in 1926; the largest yield and the largest production were estimated in 1925.

Manitowoc County, Wisconsin

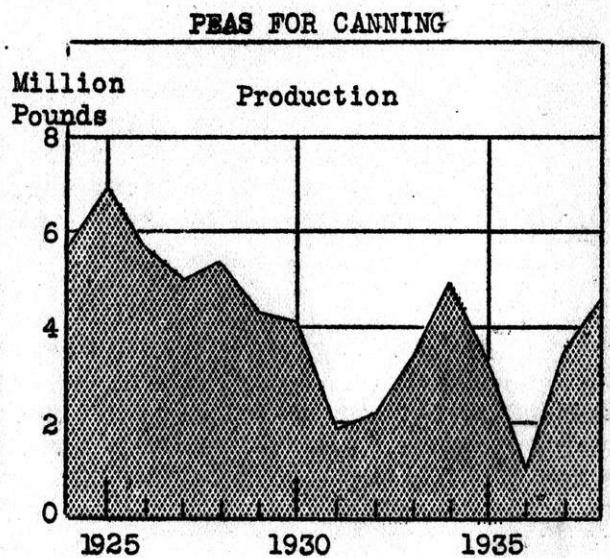
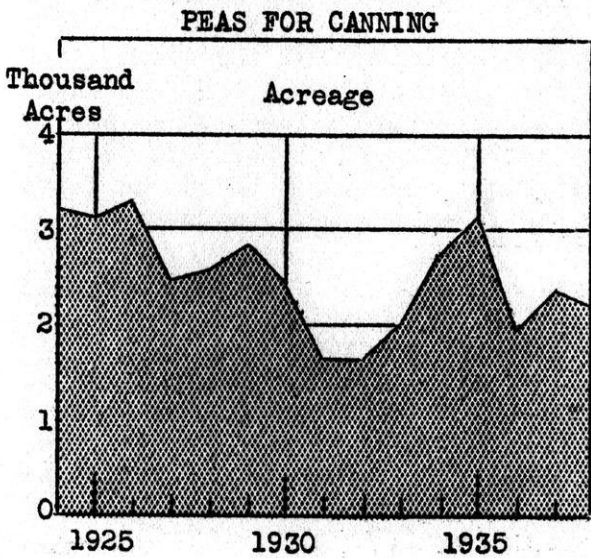
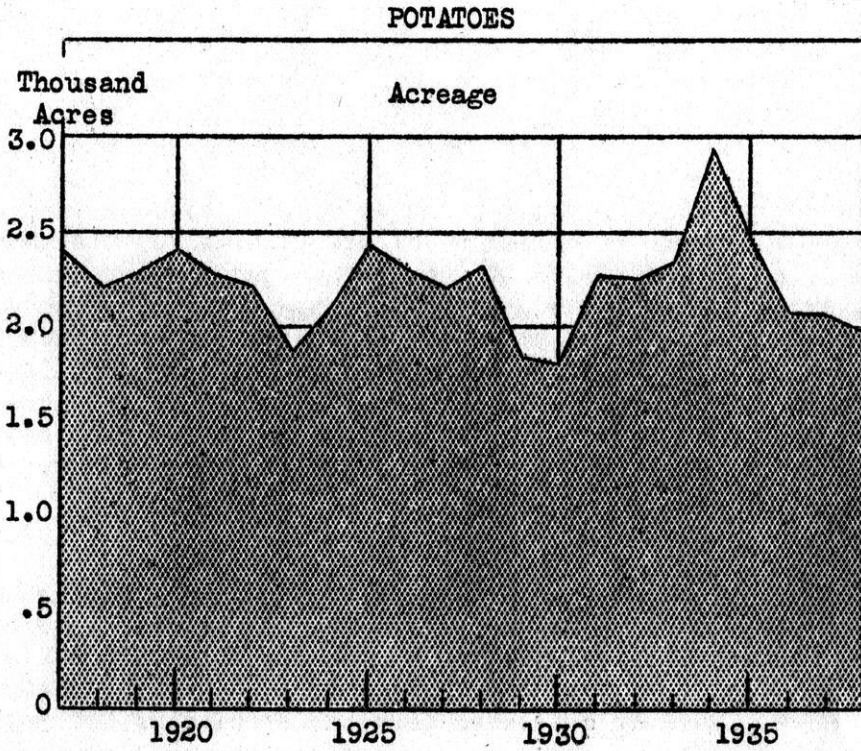


Figure 8.

Miscellaneous crops:

Beans for canning have been a fairly important crop in some years. Almost 1,000 acres were estimated as harvested in 1930, but considerably fewer acres were harvested in each of the following 3 years, dropping to 190 acres in 1933. In 1936 the assessors in the county reported the total of 175 acres of string beans being planted for canning. The cabbage acreage has declined from about 150, estimated as harvested in 1925, to 10 or less acres in 1938. A few acres of tobacco were reported as harvested in some years but the crop is unimportant.

The United States Census reported a total of 690 acres of vegetables harvested for sale in Manitowoc County in 1934. Of this total, 135 acres were beans (snap or string), 40 acres were cabbage, 20 acres were sweet corn, 10 acres were tomatoes, 2 acres were watermelons, and 483 acres were unclassified. The county ranked fifteenth in the acreage of beans and forty-fourth in the acreage of total vegetables. In 1936 the assessors reported a total of 74 acres of sweet corn being planted for canning, and 54 acres of cucumbers. The following year 9 acres of tomatoes were reported planted in the county.

