

DEPARTMENT OF COMMERCE AND LABOR
BUREAU OF THE CENSUS

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THIRTEENTH CENSUS OF THE UNITED STATES
TAKEN IN THE YEAR 1910

STATISTICS
FOR
NORTH DAKOTA

CONTAINING STATISTICS OF POPULATION,
AGRICULTURE, MANUFACTURES, AND
MINING FOR THE STATE, COUNTIES,
CITIES, AND OTHER DIVISIONS

REPRINT OF THE SUPPLEMENT FOR NORTH DAKOTA PUBLISHED IN CONNECTION WITH THE
ABSTRACT OF THE CENSUS



WASHINGTON
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THIRTEENTH CENSUS PUBLICATIONS.

The results of the Thirteenth Decennial Census will be published in two forms: A comprehensive report in 12 volumes, and a condensed report, the Abstract of the Thirteenth Census, which is being issued with Supplements for the different states.

The material contained in the Supplements embraces for each state all of the census results published concerning the state, its counties, cities, and other civil divisions, except as to occupations. This material is bound up in one volume with the Abstract of the Thirteenth Decennial Census. The result is a series of editions of the Abstract each with a different State Supplement, with the purpose of furnishing those who receive the Abstract with the statistics of the state in which they reside.

The material contained in the various State Supplements will also be printed by subjects in the final reports. The chapters relating to Population for all of the states will be assembled in two volumes of the final report on Population; those relating to Agriculture, in two volumes of the final report on that subject; those relating to Manufactures, in one volume of the final report on Manufactures; and those relating to Mining, in the final report on Mining.

The present pamphlet is a reprint of the State Supplement. It contains no material which is not available in the bound volume of the Abstract for the state to which it refers, or in the complete final report of the Thirteenth Census, and has been issued in a very limited edition for special purposes.

SUPPLEMENT FOR NORTH DAKOTA



POPULATION
AGRICULTURE
MANUFACTURES
MINES AND QUARRIES

CHAPTER I.

NUMBER OF INHABITANTS.

Introduction.—This chapter gives the population of North Dakota, by counties and minor civil divisions, as enumerated at the Thirteenth Census, taken as of April 15, 1910, with comparative statements of population where possible, and a statement and discussion for the state as a whole of the population living in urban and in rural territory. The statistics are given in detail in two general tables.

Table 1 (p. 573) shows the population of North Dakota, distributed according to counties and minor civil divisions, at the last three Federal censuses, namely, those of 1910, 1900, and 1890. The arrangement of counties and of the primary divisions in each county, except the few that are numbered, is alphabetical. The figures for the two secondary divisions are printed in italics. The changes in boundaries, name, or form of organization that have taken place since 1900 are indicated in the footnotes to the table. For changes between 1890 and 1900 reference must be made to the census report of 1900.

It may be noticed that the county totals as given in Table 1 for 1900 and 1890 sometimes exceed the aggregate population of the minor civil divisions as shown in the table. This is for the most part due to the territorial changes that have been made in the minor civil divisions within certain counties since 1890. In some counties the population returned by townships in 1910 was not so returned at earlier censuses. In other instances, however, the population of certain divisions returned separately at one census was returned in combination with that of other divisions at another census.

Table 2 (p. 588) shows the cities and incorporated towns and villages in North Dakota, alphabetically arranged, with their population in 1910, 1900, and 1890.

The population of North Dakota, by counties, at each of the last three Federal censuses, from 1890 to 1910, inclusive, also comparative figures, where possi-

ble, for 1870 and 1880 for those counties, which at these censuses formed part of Dakota territory; the increase during the last two decades; the density of the total and the rural population at the census of 1910; and the distribution of the population at the last two Federal censuses according to urban and rural districts, are given in Table I of Chapter 2.

The tables and text of the present chapter contain few technical expressions whose meaning is not apparent. The census usage in regard to certain terms is, however, explained below:

Density of population.—The density of population of a state or county is obtained by dividing its total population by the number of square miles in its land area. In calculating the density of rural population, the same divisor is used as it is not practicable to ascertain and deduct the exact area covered by the urban districts, and even if this could be done with accuracy the deduction of this area from the total land area would ordinarily make no appreciable difference in the resulting quotient.

Minor civil divisions.—The counties are divided generally into smaller political units which bear different designations in the different parts of the country, such as towns, townships, election precincts, school townships, etc. Of these minor civil divisions those which rank next to the county as geographic areas are termed primary divisions. In many instances, however, these primary divisions contain political units of still smaller area, such as cities, incorporated villages, towns, or boroughs. These smaller political units are referred to as secondary divisions.

Urban and rural population defined.—The Census Bureau, for purposes of discussion, has defined urban population as that residing in cities and other incorporated places of 2,500 inhabitants or more, and rural population as that residing outside of such incorporated places.

The comparisons of the urban and rural population in 1910 with that at earlier enumerations may be made either with respect to the varying proportions of the two classes at successive enumerations or with respect to the increase between enumerations. In order to contrast the *proportion* of the total population living in urban or rural territory at the census of 1910 with the proportion urban or rural at the preceding census, it is necessary to classify the territory according to the conditions *as they existed* at each census. In this comparison a place having less than 2,500 inhabitants in 1900 and

HISTORICAL NOTE.—The name Dakota was originally that of an Indian nation which inhabited the region now comprising North Dakota and adjacent states. The word signifies "friends, allies, or confederates."

The first authentic exploration within the present limits of North Dakota was made in 1738 when the French explorers, De la Verendrye and his sons, attempted to reach the Pacific Ocean. In 1804 and 1806 the United States Government exploring expedition under Lewis and Clark passed through the Dakota country by way of the Missouri River. British subjects had trading posts in this region early in the nineteenth century, and in 1810 Lord Selkirk, considering it British territory, built a fort near Pembina. Shortly afterwards a colony was planted here under a grant from the Hudson Bay Company. In 1823 the United States discovered that this place was within its borders, and raised the American flag over it.

North Dakota was originally a part of the vast area known as Louisiana, which was ceded by France to Spain in 1763, retroceded in 1800, and purchased by the United States in 1803. It belonged successively to the district of Louisiana (1804-5), the territory of Louisiana (1805-1812), and the territory of Missouri (1812-1834). That part of the present state lying east of the Missouri and White Earth Rivers belonged to Michigan territory (1834), to Wisconsin territory (1836), to Iowa territory (1838), and to Minnesota territory (1849). The area between the Missouri and White Earth Rivers and the present western boundary of North Dakota formed a part of

the "Indian Country" from 1834 to 1854, and in the latter year was included in the territory of Nebraska.

Upon the admission of the state of Minnesota in 1858, the region lying between that state and the Missouri and White Earth Rivers was left without legal name or existence, and it so remained until March, 1861, when the territory of Dakota was organized. At this time Dakota extended from the Keyapaha, Niobrara, and Missouri Rivers and the forty-third parallel to the Canadian boundary and from Minnesota to the Rocky Mountains, thus including the area now comprising most of Montana and nearly half of Wyoming. In 1863, when Idaho territory was formed, the region between the Rocky Mountains and the present western boundaries of North and South Dakota was included. Most of the present area of Wyoming was transferred from Idaho to Dakota in 1864, and continued a part of the latter territory until 1868, when Wyoming territory was organized. In 1882 a small triangular tract of land lying south of the forty-third parallel and west of the Missouri River was transferred from Dakota to Nebraska.

At the election of November, 1887, the question of the division of the Dakota territory into two states was submitted to the people and was carried at the polls. In November, 1889, North Dakota, with boundaries as at present, became a state of the Union.

over 2,500 in 1910 is classed with the rural population for 1900 and with the urban for 1910. On the other hand, in order to present fairly the contrast between urban and rural communities, as regards their *rate of growth*, it is necessary to consider the changes in population for the *same* territory which have occurred from one decennial census to another. For this purpose the territory which in 1910 was urban or rural, as the case may be, is taken as the basis, and the population in 1900 for the same territory (so far as separately reported

at that census) is presented, even though part of the territory may, on the basis of its population at the earlier census, have then been in a different class. This avoids the disturbing effect on comparisons which would arise from the passage, for example, of communities formerly classed as rural into the urban group. These two distinct forms of comparison are made in Table I of Chapter 2 for the state as a whole and for each county separately for the last two Federal censuses.

TOTAL POPULATION, INCREASE, AND DISTRIBUTION.

Population of the state.—The population of North Dakota is 577,056. Compared with a population of 319,146 in 1900, this represents an increase during the last decade of 257,910, or 80.8 per cent. During the same period the total population of the United States increased 21 per cent. The rate of growth in the population of the state during this decade was

much greater than during the preceding decade, 1890–1900, when the rate was 67.1 per cent.

The following table shows the population of North Dakota at each Federal census from 1890 to 1910, inclusive, together with the increase and per cent of increase during each decade, in comparison with the per cent of increase for the United States as a whole.

CENSUS YEAR.	Population.	INCREASE OVER PRECEDING CENSUS.		Per cent of increase for the United States.
		Number.	Per cent.	
1910.....	577,056	257,910	80.8	21.0
1900.....	319,146	128,163	67.1	20.7
1890.....	¹ 190,983			

¹ Includes population (8,264) of Indian reservations specially enumerated.

North Dakota was admitted as a state in 1889 and appears for the first time in the Federal census reports of 1890. That part of Dakota territory which now comprises the state of North Dakota had in 1870 a population of 2,405, which increased to 36,909 in 1880 and to 190,983 in 1890. Since 1890 the population has increased 386,073, of which increase more than two-thirds was gained during the last decade. The rate of growth for the state during this 20-year period was 202.2 per cent, while the rate for the United States was 46.1 per cent.

Principal cities.—North Dakota has 64 cities. Fargo, the largest, has a population of 14,331, and Grand Forks, the second city, a population of 12,478. Minot, Bismarck, and Devils Lake, with 6,188, 5,443, and 5,157 inhabitants, respectively, are the other cities in the state having over 5,000 inhabitants. There are also 5 cities having from 2,500 to 5,000 inhabitants and 54 having less than 2,500 inhabitants. The aggregate population of the 64 cities is 112,077, or 19.4 per cent of the total population of the state.

Table 2 shows the population in 1910 of all the cities of the state with comparative figures, where possible, for 1900 and 1890. The table following shows the population of the 5 cities having in 1910 over 5,000 inhabitants, as reported at each Federal census since their incorporation, together with the increase during each decade.

Of the cities included in this table, Minot shows the highest rate of increase during the last decade, namely, 384.6 per cent, and Fargo the lowest, 49.5 per cent.

The rates of increase for all cities, with the exception of Fargo, have been higher during the last decade than during the preceding decade.

CITY AND CENSUS YEAR.	Population.	INCREASE OVER PRECEDING CENSUS.	
		Number.	Per cent.
Bismarck:			
1910.....	5,443	2,124	64.0
1900.....	3,319	1,133	51.8
1890.....	2,186	428	24.3
1880.....	1,758		
Devils Lake:			
1910.....	5,157	3,428	198.3
1900.....	1,729	883	104.4
1890.....	846		
Fargo:			
1910.....	14,331	4,742	49.5
1900.....	9,589	3,925	69.3
1890.....	5,664	2,971	110.3
1880.....	2,693		
Grand Forks:			
1910.....	12,478	4,826	63.1
1900.....	7,652	2,673	53.7
1890.....	4,979	3,274	192.0
1880.....	1,705		
Minot:			
1910.....	6,188	4,911	384.6
1900.....	1,277	702	122.1
1890.....	575		

Counties.—North Dakota has 49 counties. The population of these counties ranges from 3,577 in Oliver County to 33,935 in Cass County.

The following territorial changes have been made in the counties of North Dakota since 1900: Part of Billings was taken in 1907 to form Bowman; parts of Stark and Billings were taken in 1905 to form McKenzie; parts of Stark were taken in 1907 to form Adams

and Hettinger; parts of Ward were taken to form Mountrail in 1909, and Burke and Renville in 1910; parts of Mercer and Stark were taken in 1908 to form Dunn; part of McLean was taken in 1909 to form Sheridan; and part of Williams was taken in 1910 to form Divide.

Owing to the organization since 1900 of 10 new counties from parts of other counties, as shown above, the comparison of increase or decrease in population is made for only 33 counties and four combinations of counties. The combinations of counties are Adams, Stark, Bowman, Billings, Dunn, Mercer, Hettinger, and McKenzie; Burke, Ward, Mountrail, and Renville; Divide with Williams; and Sheridan with McLean. In order to determine the actual rate of increase for this territory, it is necessary to add the population of each new county to that of the old counties from which it was formed. Thirty counties and the four combinations of counties increased in population during the last decade. The rates of increase for the counties which do not enter into the combinations and which show increases range from 13.1 per cent in Richland County to 279.6 per cent in Logan County, and the absolute increases of the same group of counties range from 1,470 in Eddy County to 15,012 in Morton County. Each combination of counties shows a large percentage of increase. Three counties decreased in population during the last decade, the percentages of decrease being 17.5, 4.3, and 3.9 in Pembina, Traill, and Walsh Counties, respectively, and the absolute decreases 3,120 in Pembina County, 562 in Traill County, and 797 in Walsh County. The aggregate increase of population from 1900 to 1910 in the four combinations of counties and in the 30 counties that showed increases was 262,389; the aggregate decrease of population in the 3 counties that showed decreases was 4,479. The difference, 257,910, is, of course, the total increase of population in the state.

The maps on page 571 show the increase or decrease in the total and the rural population, respectively, of each county of North Dakota during the last decade. In the counties shown in white the population decreased; for the other counties the different rates of increase are indicated by differences in shading.

Density of population.—The total land area of the state is 70,183 square miles. The average number of persons to the square mile in 1910 was 8.2; in 1900 and 1890 it was 4.5 and 2.7, respectively. The average number per square mile for the United States as a whole in 1910 was 30.9.

The density of population is given by counties in Table I of Chapter 2 and in the maps on page 572, both for the entire population and for that living in rural territory, excluding in the latter case the population of places of 2,500 inhabitants or more, but not excluding the land area of such places.

Morton County, with 4,742 square miles, has the largest area, and Foster County, with 644 square miles, has the smallest area. Grand Forks County, containing Grand Forks city, has the highest density of any county, namely, 19.5 persons per square mile, while McKenzie County, with 2 persons per square mile, has the lowest density.

Minor civil divisions.—The political divisions into which counties are subdivided are collectively termed "Minor civil divisions." In North Dakota the counties are divided into 1,460 primary divisions, comprising 910 civil townships, 297 school townships, 27 school districts, 16 election precincts, 3 towns, 64 cities, and 143 villages. There are also 2 secondary divisions in the state, each a village which is not an independent minor civil division but which forms a part of the township in which it is located. Besides these minor civil divisions there are 513 unorganized townships, 11 of which have no population reported, and 3 Indian reservations in the state. These reservations, though independent of any county organization, are returned under the counties in which they are wholly or partly located.

Urban and rural population compared.—The following table presents the population of North Dakota at the Federal censuses of 1910, 1900, and 1890, respectively, distributed among cities, towns, and villages grouped according to specified limits of population, together with the percentage of the total population contained in each group at each of the censuses named. The classification is based upon the population of each place as it existed at each census.

CLASS OF PLACES.	1910		1900		1890		PER CENT OF TOTAL POPULATION.		
	Number of places.	Population.	Number of places.	Population.	Number of places.	Population.	1910	1900	1890
Total population.....		577,056		319,146		1 190,983	100.0	100.0	100.0
Urban territory.....	10	63,236	4	23,413	2	10,643	11.0	7.3	5.6
Cities of—									
10,000 inhabitants or more.....	2	26,809					4.6		
5,000 to 10,000 inhabitants.....	3	16,788	2	17,241	1	5,664	2.9	5.4	3.0
2,500 to 5,000 inhabitants.....	5	19,639	2	6,172	1	4,979	3.4	1.9	2.6
Rural territory.....		513,820		295,733		1 180,340	89.0	92.7	94.4
Cities, towns, and villages of less than 2,500 inhabitants...	202	98,020	71	47,735	49	20,231	17.0	15.0	13.7
Other rural territory.....		415,800		247,998		1 154,109	72.1	77.7	80.7

¹ Includes population (8,264) of Indian reservations specially enumerated.

As shown by this table, the urban territory of the state in 1910—that is, the cities of 2,500 inhabitants or more—contained 63,236 inhabitants, or 11 per cent of the total population, while 513,820 inhabitants, or 89 per cent, lived in rural territory. The urban territory as it existed in 1900—that is, the cities then having 2,500 inhabitants or more—contained 23,413 inhabitants, or 7.3 per cent of the total population, while 295,733 inhabitants, or 92.7 per cent, lived in rural territory. There has thus been a considerable increase in the proportion of urban population. For the United States as a whole the urban population constituted 46.3 per cent of the total population in 1910 and 40.5 per cent of the total population in 1900.

The state of North Dakota had in 1910 two cities of over 10,000 inhabitants each, Fargo and Grand Forks, whose combined population comprised 4.6 per cent of the total population of the state, while the eight other places of over 2,500 inhabitants together contributed 6.3 per cent of the entire population of the state.

The urban population of the state is contained in 10 cities, having a combined population of 63,236. The rural population is in 202 incorporated places of less than 2,500 inhabitants each and in the unincorporated territory. The 202 places of less than 2,500 inhabitants each have an aggregate population of 98,020, or 17 per cent of the total population of the state. These places comprise 23 having from 1,000 to 2,500 inhabitants each, with a combined population of 32,145; 41 having from 500 to 1,000 inhabitants each, with a combined population of 26,854; and 138 having less than 500 inhabitants each, with a combined population of 39,021. The population living in unincorporated territory represents 72.1 per cent of the total population of the state.

The table on page 569 shows further that in all incorporated places, including those of less than 2,500 inhabitants, there was in 1910 a population of 161,256, or 27.9 per cent of the population of the state. The population of all incorporated places, as they existed in 1900, was 71,148, or 22.3 per cent of the population of the state.

Table I of Chapter 2 shows that of the 4 counties of North Dakota which contained urban population in 1900, 2 had a larger proportion and 2 a smaller proportion of urban population in 1910 than in 1900. Three

counties and three combinations of counties which were wholly rural in 1900 were partly urban in 1910, while 26 counties and one combination of counties were wholly rural at both censuses.

In order to compare the *rate of growth* in urban and rural communities it is necessary in each case, as previously explained, to consider the changes in population which have occurred in the *same* territory from one decennial census to another. With this end in view places classed as urban or rural according to their population in 1910 are taken as a basis and the aggregate population in 1910 and in 1900 of the same places is then compared. Thus, as shown in the next table, the total population in 1910 of the cities which at that time had 2,500 inhabitants or more was 63,236; in 1900 the total population of these same places was 33,362. It may be noted that the latter figure exceeds the total population in 1900 of the cities which at that time had over 2,500 inhabitants each, 23,413 (see table on page 569), by 9,949. The difference is the result of the passage, since 1900, of certain communities from the rural to the urban class.