Fruits:

A total of 33,893 bushels of apples were harvested in 1934 from 55,414 trees of bearing age, according to the 1935 United States Census. There were also 13,812 trees not of bearing age on Manitowoc County farms. Cherry trees totaled 9,957, of which 7,639 were of bearing age. The census reported 740 bushels of cherries harvested in 1938. With a net weight of about 65 pounds per bushel, this was a total of 48,100 pounds of cherries. The county ranked fifth in the number of apple trees on farms and seventh in the number of cherry trees.

The other fruits in the county in 1934 included 1,837 pear trees, of which 1,234 were of bearing age; 60 peach trees, of which 37 were reported as of bearing age; a total of 5,539 plum trees, 3,679 being of bearing age; and 1,339 grapevines, of which 841 were of bearing age. A total of 10,335 pounds of grapes were harvested in 1934. About 23,995 quarts of strawberries were picked from a total of 19 acres on farms in 1934

Seeds:

The northwestern corner of Manitowoc County bordering Calumet County is a rather important area of clover seed production. In 1936, 6,050 bushels of clover seed were reported harvested in the county. That total, however, was less than half the amount produced in 1935 when Manitowoc was first in the state. The 1936 crop was exceeded by Dodge, Washington, and Calumet. The production of alfalfa and timothy seed is much less important than that of clover seed. A total of 770 bushels of alfalfa seed and 190 bushels of timothy seed were reported in 1936. Manitowoc was seventh in alfalfa seed production and was tied for twenty-fifth in the production of timothy seed.

Table 16.- Hay, tame and wild: Acreage, yield and production,
Manitowoc County, Wisconsin
All tame hay 1917-1937 and averages, Wild hay 1917-1936 and averages

Year	All tame hay			Wild hay		
	Acreage	Yield	Production	Acreage	Yield	Production
	Acres	Tons	Tons	Acres	Tons	Tons
1917	65,030	1.5	98,230	1,580	1.5	2,420
1918	61,250	1.2	74,200	2,010	1.0	2,110
1919	71,110	1.3	95,250	3,810	1.0	3,640
1920	73,650	1.6	119,600	4,210	.9	3,930
1921	71,960	1.2	85,950	3,780	.8	3,120
1922	74,450	1.6	118,800	3,610	1.2	4,510
1923	68,220	1.2	78,840	3,670	1.0	3,540
1924	68,300	1.7	112,720	820	1.1	900
1925	70,070	1.6	113,120	1,000	1.1	1,080
1926	73,620	1.5	113,930	770	1.1	880
1927	72,540	1.6	116,750	640	1.1	680
1928	70,150	1.3	88,000	1,080	.9	972
1929	70,100	1.8	126,410	1,730	1.3	2,249
1930	69,580	1.4	100,690	1,310	1.0	1,370
1931	66,520	1.5	97,990	1,410	1.0	1,410
1932	51,110	1.1	55,180	1,510	.8	1,160
1933	57,720	1.6	90,250	1,580	1.0	1,580
1934	65,180	1.3	86,980	1,050	.9	945
1935	75,780	2.2	165,140	920	1.2	1,104
1936	77,630	1.6	123,820	1,410	1.1	1,551
1937	70,020	1.6	114,441	1/		
Averages						
1917-36	68,698	1.5	103,092	1,895	1.0	1,958
1927-36	67,631	1.6	105,121	1,264	1.0	1,302

1/ Data not available at time of publication.

The acreage of tame hay has exceeded that of any other single crop in the county in all years on record. There was only a small change in the acreage from 1918 through 1930, varying from 70,000 to 74,000 acres. The 51,000 acres harvested in 1932 was the lowest on record, after which there was a steady increase to almost 78,000 in 1936, the record for the county. The production has varied much more than acreage.

There were almost 4,000 acres of wild hay harvested annually from 1919 through 1923. Considerably less than 2,000 acres were estimated for other years. In several of the years less than 1,000 acres were harvested. The average yield has varied little from 1 ton per acre.