In the following table the population for the state as a whole is distributed so as to show, for 1910 and 1900, the combined population of the cities having, in 1910, 2,500 inhabitants or more, and the population of the remainder of the state.

CLASS OF PLACES.	POPULATION.		INCREASE: 1900-1910	
	1910	1900	Number.	Per cent.
The state.....	577,056	319,146	257,910	80.8
Cities of 2,500 inhabitants or more in 1910....	63,236	33,362	29,874	89.5
Remainder of the state.....	513,820	285,784	228,036	79.8

A comparison of the total population in 1910 of cities having a population of not less than 2,500 each with the total population of the same places in 1900, as given in the preceding table, shows an increase of 89.5 per cent. This represents the rate of growth of urban communities as thus defined. During the same period the rural population, comprising that of the remainder of the state, increased 79.8 per cent. Urban population thus increased somewhat faster than that of rural territory. For the United States as a whole urban population increased 34.9 per cent in the last decade and rural population 11.2 per cent.

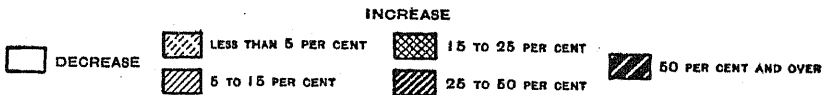
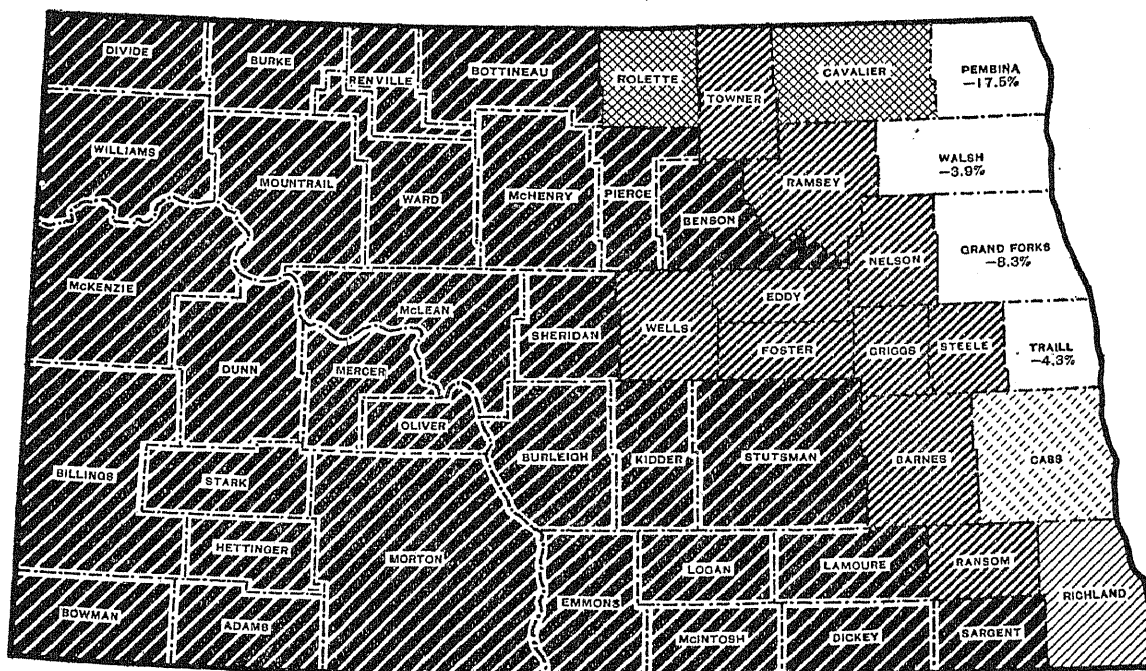
PER CENT OF INCREASE OR DECREASE OF POPULATION OF NORTH DAKOTA, BY COUNTIES: 1900-1910.

In case of decrease the per cent is inserted under the county name.

TOTAL POPULATION.



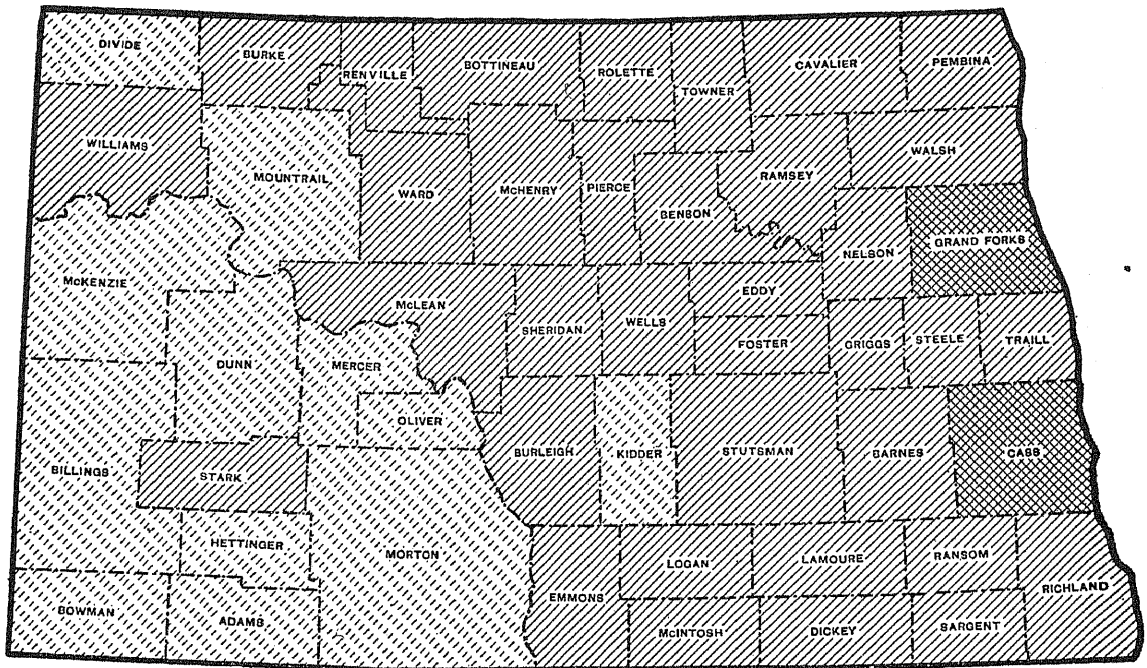
RURAL POPULATION.



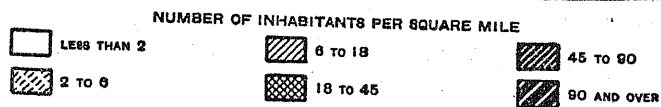
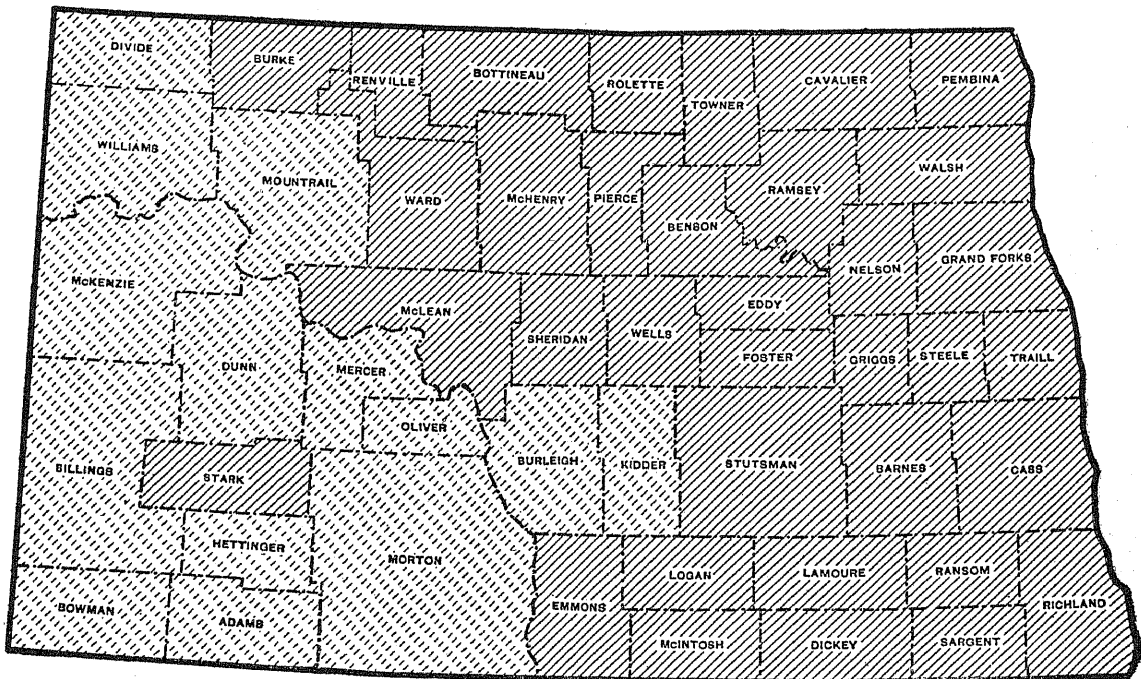
Rural population is defined as that residing outside of incorporated places having 2,500 inhabitants or more.