Manitowoc County, Wisconsin

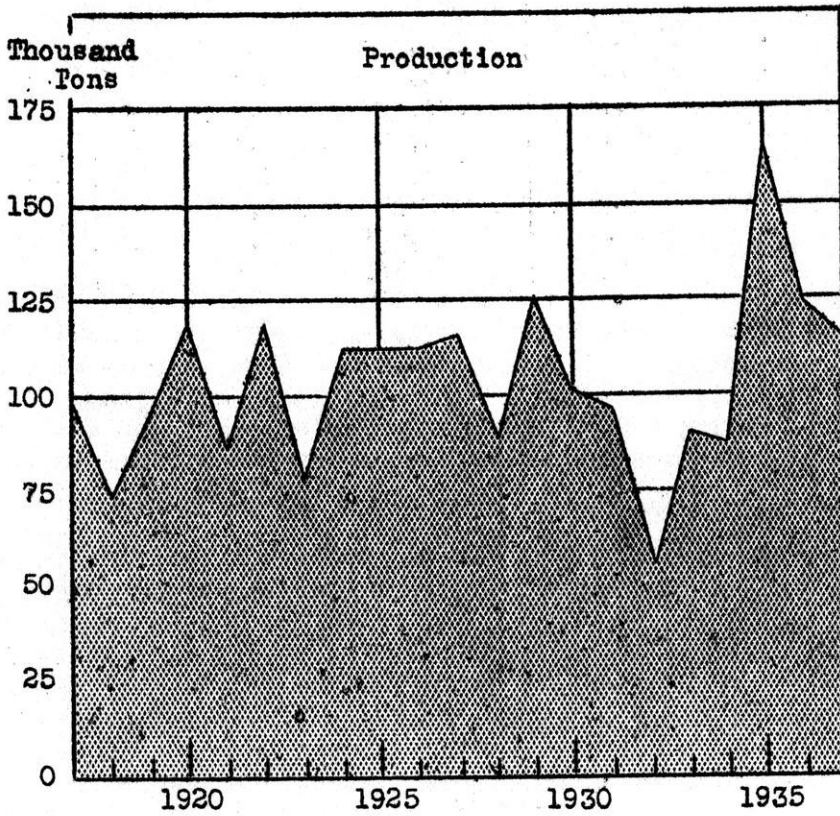
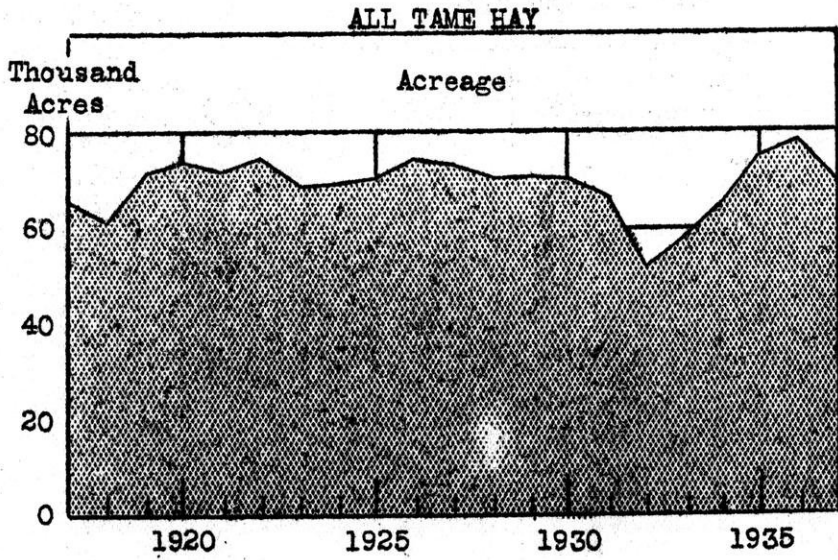


Figure 9.

Table 17.- Hay, alfalfa and clover and timothy:
Acreage, yield and production,
Manitowoc County, Wisconsin,
1924-1937 and averages

Year	Alfalfa Hay			Clover and Timothy Hay		
	Acreage	Yield	Production	Acreage	Yield	Production
	Acres	Tons	Tons	Acres	Tons	Tons
1924	8,050	2.6	20,890	56,780	1.6	91,380
1925	9,430	2.5	23,420	65,360	1.3	83,750
1926	12,350	2.2	27,300	59,790	1.4	85,390
1927	6,890	2.0	14,020	64,140	1.6	100,840
1928	5,400	2.0	10,670	63,150	1.2	75,550
1929	9,340	2.8	26,152	58,800	1.6	97,020
1930	12,640	1.9	24,140	53,500	1.3	72,210
1931	15,510	1.7	26,390	47,700	1.4	66,780
1932	4,510	1.5	6,660	37,990	1.0	37,990
1933	16,690	1.9	30,950	29,570	1.4	41,400
1934	23,680	1.6	37,888	25,550	1.1	28,105
1935	33,470	2.7	90,369	30,110	1.8	54,198
1936	38,100	1.9	72,390	34,140	1.3	44,382
1937	22,500	2.0	45,000	36,450	1.5	54,675
Averages						
1927-36	16,623	2.0	33,963	44,465	1.4	61,848

The acreage of clover and timothy hay was about 7 times larger than that of alfalfa hay in 1924, but a rapid increase resulted in alfalfa exceeding the acreage of clover and timothy in both 1935 and 1936. There were rather sharp changes in alfalfa acreage in 1927 and 1932. The clover and timothy hay acreage decreased steadily from 64,000 acres harvested in 1927 to 25,550 acres in the drought year 1934. Following 1934 the acreage increased steadily through 1937.

The production of alfalfa hay has fluctuated considerably, although showing a great increase from 1932 to 1935 when 90,369 tons were harvested. After 1935 there was a sharp decrease, the tonnage dropping to 45,000 in 1937. A part of this decrease in 1937, no doubt, was due to the ice condition prevalent in southern and eastern Wisconsin in the late winter of 1937. The production of clover and timothy hay has fluctuated also, but generally has followed the trend in acreage. Yields of alfalfa hay have exceeded those of clover and timothy in all years since 1924, averaging at least .6 tons per acre larger.

The comparison of the acreages and production of alfalfa and clover and timothy hay is shown in the charts on the following page. The changes in acreages and production are also shown in these charts.