DENSITY OF POPULATION OF NORTH DAKOTA, BY COUNTIES: 1910.

TOTAL POPULATION.



RURAL POPULATION.



Rural population is defined as that residing outside of incorporated places having 2,500 inhabitants or more.

STATISTICS OF POPULATION.

TABLE 1.—POPULATION OF MINOR CIVIL DIVISIONS: 1910, 1900, AND 1890.

[For changes in boundaries, etc., between 1900 and 1910, see footnotes; for those between 1890 and 1900, see Reports of the Twelfth Census: 1900, Vol. I, Table 5.]

MINOR CIVIL DIVISION.	1910	1900	1890	MINOR CIVIL DIVISION.	1910	1900	1890
Adams County¹				Barnes County—Continued.			
	5,407	(?)					
Bucyrus township ³ (T. 130, R. 97)	315			Svea township	235	128	93
Cedar township ⁴ (Tps. 131 and 132, Rs. 95 and 96)	552	8		Thordenskjold township ¹³	471	534	260
Clermont township ⁴ (T. 129, R. 94)	253			Uxbridge township	236	200	
Gilstrap township ⁴ (T. 129, R. 93)	261			Valley City	4,006	2,446	1,089
Hettinger village ⁵	766			Ward 1	875		
North Lemmon township ³ (T. 129, R. 92)	209			Ward 2	1,325		
Orange township ³ (T. 129, R. 91)	238			Ward 3	1,310		
Reeder township ⁶ (Tps. 129 and 130, R. 98)	140			Ward 4	1,096		
Reeder village ⁶	198			Weirner township	188	110	37
Scott township ⁴ (T. 129, R. 95)	197			Wimbleton village	571	228	
Wolf Butte township ⁷ (T. 131, R. 97)	100			Township 139, range 58	183	187	146
Township 129, range 96 ⁵	98			Township 140, range 58	172	232	195
Township 129, range 97	115	3		Township 141, range 58	207	204	212
Township 130, range 91	244	15		Township 142, range 58	206	169	121
Township 130, range 92	200						
Township 130, range 93	173						
Township 130, range 94	220						
Township 130, range 95	88						
Township 130, range 96	100						
Township 131, range 91	123	4					
Township 131, range 92	184	7					
Township 131, range 93	117	20					
Township 131, range 94	106						
Township 131, range 98	156						
Township 132, range 97	100	15					
Township 132, range 98	94						
Barnes County	18,066	13,159	7,045				
Alta township	222	265	132				
Anderson township ⁸ (T. 141, R. 60)	244	155	78				
Baldwin township	232	214	71				
Binghampton township	606	509	135				
Brimer township ³ (T. 141, R. 61)	213	139	56				
Cuba township	233	197	147				
Dazey township ⁹	255	342	157				
Dazey village ⁹	255						
Eckelson township ³ (T. 140, R. 61)	327	231	80				
Edna township	369	288	108				
Ellsbury township ¹⁰ (T. 143, R. 56)	240	194	129				
Grand Prairie township ¹¹ (T. 142, R. 57)	183	212	82				
Green township	277	296	198				
Greenland township	343	173	40				
Hemen township	179	179	98				
Hobart township	195	239	253				
Lake Town township ¹¹ (T. 143, R. 60)	153	145	67				
Litchville village ¹²	484						
Mansfield township ¹¹ (T. 139, R. 61)	174	186	106				
Meadow Lake township ⁹ (T. 138, R. 61)	194	173	98				
Minnie Lake township	231	194	130				
Nelson township ¹⁰ (T. 138, R. 58)	299	319	214				
Noltimer township	254	226	115				
Nome village ¹³	218						
Norma township ¹⁴	282	303	278				
Oakhill township ¹⁵	572	674	320				
Oriska township	464	322	201				
Pierce township	244	205	126				
Potter township	217	198	184				
Reritan township ¹³	446	433	166				
Rogers township ¹⁶ (T. 142, R. 59)	338	157	85				
Rosebud township ¹²	282	143	94				
Sanborn village	390	259	227				
Sibley Trail township ³ (T. 143, R. 58)	208	167	67				
Skandia township	263	256	154				
Spring Creek township ¹²	332	255	160				
Springvale township	303	245	133				
Stewart township ⁷ (T. 141, R. 59)	197	200	128				

¹ Organized from part of Stark County in 1907.
² Comparison of population for 1900 made by townships wherever possible.
³ Organized in 1909.
⁴ Organized in 1908.
⁵ Hettinger village incorporated from part of T. 129, R. 96, in 1903.
⁶ Reeder township organized in 1908; Reeder village incorporated from part of Reeder township in 1909.
⁷ Organized in 1910.
⁸ Organized in 1903.
⁹ Dazey village incorporated from part of Dazey township in 1904.
¹⁰ Organized in 1907.
¹¹ Organized in 1901.
¹² Litchville village incorporated from parts of Rosebud (formerly Lincoln) and Spring Creek townships in 1904.
¹³ Nome village incorporated from parts of Reritan and Thordenskjold townships in 1907.
¹⁴ Name changed from Norman in 1904.
¹⁵ Name changed from Oakville in 1904.
¹⁶ Organized in 1904.
¹⁷ County total includes population (1,268) of Devils Lake Indian Reservation, opened to settlement in 1904 and taken to form Fort Totten, Free Peoples, Lone Tree (part of), and Wood Lake townships (school), and Lallie, Rock, Warwick, Wood Lake, and part of Minco townships; population (356) of Fairview township (school), taken to form Arne and Hesper townships; population (226) of Medell township (school), taken to form Broe and Impark townships; population (504) of Viking township (school), taken to form North and South Viking townships; population (382) of Minnewaukan township (school), taken to form Eldon and West Bay townships and part of Aurora township; population (415) of West Antelope township (school), taken to form West Antelope township and part of Aurora township; and population (82) of T. 151, R. 65 (part of), taken to form part of Lone Tree township (school), since 1900.
¹⁸ No comparison of population can be made; numerous changes made between 1890 and 1900.
¹⁹ Hesper and Arne townships organized from Fairview township (school) in 1904 and 1906, respectively.

²⁰ Organized from parts of Minnewaukan and West Antelope townships (school) in 1903.
²¹ Organized from Beaver township (school) in 1904.
²² Brinsmade village incorporated from part of Rigin township in 1904.
²³ Broe and Impark townships organized from Medell township (school) in 1902 and 1905, respectively.
²⁴ Organized from Hathaway township (school) in 1904.
²⁵ West Bay and Eldon townships organized from parts of Minnewaukan township (school) in 1907 and 1908, respectively.
²⁶ Esmond township organized from Harmony township (school) in 1904; Esmond village incorporated from part of Esmond township in 1906.
²⁷ Returned as a part of Devils Lake Indian Reservation in 1900.
²⁸ Organized from Iowa township (school) in 1904.
²⁹ Organized from Isabel township (school) in 1904.
³⁰ Knox village incorporated from part of Knox township in 1906.
³¹ Organized from Lake Ibsen township (school) in 1906.
³² Organized in 1910 from territory returned as part of Devils Lake Indian Reservation in 1900.
³³ Incorporated as a city in 1903.
³⁴ Returned as T. 151, R. 65 (part of), and part of Devils Lake Indian Reservation in 1900.
³⁵ Incorporated from part of North Viking township in 1908.
³⁶ Organized from Gallinger township (school) in 1904.
³⁷ Organized in 1909 from Minco township (school) and territory returned as part of Devils Lake Indian Reservation in 1900.
³⁸ Organized from part of Viking township (school) in 1904; part taken to form Maddock village in 1908.
³⁹ Organized from Pleasant Lake township (school) in 1904.
⁴⁰ Organized from Pleasant Valley township (school) in 1907.
⁴¹ Organized from part of Viking township (school) in 1908.
⁴² Organized from Twin Lake township (school) in 1901.
⁴³ Organized in 1908 from territory returned as part of Devils Lake Indian Reservation in 1900.
⁴⁴ Organized from part of West Antelope township (school) in 1903.

STATISTICS OF POPULATION.

TABLE 1.—POPULATION OF MINOR CIVIL DIVISIONS: 1910, 1900, AND 1890—Continued.

[For changes in boundaries, etc., between 1900 and 1910, see footnotes; for those between 1890 and 1900, see Reports of the Twelfth Census: 1900, Vol. I, Table 5.]