Manitowoc County, Wisconsin

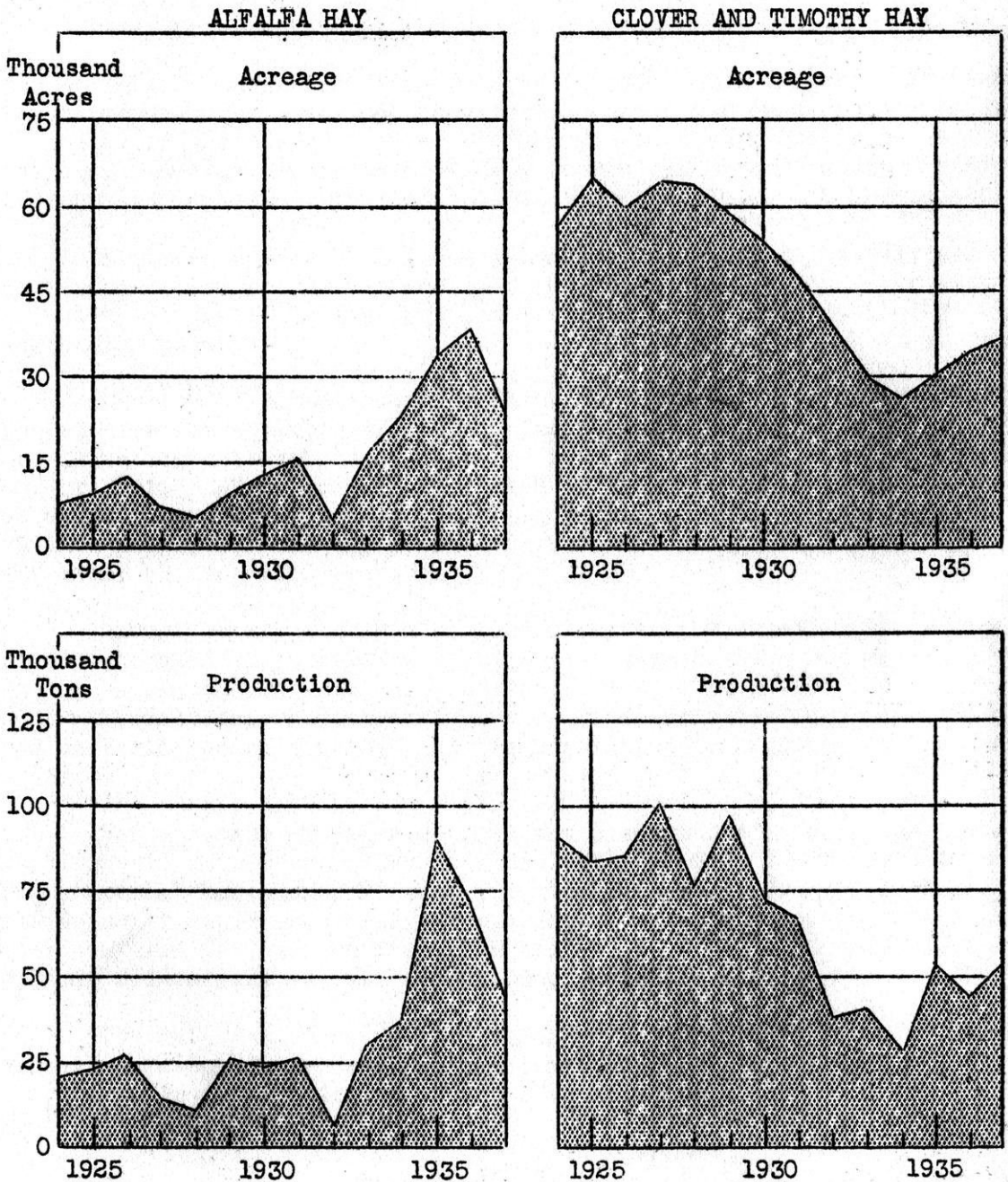


Figure 10.

Livestock and Dairy Products

Estimates of livestock numbers on farms on January 1 of each year are made regularly for all states, and in Wisconsin also have been made by counties for a number of years.

Data from assessors, as well as reports which farmers make periodically through the rural mail carriers, provide the primary data for the estimates of the changes of livestock numbers between census years. As for crops, census data also provide periodic bench-marks and therefore indicate the livestock population levels in the states and the counties.

Historic series of livestock numbers including all cattle and horses and mules annually since 1915 and other species for later years, are given on the following page and are also presented graphically on the succeeding page.

Numbers of all chickens on farms on January 1 have been estimated by counties for a number of years. Census material, assessors' reports, and livestock correspondents' reports form the basis of these estimates. Egg production also has been estimated by counties mainly upon the basis of monthly reports of the crop correspondents. January 1 estimates of the chicken population and egg production for the county are given following the other classes of livestock.

Annual county milk production estimates are based on the general trend indicated by reports of crop correspondents. Cow numbers as used in the estimates are given as producing cows and represent the number of cows milked during the respective year. The average milk production per cow is estimated by counties and the production by counties is then calculated.

For a number of years data on the manufacture of dairy products in Wisconsin have been gathered annually by the Crop Reporting Service. Such material has been published for alternate years from 1915 to 1929 and annually since that year. These data and early census material have been compiled for all counties from bulletins of the Department of Agriculture and records on file in the Crop Reporting office.

The data available for the important manufactured dairy products, as well as other dairy data for the years available are given in tables and charts in the section following livestock.

Table 18.- Livestock: Number on farms, January 1,
Manitowoc County, Wisconsin,
Available years and averages

Year	All Cattle	Milk Cows and Heifers	Swine	Horses and Mules	Sheep and Lambs
	Number	Number	Number	Number	Number
1915	58,920			15,530	
1916	60,080			15,250	
1917	59,110			15,110	
1918	58,570			14,340	
1919	58,930		32,400	14,380	
1920	57,540		25,300	13,800	1,800
1921	57,770		26,800	13,390	1,610
1922	57,220		25,300	12,870	1,290
1923	58,390		29,500	12,900	1,640
1924	60,580		30,900	12,680	1,510
1925	64,400	42,600	20,900	11,100	1,200
1926	63,800	42,200	22,900	12,000	1,400
1927	63,500	42,300	25,200	11,980	1,800
1928	63,200	41,600	23,700	11,500	1,800
1929	59,300	43,600	22,500	11,260	1,500
1930	61,600	42,600	21,800	10,700	1,300
1931	63,160	43,100	24,100	10,480	1,300
1932	63,770	45,100	24,400	10,170	1,300
1933	64,600	45,200	22,000	9,690	1,100
1934	65,890	46,900	19,900	9,670	1,100
1935	64,400	45,200	16,900	10,400	1,100
1936	65,000	44,500	20,300	10,600	1,000
1937	66,300	44,700	20,300	10,600	900
1938	67,000	46,000	20,700	10,400	900
1939	67,700	46,500	22,200	10,100	900
Averages					
1917-36	61,536			11,951	
1927-36	63,442	44,010	22,080	10,645	1,330

Cattle have always been the most numerous of any class of livestock in the county except poultry. Over the years since the various series began the cattle population has been increasing while swine, horses and mules, and sheep and lambs have decreased. However, in recent years the numbers of sheep and lambs, and of horses and mules have remained fairly constant.

On the basis of livestock numbers per 100 acres of farm land, Manitowoc County ranks rather high among the 71 counties in the state.

Manitowoc County, Wisconsin

LIVESTOCK ON FARMS

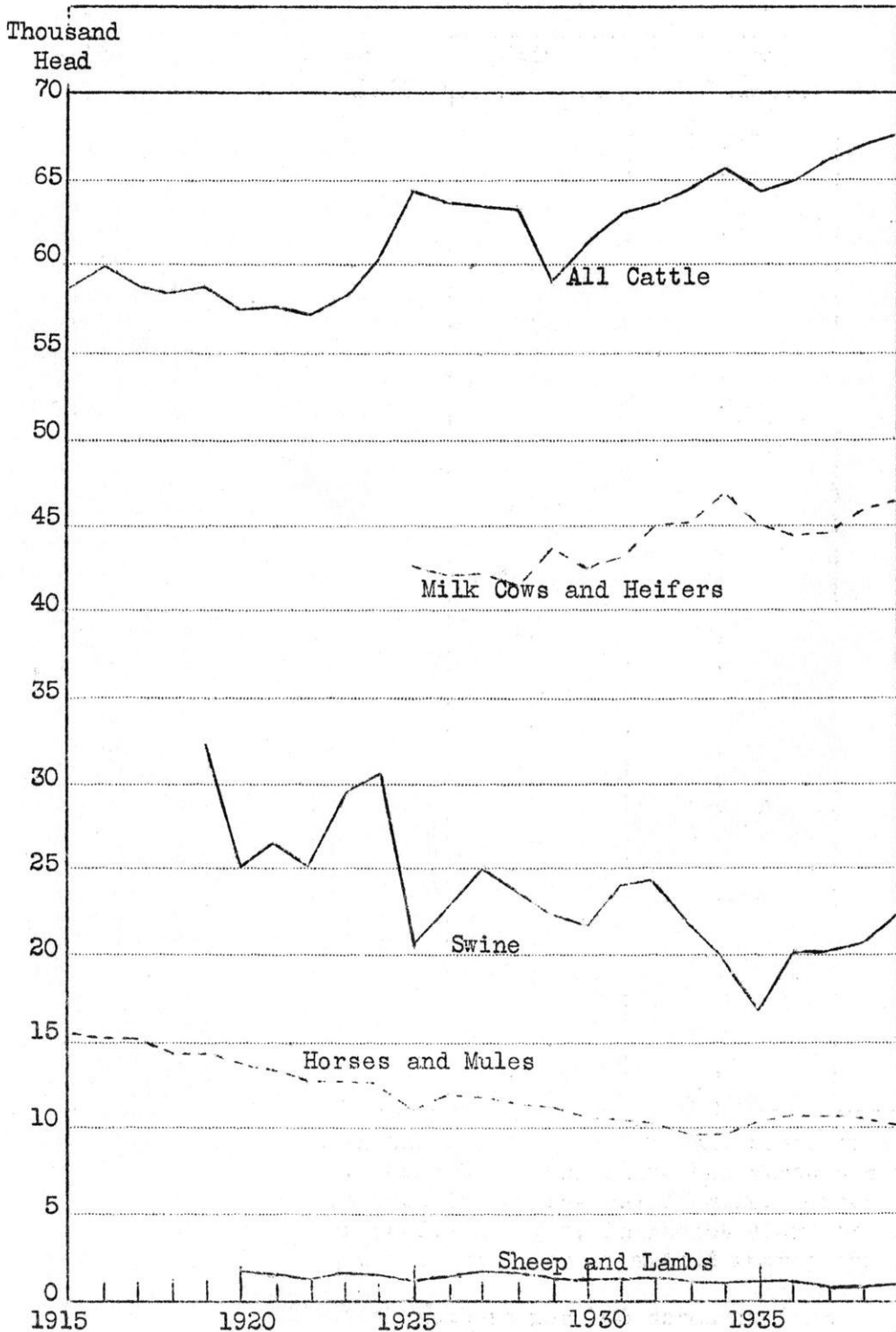


Figure 11.