MINOR CIVIL DIVISION.	1910	1900	1890	MINOR CIVIL DIVISION.	1910	1900	1890
Walsh County—Continued.				Ward County—Continued.			
Tiber township.....	400	455	415	Spencer township (school) (T. 159, R. 89).....	438	109	.....
Vernon township.....	300	347	230	Surrey township (school) (T. 155, R. 81).....	528	39	.....
Vesta township.....	383	401	428	Tatman township (school) (T. 157, R. 82).....	230	9	.....
Walsh Center township.....	356	425	356	Tolgan township (school) (T. 154, R. 86).....	148	2	.....
Walshville township.....	411	507	443	Torning township (school) (T. 153, R. 84).....	297	5	.....
				Vang township (school) (T. 153, R. 85).....	172	35	.....
				Waterford township (school) (T. 157, R. 83).....	202	34	.....
				Willis township (school) (T. 153, R. 82).....	280	3	.....
				Township 151, range 84.....	190	19	.....
Ward County¹.....	25,281	27,961	21,681	Township 151, range 87 (part of).....	127	.....	.....
Afton township (school) (T. 154, R. 83).....	207	38	.....	Township 152, range 83.....	176	19	.....
Anna township ⁴ (T. 152, R. 86).....	121	3	.....	Township 152, range 84.....	167	10	.....
Baden township (school) (T. 159, R. 88).....	357	118	.....	Township 153, range 81 ¹⁵	219	98	.....
Berthold township ⁶ (school) (T. 156, R. 86).....	330	57	.....	Township 153, range 83.....	114	.....	.....
Berthold village ⁶	454	.....	.....	Township 154, range 81.....	284	97	.....
Brilliant township (school) (T. 152, R. 81).....	337	8	.....	Township 154, range 82.....	228	122	.....
Burlington township (school) (T. 155, R. 84).....	478	224	.....			
Burt township (school) (T. 154, R. 84).....	257	34	.....			
Cameron township ⁶ (school) (T. 151, R. 85).....	148	1	.....			
Carbondale township ⁷ (school) (T. 158, R. 87).....	348	82	.....			
Carpio township ⁸ (school) (T. 157, R. 86).....	318	66	.....			
Carpio village ⁸	257	.....	.....		
Denmark township (school) (T. 161, R. 88).....	446	249	.....			
Des-Laes township (school) (T. 155, R. 85).....	443	82	.....			
Donnybrook village ⁷	297	.....	.....		
Ward 1.....	110	.....	.....		
Ward 2.....	73	.....	.....		
Ward 3.....	114	.....	.....		
Douglas village ⁶	171	.....	.....		
Elmdale township (school) (T. 160, R. 89).....	380	287	.....			
Eureka township (school) (T. 156, R. 83).....	325	121	.....			
Evergreen township (school) (T. 155, R. 87).....	142	20	.....			
Foxholm township (school) (T. 156, R. 85).....	413	49	.....			
Freedom township (school) (T. 153, R. 83).....	225	1	.....			
Greeley township (school) (T. 151, R. 81).....	165	11	.....			
Greenbush township (school) (T. 159, R. 87).....	202	90	.....			
Harrison township ⁹ (school) (T. 155, R. 83).....	289	258	.....			
Iota Flat township (school) (T. 151, R. 82).....	336	2	.....			
Kenmare city ¹⁰	1,437	.....	.....		
Ward 1.....	272	.....	.....		
Ward 2.....	500	.....	.....		
Ward 3.....	665	.....	.....		
Kenmare township ¹⁰ (school) (T. 160, R. 88).....	443	485	.....			
Kirkite township (school) (T. 156, R. 84).....	360	156	.....			
Lund township (school) (T. 153, R. 87).....	226	.....	.....		
McKinley township (school) (T. 156, R. 82).....	312	78	.....			
Mandan township (school) (T. 155, R. 86).....	233	.....	.....		
Margaret township (school) (T. 157, R. 81).....	190	4	.....			
Maryland township (school) (T. 156, R. 81).....	334	10	.....			
Mayland township ⁸ (school) (T. 157, R. 85).....	252	52	.....			
Minot city.....	6,188	1,277	575				
Ward 1.....	1,078	.....	.....		
Ward 2.....	1,434	.....	.....		
Ward 3.....	1,188	.....	.....		
Ward 4.....	440	.....	.....		
Ward 5.....	1,060	.....	.....		
Ward 6.....	1,068	.....	.....		
Newman township (school) (T. 152, R. 82).....	364	10	.....			
North Minot village ⁹	432	.....	.....		
Norway township (school) (T. 155, R. 82).....	300	85	.....			
Orlien township (school) (T. 152, R. 87, part of).....	141	.....	.....		
Passport township (school) (T. 156, R. 87).....	239	5	.....			
Ree township (school) (T. 157, R. 87).....	294	.....	.....		
Rice Lake township ¹¹ (T. 152, R. 85).....	193	6	.....			
Rolling Green township (school) (T. 154, R. 85).....	207	9	.....			
Rushville township ¹¹ (T. 151, R. 83).....	270	3	.....			
Ryder township ¹² (school) (T. 151, R. 86).....	180	.....	.....		
Ryder village ¹²	338	.....	.....		
St. Marys township (school) (T. 157, R. 84).....	246	76	.....			
Sauk Prairie township (school) (T. 160, R. 87).....	291	203	.....			
Sawyer village ¹³	327	.....	.....		
Shealey township ⁴ (T. 154, R. 87).....	118	.....	.....		

¹ Parts taken to form Mountrail County in 1909 and Burke and Renville Counties in 1910.
² County total includes population (3,100) of territory taken to form Mountrail, Burke, and Renville Counties since 1900.
³ No comparison of population can be made; not returned by townships in 1890.
⁴ Organized in 1909.
⁵ Berthold village incorporated from part of Berthold township (school) in 1903.
⁶ Douglas village incorporated from part of Cameron township (school) in 1908.
⁷ Donnybrook village incorporated from part of Carbondale township (school) in 1903.
⁸ Carpio village incorporated from parts of Carpio and Mayland townships (school) in 1906.
⁹ North Minot village incorporated from part of Harrison township (school) in 1909.
¹⁰ Kenmare city incorporated from part of Kenmare township (school) in 1909.
¹¹ Organized in 1910.

¹² Ryder village incorporated from part of Ryder township (school) in 1907.
¹³ Sawyer village incorporated from part of T. 153, R. 81, in 1908.
¹⁴ No comparison of population for 1890 can be made; information as to changes in minor civil divisions incomplete.
¹⁵ Bowdon village incorporated from part of Haaland township (school) in 1907.
¹⁶ Cathay village incorporated from part of Cathay township (school) in 1907.
¹⁷ Organized from Eddy township (school) in 1908.
¹⁸ Fessenden city incorporated from part of Oshkosh township (school) in 1905.
¹⁹ Organized from Whitby township (school) in 1908.
²⁰ Organized in 1906.
²¹ Harvey city incorporated from part of Wells township in 1901.
²² Organized in 1907.
²³ Organized from James River township (school) in 1900.
²⁴ Organized in 1908.
²⁵ Sykeston village incorporated from part of Sykeston township (school) in 1907.

TABLE 1.—POPULATION OF MINOR CIVIL DIVISIONS: 1910, 1900, AND 1890—Continued.

[For changes in boundaries, etc., between 1900 and 1910, see footnotes; for those between 1890 and 1900, see Reports of the Twelfth Census: 1900, Vol. I, Table 5.]

MINOR CIVIL DIVISION.	1910	1900	1890	MINOR CIVIL DIVISION.	1910	1900	1890
Williams County¹				Williams County—Continued.			
Athens township ³ (T. 157, R. 100)	114			Round Prairie township ⁸ (T. 154, R. 103)	175		
Barr Butte township ³ (T. 159, R. 102)	102			Sauk Valley township ⁸ (T. 159, R. 95)	143		
Big Meadow township ³ (T. 159, R. 96)	240			South Meadow township ⁸ (T. 158, R. 96)	136		
Big Stone township ⁴ (T. 159, R. 98)	51			Springbrook township ⁸ (T. 155, R. 99)	354		
Black Tail township ³ (T. 157, R. 101)	141			Stony Creek township ⁹ (Tps. 152, 153, R. 100 part of), and T. 154, R. 100)	239		
Bonetrail township ³ (T. 157, R. 102)	157			Tioga township ¹¹ (T. 157, R. 95)	238		
Brooklyn township ³ (T. 155, R. 98)	235			Tioga village ¹¹	203		
Buford township ³ (T. 152, Rs. 102 (part of), 103 (part of), and 104 (part of))	346			Tyrone township ³ (T. 156, R. 101)	173		
Bull Butte township ³ (T. 156, R. 103, and frac. T. 156, R. 104)	198			West Bank township ⁴ (T. 156, R. 96)	181		
Champion township ³ (T. 157, R. 97)	88			Wheelock township ³ (T. 156, R. 98)	336		
Dry Fork township ³ (T. 155, R. 95)	191			Williston city	3,124	763	295
Dublin township ³ (T. 157, R. 99)	144			Ward 1	1,051		
East Fork township ³ (T. 156, R. 100)	176			Ward 2	925		
Ellisville township ³ (T. 158, R. 99)	178			Ward 3	1,148		
Equality township ³ (T. 156, R. 97)	245			Williston township ⁸ (T. 154, R. 101)	220		
Farmvale township ³ (T. 155, R. 96)	196			Township 153, range 98 (part of)	31		
Golden Valley township ³ (T. 157, R. 96)	236			Township 153, range 99 (part of)	121		
Hardscrabble township ³ (T. 153, R. 103)	127			Township 153, range 102 (part of)	249		
Hazel township ⁴ (T. 159, R. 97)	222			Fractional township 153, range 104	61		
Hebron township ³ (T. 155, R. 103, and frac. T. 155, R. 104)	284			Township 154, range 95 (part of)	113		
Judson township ⁴ (T. 154, R. 102)	245			Township 154, range 96 (part of)	143		
Lindahl township ³ (T. 158, R. 95)	231			Township 154, range 97 (part of)	57		
Marshall township ³ (T. 156, R. 99)	191			Township 154, range 98	102		
Missouri Ridge township ⁴ (T. 155, R. 101)	213			Township 154, range 99	185		
Mont township ⁴ (T. 155, R. 102)	196			Fractional township 154, range 104	41		
New Home township ³ (T. 158, R. 97)	96			Township 155, range 97	200		
Oliver township ⁴ (T. 157, R. 98)	86			Township 156, range 102	152		
Orthell township ³ (T. 158, R. 101)	218			Township 157, range 103	119		
Pherrin township ¹⁰ (T. 155, R. 100)	222			Township 158, range 100	172		
Pleasant Valley township ³ (T. 156, R. 95)	300			Township 158, range 102	197		
Rainbow township ³ (T. 158, R. 98)	100			Township 158, range 103	43		
Ray village ⁷	436			Township 159, range 100	104		
Rock Island township ³ (T. 159, R. 99)	174			Township 159, range 101	124		
				Township 159, range 103	59		

¹ Part taken to form Divide County in 1910.
² No comparison of population can be made; returned by supervisors' districts in 1900.
³ Organized in 1910.
⁴ Organized in 1909.
⁵ Organized in 1904.
⁶ Organized in 1907.
⁷ Equality township organized in 1904; Ray village incorporated from part of Equality township in 1909.
⁸ Organized in 1905.
⁹ Organized in 1908.
¹⁰ Organized in 1906.
¹¹ Tioga township organized in 1904; Tioga village incorporated from part of Tioga township in 1909.