On January 1, 1939 the county was tied with 6 others for eighth, with 2.8 horses and mules per 100 acres; was tenth in the number of milk cows and heifers per 100 acres (13.1), and was eleventh with an average of 19.0 cattle of all ages per 100 acres. An average of 6.2 hogs per 100 acres placed the county twenty-seventh. The sheep population per 100 acres of farm land was almost lowest in the state.

With 67,000 head in 1938 and 1939 cattle numbers were the largest on record. The number of milk cows and heifers has not fluctuated greatly, ranging between 41,600 and 46,900 since 1925. Swine numbers declined from 30,900 head in 1924 to 16,900 in 1935, thereafter increasing slightly.

Manitowoc County ranked eleventh in the state in egg production in 1937 and thirteenth in the number of chickens on farms on January 1, 1938. Chicken numbers increased from 257,000 birds at the beginning of 1926 to the record of nearly 366,000 birds in 1934. Egg production increased from about 22,420,000 eggs in 1925 to about 42,000,000 in 1937.

Table 19.- Chickens on farms and egg production, Manitowoc County, Wisconsin

Chickens on farms January 1, 1926-1938 and average
Egg production, 1925-1937 and average

Year	Chickens on farms January 1	Egg Production
	Number	Eggs
1925		22,419,000
1926	257,000	23,433,000
1927	265,000	25,744,000
1928	275,000	29,331,000
1929	298,900	32,289,000
1930	317,400	34,190,000
1931	345,400	38,357,000
1932	328,000	36,539,000
1933	334,500	35,712,000
1934	365,700	38,405,000
1935	342,300	37,839,000
1936	359,500	40,723,000
1937	352,300	41,670,000
1938	320,600	
Averages 1927-36	323,170	34,913,000

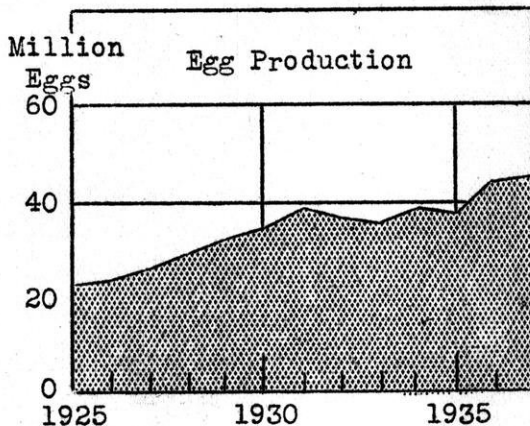
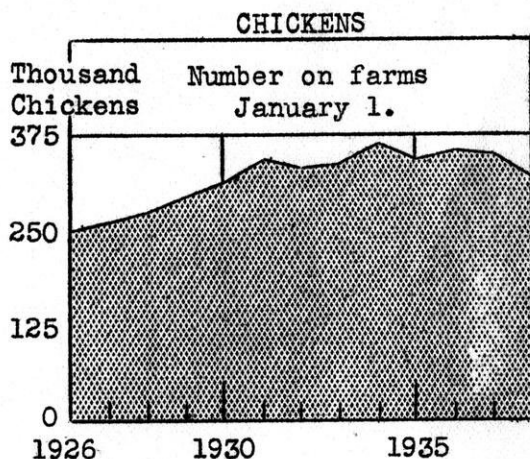


Figure 12.

Table 20.- Milk production and cream shipped out of the state,
Manitowoc County, Wisconsin,
Milk production estimates 1924-1938 and average,
Cream shipped out of the state, available data 1927-1938

Year	Producing cows	Milk production per cow	Total milk production	Cream shipped out of state
	Number	Pounds	1,000 Pounds	1,000 Pounds
1924	41,200	5,800	239,000	
1925	42,600	5,800	247,000	
1926	43,200	5,900	255,000	
1927	42,700	5,900	252,000	66
1928	42,200	6,000	253,000	
1929	41,200	6,500	266,210	
1930	41,100	6,600	272,540	
1931	41,800	6,300	263,820	
1932	43,300	6,400	277,120	15
1933	44,100	6,200	273,450	14
1934	44,100	6,400	282,240	8
1935	42,600	6,300	268,380	
1936	43,000	6,300	270,900	2
1937	43,600	6,300	274,680	
1938*	44,400	6,400	284,160	2
<hr/>				
Averages				
1927-36	42,610	6,290	267,966	

* Preliminary

Manitowoc was tied with 8 other counties for first place in the production of milk per cow in 1938, but ranked eighth in total production of milk. The production per cow in 1938, 6,400 pounds, was slightly lower than the highest average production estimated in 1929, 6,500 pounds. However, with the number of milk cows highest on record, the total milk production of 284 million pounds in 1938 was the largest ever estimated in the county. This amount was considerably above the 10-year average of 268 million pounds. The number of producing cows averaged 42,610 in the ten years, 1927 to 1936, and the average production per cow was 6,290 pounds over the same 10-year period.

Cream was shipped outside the state in only six years since 1924 while no milk was reported as shipped to points outside the state in any of the years, 1924 to 1938. Cream shipments actually made varied from 66,000 pounds in 1927 to 2,000 pounds in 1936 and 1938.