TABLE 2.—POPULATION OF INCORPORATED PLACES: 1910, 1900, AND 1890.

CITY, TOWN, OR VILLAGE.	County.	1910	1900	1890	CITY, TOWN, OR VILLAGE.	County.	1910	1900	1890
Abercrombie village	Richland	299			Crosby village	Divide	206		
Adams village	Walsh	338			Crystal city	Pembina	376	385	
Ambrose village	Divide	320			Davenport village	Cass	226	245	
Anamoose village	McHenry	669			Dazey village	Barnes	265		
Aneta city	Nelson	654			Deering village	McHenry	150		
Antler city	Bottineau	342			Devils Lake city	Ramsey	5,157	1,729	846
Ardoch village	Walsh	271	298	214	Dickey village	Lamoure	187		
Ashley village	McIntosh	682			Dickinson city	Stark	3,678	2,076	897
Balfour village	McHenry	399			Dogden village	McLean	320		
Bartlett village	Ramsey	120			Donnybrook village	Ward	297		
Barton village	Pierce	202			Douglas village	Ward	171		
Bathgate city	Pembina	323	641	377	Drake village	McHenry	348		
Beach village	Billings	1,003			Drayton city	Pembina	587	688	318
Berlin village	Lamoure	137			Dunseith city	Rolette	478		
Berthold village	Ward	454			Eckman village	Bottineau	84		
Binford village	Griggs	275			Edgeley village	Lamoure	749	306	
Bisbee village	Towner	444			Edinburg village	Walsh	300	286	
Bismarck city	Burleigh	5,443	3,319	2,186	Edmore village	Ramsey	344		
Bottineau city	Bottineau	1,331	888	145	Egeland village	Towner	266		
Bowbells city	Burke	651			Ellendale city	Dickey	1,389	750	761
Bowdon village	Wells	302			Enderlin city	Ransom	1,540	636	
Bowman village	Bowman	481			Esmond village	Benson	353		
Brinsmade village	Benson	203			Fairdale village	Walsh	140		
Brooklet village	Ramsey	186			Fairmont village	Richland	387	284	91
Buffalo village	Cass	241	213	177	Fargo city	Cass	14,331	9,589	5,664
Cando city	Towner	1,332	1,061	200	Fessenden city	Wells	713		
Canton village	Pembina	115	98		Finley village	Steele	516		
Carpio village	Ward	257			Flaxton village	Burke	301		
Carrington city	Foster	1,217			Forbes village	Dickey	221		
Casselton city	Cass	1,553	1,207	840	Forest River village	Walsh	233	252	
Cathay village	Wells	225			Forman town	Sargent	352	257	178
Cavaler city	Pembina	652	671		Fullerton village	Dickey	206		
Cayuga village	Sargent	175			Gardena village	Bottineau	119		
Churches Ferry village	Ramsey	457	264		Garrison village	McLean	406		
Cogswell village	Sargent	418			Glenburn village	Renville	268		
Columbus village	Burke	225			Glen Ullin village	Morton	921		
Conway village	Walsh	184	216		Goodrich village	Sheridan	410		
Cooperstown city	Griggs	1,019	648	368	Grafton city	Walsh	2,229	2,378	1,594
Courtenay village	Stutsman	539			Grand Forks city	Grand Forks	12,478	7,652	4,979
Crary village	Ramsey	279			Granville city	McHenry	455		

STATISTICS OF POPULATION

TABLE 2.—POPULATION OF INCORPORATED PLACES: 1910, 1900, AND 1890—Continued.

CITY, TOWN, OR VILLAGE.	County.	1910	1900	1890	CITY, TOWN, OR VILLAGE.	County.	1910	1900	1890
Great Bend village.....	Richland.....	191			Oakes city.....	Dickey.....	1,499	668	379
Hague village.....	Emmons.....	183			Omamee village.....	Bottineau.....	332		
Hamilton village.....	Pembina.....	213	224	257	Osnabrock village.....	Cavalier.....	253		
Hankinson village.....	Richland.....	1,503	713		Overyly village.....	Bottineau.....	182		
Hannaford village.....	Griggs.....	340			Page village.....	Cass.....	479		
Harvey city.....	Wells.....	1,443			Palermo village.....	Mountrail.....	177		
Hatton city.....	Trall.....	666	430		Park River city.....	Walsh.....	1,008	1,088	534
Havana village.....	Sargent.....	387			Pembina city.....	Pembina.....	717	929	670
Hevron village.....	Morton.....	587			Parth village.....	Towner.....	221		
Hettinger village.....	Adams.....	766			Petersburg village.....	Nelson.....	353		
Hillsboro city.....	Trall.....	1,237	1,172	715	Pisek village.....	Walsh.....	312	132	
Hoople village.....	Walsh.....	175	174		Plaza village.....	Mountrail.....	224		
Hope city.....	Steele.....	909	606	238	Portal village.....	Burke.....	491		
Hunter village.....	Cass.....	365	407	194	Portland town.....	Trall.....	561	524	367
Inkster city.....	Grand Forks.....	353			Ray village.....	Williams.....	436		
Jamestown city.....	Stutsman.....	4,358	2,853	2,206	Reeder village.....	Adams.....	198		
Jud village.....	Lamoure.....	99			Reynolds city.....	Grand Forks.....	412	389	
Kennmare city.....	Ward.....	1,437			Richardton village.....	Stark.....	647		
Kensal village.....	Stutsman.....	456			Rock Lake village.....	Towner.....	194		
Kermit village.....	Divide.....	108			Rolette village.....	Rolette.....	408		
Knox village.....	Benson.....	330			Rolla city.....	Rolette.....	587	400	255
Kramer village.....	Bottineau.....	181			Rugby city.....	Pierce.....	1,630	487	
Kulm city.....	Lamoure.....	645	463		Ruso village.....	McLean.....	141		
Lakota city.....	Nelson.....	1,023	576	227	Russell village.....	Bottineau.....	161		
Lamoure city.....	Lamoure.....	929	457	309	Rutland village.....	Sargent.....	224		
Langdon city.....	Cavalier.....	1,214	1,188	291	Ryder village.....	Ward.....	338		
Lankin village.....	Walsh.....	341			St. John village.....	Rolette.....	424		
Lansford city.....	Bottineau.....	456			St. Thomas city.....	Pembina.....	513	661	477
Larimore city.....	Grand Forks.....	1,224	1,235	553	Sanborn village.....	Barnes.....	390	259	227
Leds city.....	Benson.....	682	349		Sarles village.....	Cavalier.....	346		
Lehr village.....	McIntosh.....	182			Sawyer village.....	Towner.....	327		
Lidgerwood city.....	Richland.....	1,019	585		Seranton village.....	Ward.....	214		
Linton village.....	Emmons.....	644			Sharon village.....	Bowman.....	304		
Lisbon city.....	Ransom.....	1,758	1,046	935	Sheldon village.....	Steele.....	358		
Litch ville village.....	Barnes.....	484			Sherwood village.....	Ransom.....	358	318	253
Ludden village.....	Dickey.....	109			Slms village.....	Renville.....	328		
McClusky village.....	Sheridan.....	517			Souris city.....	Morton.....	86		
McHenry village.....	Foster.....	398			Stanley city.....	Bottineau.....	267		
McVile village.....	Nelson.....	310			Starkweather village.....	Mountrail.....	518		
Maddock village.....	Benson.....	374			Steele city.....	Ramsey.....	246		
Mandan city.....	Morton.....	3,873	1,658	1,328	Strasburg village.....	Kidder.....	500	185	133
Mapleton village.....	Cass.....	207	322	119	Sykeston village.....	Emmons.....	273		
Marmarth village.....	Billings.....	790			Tagus village.....	Wells.....	276		
Max village.....	McLean.....	285			Thorne village.....	Mountrail.....	105		
Maxbass village.....	Bottineau.....	240			Toga village.....	Rolette.....	105		
Mayville city.....	Trall.....	1,070	1,106	657	Toley village.....	Williams.....	203		
Medina village.....	Stutsman.....	343			Tolna village.....	Renville.....	250		
Merricourt village.....	Dickey.....	78			Tower City village.....	Nelson.....	209		
Michigan City.....	Nelson.....	449	309		Towner city.....	Cass.....	452	468	309
Milnor town.....	Sargent.....	641	322	279	Underwood village.....	McHenry.....	691	331	211
Milton village.....	Cavalier.....	410	334	202	Upham village.....	McLean.....	422		
Minnewaukan village.....	Benson.....	510	432		Valley City.....	McHenry.....	296		
Mintot city.....	Ward.....	6,188	1,277	575	Velva city.....	Barnes.....	4,606	2,446	1,089
Minto city.....	Walsh.....	701	800	467	Verona village.....	McHenry.....	837		
Mohall city.....	Renville.....	493			Wahpeton city.....	Lamoure.....	235		
Monango village.....	Dickey.....	238			Walhalla village.....	Richland.....	2,467	2,228	1,510
Mylo village.....	Rolette.....	98			Washburn city.....	Pembina.....	592	377	
Neche village.....	Pembina.....	528	682	314	Westhope city.....	McLean.....	657		
Nekoma village.....	Cavalier.....	120			White Earth village.....	Bottineau.....	592		
New Salem village.....	Morton.....	621	229		Williston city.....	Mountrail.....	264		
Newburg village.....	Bottineau.....	102			Willow City.....	Williams.....	3,124	763	295
Niagara village.....	Grand Forks.....	157			Wilton village.....	Bottineau.....	623	470	
Nome village.....	Barnes.....	218			Wimblodon village.....	McLean.....	437		
Noonan village.....	Divide.....	153			Wishek village.....	Barnes.....	571	220	
North Minot village.....	Ward.....	432			Wynndmere village.....	McIntosh.....	432		
Northwood city.....	Grand Forks.....	769	697	268	Zealand village.....	Richland.....	439		
						McIntosh.....	193		

CHAPTER 2.