Table 21.- Dairy Manufactures: Manitowoc County, Wisconsin

Year	Evaporated whole milk (unsweetened) <u>1/</u> 1,000 pounds	Cheese					Cream- ery Butter 1,000 pounds
		Amer- ican 1,000 pounds	Swiss 1,000 pounds	Other 1,000 pounds	Total <u>2/</u> 1,000 pounds	Cottage, Pot & Bakers' 1,000 pounds	
1885					2,632		599
1895					3,316		1,257
1905					7,726		337
1909					9,887		399
1915					15,588		435
1917					14,934		412
1919					14,557		628
1921					15,504		1,069
1923					20,913		821
1925					19,488		879
1927					19,406		941
1929	34,422	14,713			14,713		984
1930	100,914	14,011			14,011	260	302
1931	122,641	14,304			14,304	96	1,082
1932	153,087	12,978		5	12,983	221	859
1933	142,030	13,225			13,225	76	817
1934	152,173	13,776	27		13,803	90	837
1935	146,148	13,921		16	13,937	82	868
1936	147,257	15,444			15,444	129	1,091
1937	146,391	14,900	70	9	14,979		1,074
1938	160,677	15,486		19	15,505	152	1,205
Averages 1929-38	130,574	14,276			14,276		912

1/ Same as total condensery products as none other reported in 1929-38.

2/ Excludes cottage, pot, and bakers' cheese.

Manitowoc County ranked first among the 71 counties of the state in condensery production in 1938. In 1938 the county was seventh in total cheese produced, seventeenth in ice cream manufactured, fiftieth in creamery butter production, forty-fifth in casein produced, and forty-ninth in cream shipped out of the state.

The condensery industry is of rather recent origin. Only 34,422,000 pounds were produced in 1929. A year later the production exceeded 100,000,000 pounds, and in 1938, 160,677,000 pounds were manufactured. From 1932 through 1938 at least 140,000,000 pounds were manufactured. Unsweetened evaporated whole milk was the only condensery product made according to the reports of dairy plants.

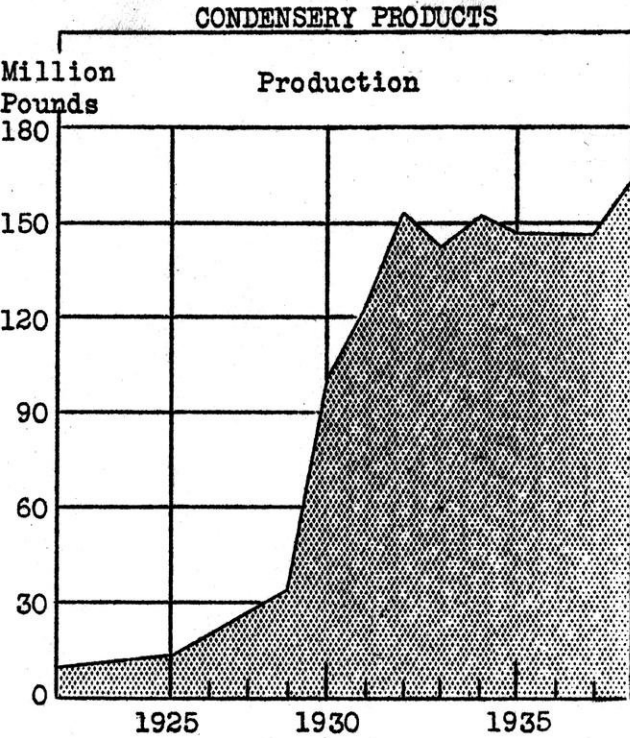


Figure 13.

American cheese has accounted for all, or for nearly all, of the total cheese production in every year. Small amounts of Swiss cheese were reported in 1934 and 1937 and other types were made in 1932, 1935, 1937, and 1938. The "all other" classification was largely Italian cheese in 1938, at least. The output of all cheese increased from 2,632,000 pounds in 1885 to the record of 20,913,000 pounds in 1925. From 1929 through 1938 the production ranged between 12,983,000 and 15,505,000 pounds. The production of cottage, pot, and baker's cheese is not included with that of total cheese since those varieties are of a different type. There were about 260,000 pounds of these types made in 1930 and a smaller amount in every year since then.