COMPOSITION AND CHARACTERISTICS OF THE POPULATION.

Introduction.—The first chapter having given the number of inhabitants of North Dakota by counties and minor civil divisions, the decennial increase and the density of population, and the proportions urban and rural, the present chapter deals with the composition and characteristics of the population. The two chapters cover all the principal topics of the population census except occupations and ownership of homes.

Description of the tables.—The greater part of this chapter consists of three general tables, which present statistics of color, nativity, parentage, sex, citizenship, illiteracy, school attendance, and dwellings and families, as follows: Table I for the state and counties; Table II for the two cities of more than 10,000 inhabitants; and Table III for cities of 2,500 to 10,000 inhabitants.

A series of summary tables (numbered 1 to 12) reproduces from the general tables the more important state totals, and presents also certain additional data relative to state of birth, age, and marital condition.

On account of the wide differences in characteristics among the different classes of the population, the statistics on each subject are shown according to race, and for the whites according to nativity and parentage. Classification according to nativity and parentage is scarcely necessary for the other races, since nearly all negroes and Indians are native born of native parentage, and nearly all Chinese and Japanese either foreign born or of foreign parentage.

The white population is divided into four groups: (1) Native, native parentage—that is, having both parents born in the United States; (2) native, foreign parentage—having both parents born abroad; (3) native, mixed parentage—having one parent native and the other foreign born; (4) foreign born. As the second and third classes do not differ greatly in characteristics, they are combined in some of the tables; in a few cases all three native white classes are combined.

Since marked differences often exist between urban and rural communities with respect to the composition and characteristics of the population, the two classes are distinguished in connection with several of the subjects. Urban population, as defined by the Bureau of the Census, includes that of all incorporated places of 2,500 inhabitants or more, the remainder being classified as rural.

The census inquiry as to school attendance was merely as to whether the person enumerated had attended any kind of school at any time between

September 1, 1909, and the date of enumeration, April 15, 1910. The Census Bureau classifies as illiterate any person 10 years of age or over who is unable to write, regardless of ability to read.

Color and nativity (Table 1).—Of the total population of North Dakota, 162,461, or 28.2 per cent, are native whites of native parentage; 251,236, or 43.5 per cent, are native whites of foreign or mixed parentage; and 156,158, or 27.1 per cent, are foreign-born whites. The corresponding percentages in 1900 were 20.6, 41.8, and 35.3, respectively, the proportion of native whites of native parentage having increased during the decade. The 6,486 Indians constitute 1.1 per cent of the population, and the 617 negroes, 0.1 per cent. In 29 of the 49 counties the proportion of foreign-born whites exceeds one-fourth. In no county is the proportion of native whites of foreign or mixed parentage less than one-fourth; in 6 it exceeds one-half. (See maps on p. 597.)

Of the urban population, 37.7 per cent are native whites of native parentage; of the rural, 27 per cent. The corresponding proportions for native whites of foreign or mixed parentage are 37.6 and 44.3 per cent, respectively. The percentage of foreign-born whites is 24 in the urban population and 27.4 in the rural; of negroes, 0.5 in the urban and 0.1 in the rural. The Indian population is almost exclusively rural.

Sex (Table 2).—In the total population of the state there are 317,554 males and 259,502 females, or 122.4 males to 100 females. In 1900 the ratio was 125.3 to 100. Among native whites the ratio is 114.9 to 100 and among foreign-born whites 145.8 to 100. In the urban population there are 115.6 males to 100 females and in the rural, 123.2.

State of birth (Tables 3 and 4).—Of the total native population—that is, population born in the United States—47.1 per cent were born in North Dakota and 52.9 per cent outside the state; of the native white population, 53.5 per cent were born outside the state; of the native negro, 83.4 per cent; and of the native Indian, 12.7 per cent. Persons born outside the state constitute a larger proportion of the native population in urban than in rural communities.

Foreign nationalities (Table 5).—Of the foreign-born white population of North Dakota, persons born in Norway represent 29.4 per cent; Russia, 20.4; Canada, 13.5 (those of French parentage, 1.5, and all others, 12); Germany, 10.6; Sweden, 7.8; Denmark, 3.4; Austria, 3.3; England, 2; Hungary, 1.8; Ireland,

1.6; all other countries, 6.4 per cent. Of the total white stock of foreign origin, which includes persons born abroad and also natives having one or both parents born abroad, Norway contributed 30.3 per cent; Russia, 15.3; Germany, 14.7; Canada, 12.7 (French stock, 1.8, and all others, 10.9); Sweden, 6.6; Denmark, 3; Ireland, 2.9; Austria, 2.7; England, 2.3; Hungary, 1.1; Scotland, 1 per cent.

Voting and militia ages (Table 6).—The total number of males 21 years of age and over is 173,890, representing 30.1 per cent of the population. Of such males, 24.9 per cent are native whites of native parentage, 28.1 per cent native whites of foreign or mixed parentage, 45.8 per cent foreign-born whites, 0.9 per cent Indians, and 0.2 per cent negroes. Of the 79,721 foreign-born white males of voting age, 46,636, or 58.5 per cent, are naturalized. Males of militia age—18 to 44—number 145,628.

Age (Tables 7 and 8).—Of the total population, 14.3 per cent are under 5 years of age, 22.4 per cent from 5 to 14 years, inclusive, 20.5 per cent from 15 to 24, 28.9 per cent from 25 to 44, and 13.5 per cent 45 years of age and over. The foreign-born white population comprises comparatively few children, only 7.6 per cent of this class being under 15 years of age, while more than three-fourths (76.4 per cent) are 25 years of age and over. Of the native whites of foreign or mixed parentage, only 25.6 per cent are 25 and over; of the native whites of native parentage, 36.1 per cent.

The urban population shows a smaller proportion of children than the rural and a larger proportion of persons in the prime of life. Migration to urban communities explains this at least in part. Of the urban population, 34.8 per cent are from 25 to 44 years of age, inclusive, and of the rural population, 28.2 per cent.

School attendance (Table 9).—The total number of persons of school age—that is, from 6 to 20 years, inclusive—is 183,336, of whom 117,453, or 64.1 per cent, attended school. In addition to these, 1,799 children under 6 and 2,397 persons 21 and over attended school. For boys from 6 to 20 years, inclusive, the percentage attending school was 63.4; for girls, 64.8. For children from 6 to 14 years, inclusive, the percentage attending school was 80.7. The percentage for children of this age among native whites of native parentage was 82.7; among native whites of foreign or mixed parentage, 81.5; among foreign-born whites, 70; and among Indians, 65.5. (See Table I.) In urban communities the percentage of children of that age attending school was 84.2, and in rural, 80.4; for persons from 15 to 20 years, inclusive, the percentages were 43.1 and 35.7, respectively.

Illiteracy (Table 10).—There are 13,070 illiterates in the state, representing 3.1 per cent of the total population 10 years of age and over, as compared with 5.6 per cent in 1900. The percentage of illiteracy is 0.5 among native whites, 6.3 among foreign-born whites, and 46 among Indians.

For all classes combined, the percentage of illiterates is 2.2 in urban communities and 3.2 in rural. For each

class separately, also, except the foreign-born whites, the percentage is higher in the rural population than in the urban.

For persons from 10 to 20 years of age, inclusive, whose literacy depends largely upon present school facilities and school attendance, the percentage of illiteracy is 1.7. (See Table I.)

Marital condition (Table 11).—In the population 15 years of age and over, 46.9 per cent of the males are single and 30.2 per cent of the females. The percentage married is 48.6 for males and 63.4 for females, and the percentage widowed 2.9 and 5.2, respectively. The percentages of those reported as divorced, 0.3 and 0.4, respectively, are believed to be too small, because of the probability that many divorced persons class themselves as single or widowed.

That the percentage single is so much smaller for women than for men is due partly to the excess of males in the total population and partly to the fact that women marry younger. Thus 8.3 per cent of the females from 15 to 19 years of age are married, as compared with 0.3 per cent of the males, and 50 per cent of the females from 20 to 24 years of age are married, as compared with 13.7 per cent of the males. In the next age group, 25 to 34 years, the percentages are 82.2 and 53.2, respectively; in the age group 35 to 44 they are 90.2 and 75.3; while in the next age group the percentage married is higher among the males. That there is a larger proportion of widows than of widowers may indicate that men more often remarry than women, but, since husbands are generally older than their wives, the marriage relationship is more often broken by death of the husband than by death of the wife.