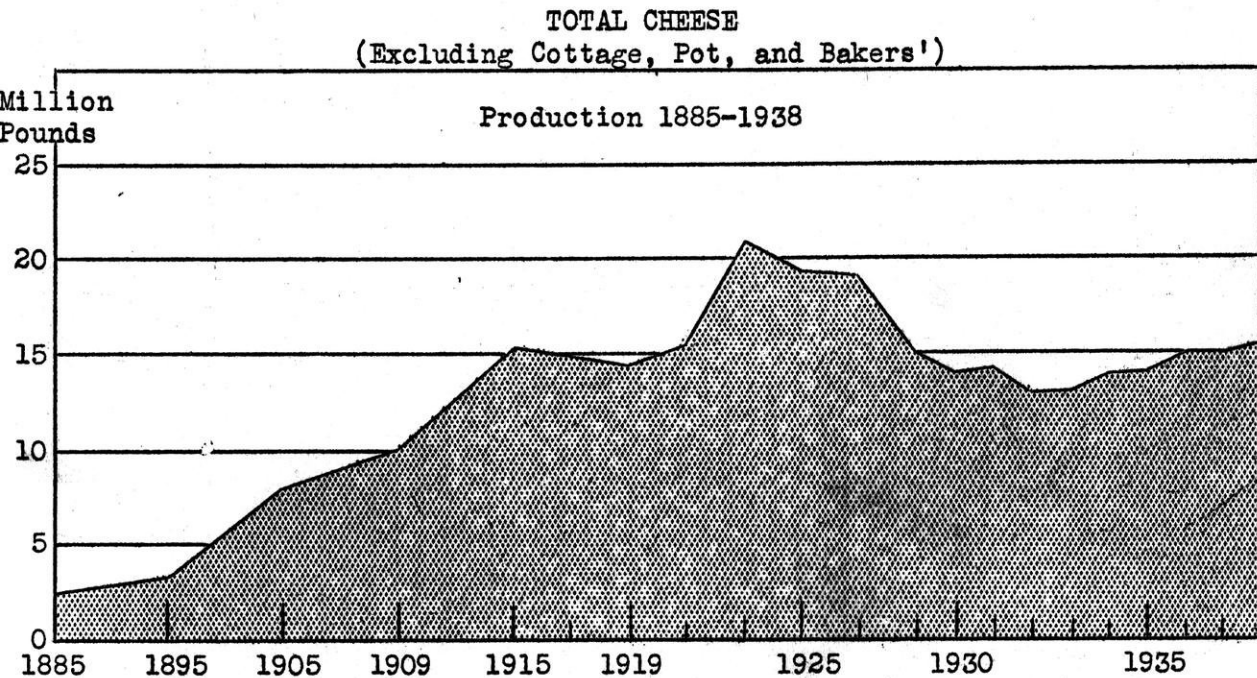


Figure 14.

The data for these charts can be found in table 21 on the preceding page.

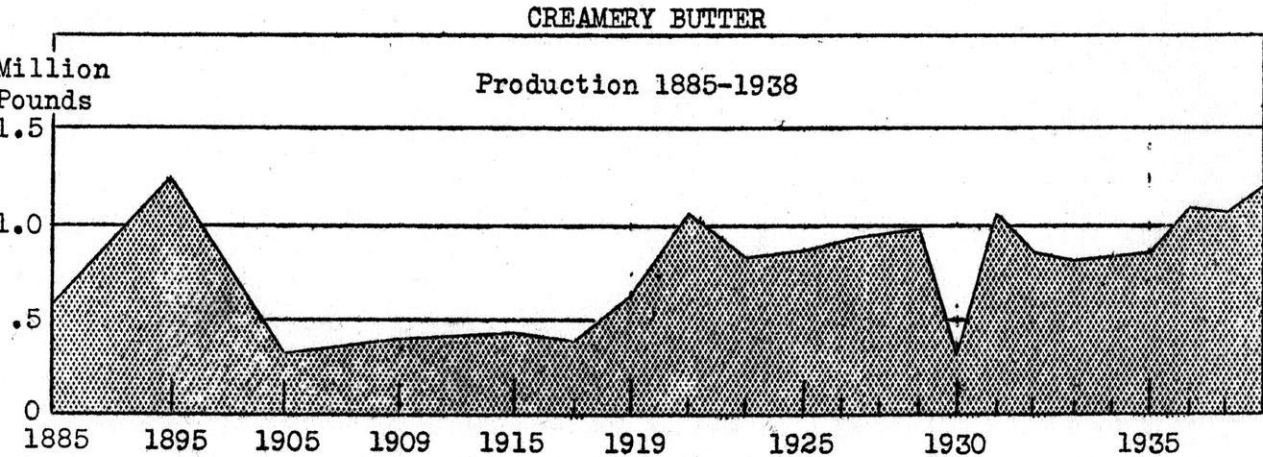


Figure 15.

The record amount of creamery butter produced in the county was in 1895 when 1,257,000 pounds were made. The 1938 production was 1,205,000 but in most years the amount produced has been below 1 million pounds. From 1929 to 1938 inclusive an average of 912,000 pounds were made.

The production of casein in the county's dairy plants has been relatively unimportant. The largest production (in terms of dried casein) was over 100,000 pounds in 1930 and 1931. After 1931, however, less than 50,000 pounds were manufactured annually, dropping to 11,000 pounds in 1938.

About 156,000 gallons of ice cream, the most on record, was reported as made in the dairy plants of the county in 1925. In most years following 1925 fewer than 100,000 gallons were made annually, but in 1937 reports showed 110,000 gallons manufactured.

Changes in the utilization of milk in the county are partially reflected in the change in the amounts of various dairy products and by the change in the number of the various types of dairy plants. Comparisons of numbers, however, do not show capacity to handle milk. No condenseries were reported in operation in Manitowoc County prior to 1918. One operated from 1918 to 1928 when another was licensed, and these two have operated since that date. Cheese factories increased from the 79 reported in operation in 1895 to the peak of 120 in 1920. The number declined thereafter, especially after 1928, and in 1938 only 88 cheese factories were licensed to operate in the county. The number of creameries has varied considerably since 1905 when 7 were reported. Five years later the number operating in the county had more than doubled. After 1918, when 27 were reported, the number dropped rapidly and only 4 were licensed in 1922. In 1938 there were 6 creameries. Receiving stations were first reported in 1923; five were licensed in 1932 but only 4 were receiving milk and cream in 1938. Eight ice cream manufacturers were reported in 1938, the latest year for which figures are available.

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