For the main elements of the population the percentages of married persons among those 15 years of age and over are as follows: Foreign-born whites, 59.3 for males and 75.7 for females; native whites of native parentage, 47 and 63.1, respectively; native whites of foreign or mixed parentage, 36 and 51.1; and Indians, 61.1 and 66.1.

These percentages by no means indicate the relative tendency of the several classes as regards marriage. To determine that, the comparison should be made by age periods, since the proportion married in any class is determined largely by the proportion who have reached the marrying age. Similarly, the proportion widowed depends largely on the proportion past middle life. The percentage married for males is slightly higher, and for females decidedly higher, in rural than in urban communities.

Dwellings and families.—The total number of dwellings in North Dakota is 118,757, and the total number of families 120,910, indicating that in comparatively few cases does more than one family occupy a dwelling. (See Table I.) The average number of persons per dwelling is 4.9, and the average number per family, 4.8.

TABLE 1.—COLOR, NATIVITY, AND PARENTAGE.

Table with columns: CLASS OF POPULATION., NUMBER. (1910, 1900, 1890), PER CENT OF TOTAL. (1910, 1900, 1890). Rows include THE STATE (Total, White, Negro, Indian, Chinese, Japanese), URBAN POPULATION, and RURAL POPULATION.

¹ Less than one-tenth of 1 per cent.

TABLE 2.—SEX.

[See also Tables 7 and 8.]

Table with columns: CLASS OF POPULATION., 1910 (Male, Female, Males to 100 females), 1900 (Male, Female, Males to 100 females). Rows include Total, Native white, Urban, and Rural populations.

¹ Ratio not shown, the number of females being less than 100.

TABLE 3.—NATIVE POPULATION, DISTINGUISHED AS BORN IN STATE OR OUTSIDE STATE.

[Per cent not shown where base is less than 100.]

Table with columns: CLASS OF POPULATION., 1910, 1900, 1890, Urban: 1910, Rural: 1910. Rows include Total native, Native white, Native negro, and Native Indian populations.

¹ Exclusive of 284 whites and 7,980 Indians, not distributed by state of birth.
² Includes persons born in United States, state not specified; persons born in outlying possessions, or at sea under United States flag; and American citizens born abroad.
³ Comparable figures not available.

TABLE 4.—STATE OR DIVISION OF BIRTH.

Table with columns: PLACE OF BIRTH., NUMBER. (1910, 1900), PER CENT OF TOTAL. (1910, 1900). Rows include Total native, State/Division of Birth, and Divisions.

¹ Includes persons born in United States, state not specified; persons born in outlying possessions, or at sea under United States flag; and American citizens born abroad.

TABLE 5.—FOREIGN WHITE STOCK, BY NATIONALITY.

Table with columns: FOREIGN COUNTRY IN WHICH BORN, OR, IF NATIVE, IN WHICH PARENTS WERE BORN., WHITE POPULATION OF FOREIGN BIRTH OR FOREIGN PARENTAGE: 1910 (Total, Foreign born, Native), Foreign-born white population: 1900. Rows list various countries.

¹ Includes native whites whose parents were born in different foreign countries; for example, one parent in Ireland and the other in Scotland.

TABLE 6.—MALES OF VOTING AND MILITIA AGES.

Table with columns: CLASS OF POPULATION., MALES OF VOTING AGE—21 AND OVER., MALES OF MILITIA AGE—18 TO 44. Rows include Total, White, Negro, Indian, Chinese and Japanese, and Native white populations.

TABLE 7.—AGE, FOR THE STATE.

[Per cent not shown where base is less than 100.]

Table with 17 columns: AGE PERIOD, TOTAL POPULATION (1910, 1900, Male, Female), NATIVE WHITE (Native parentage, Foreign or mixed parentage), FOREIGN-BORN WHITE, NEGRO, INDIAN, CHINESE AND JAPANESE (Male, Female). Rows include age groups from 5 to 95 years and over, and percentages.

TABLE 8.—AGE, FOR URBAN AND RURAL POPULATION.

[Per cent not shown where base is less than 100.]

Table with 17 columns: AGE PERIOD, TOTAL (Urban, Rural), NATIVE WHITE (Urban, Rural), FOREIGN-BORN WHITE (Urban, Rural), NEGRO (Urban, Rural), INDIAN (Urban, Rural). Rows include age groups from 5 to 95 years and over, and percentages.

TABLE 9.—SCHOOL ATTENDANCE.

[Per cent not shown where base is less than 100.]

Table with 17 columns: AGE PERIOD, TOTAL (Number, Attending school), NATIVE WHITE (Native parentage, Foreign or mixed par.), FOREIGN-BORN WHITE, NEGRO, INDIAN. Rows include age groups from 6 to 20 years and over, and percentages for the State, Urban, and Rural populations.

TABLE 12.—INDIAN, CHINESE, AND JAPANESE POPULATION FOR PRINCIPAL COUNTIES.

COUNTY.	INDIAN.			CHINESE.			JAPANESE.		
	1910	1900	1890	1910	1900	1890	1910	1900	1890
The state.....	6,486	6,968	¹ 8,174	39	32	¹ 28	59	148	1
Benson.....	1,026	1,181	8						
Burleigh.....	82	5	8	6	5	2			
Cavalier.....	183	50	9						
Dunn.....	237								
Ermmons.....	6	14	14						
Grand Forks.....	1		21	3	7	9	2		
McLean.....	630	980		1					
Mercer.....	134	40							
Morton.....	1,288	² 1,911	³ 5		² 2	³ 5			
Mountrail.....	88						2		
Pembina.....	386	98	20						
Richland.....	125	5				1			
Rolette.....	2,129	2,546							
Sargent.....	49	42				1			
Walsh.....	13			1	2				
Ward.....		9		13			24	75	1
Williams.....	87	77		5	4		13	73	
Remainder of state.....	22	10	6	10	12	9	18		

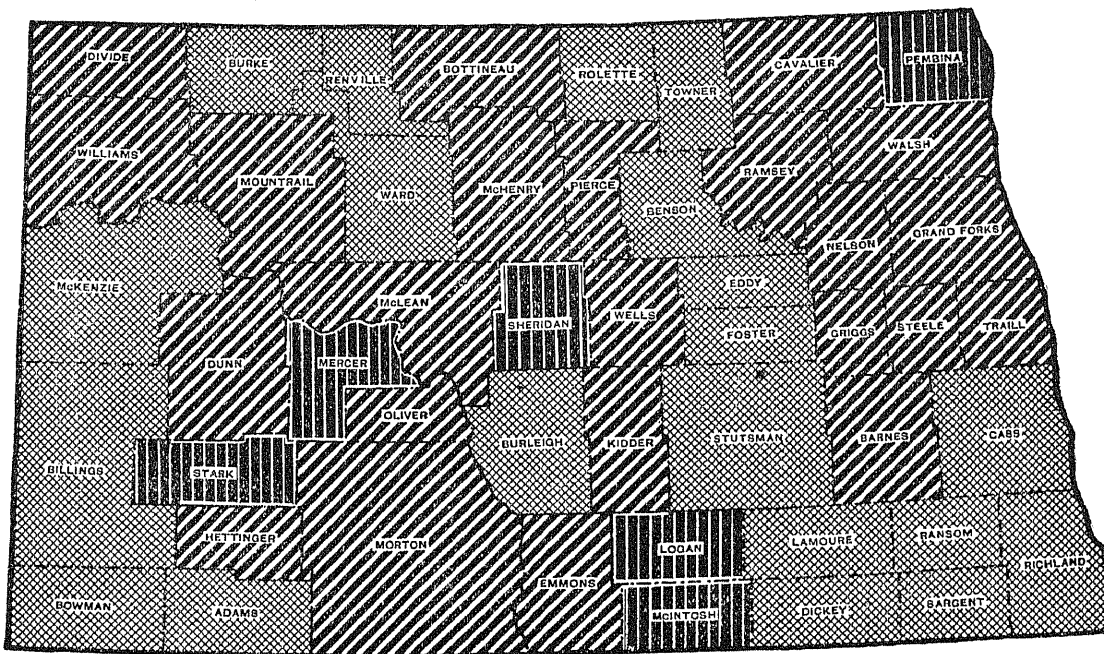
¹ Includes 7,980 Indians specially enumerated in 1890, not distributed by counties; and 103 Indians and 1 Chinese in counties that were annexed to or taken to form other counties between 1890 and 1900.

² Includes 1,905 Indians and 2 Chinese on that part of Standing Rock Indian Reservation in North Dakota, not returned by counties in 1900.

³ Includes 2 Indians and 3 Chinese on part of Standing Rock Indian Reservation.

PROPORTION OF FOREIGN-BORN WHITE AND NATIVE WHITE OF FOREIGN OR MIXED PARENTAGE
OF NORTH DAKOTA, BY COUNTIES: 1910.

PER CENT OF FOREIGN-BORN WHITE IN TOTAL POPULATION.



PER CENT OF NATIVE WHITE OF FOREIGN OR MIXED PARENTAGE IN TOTAL POPULATION.

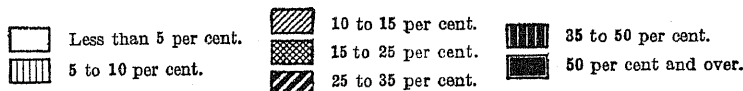
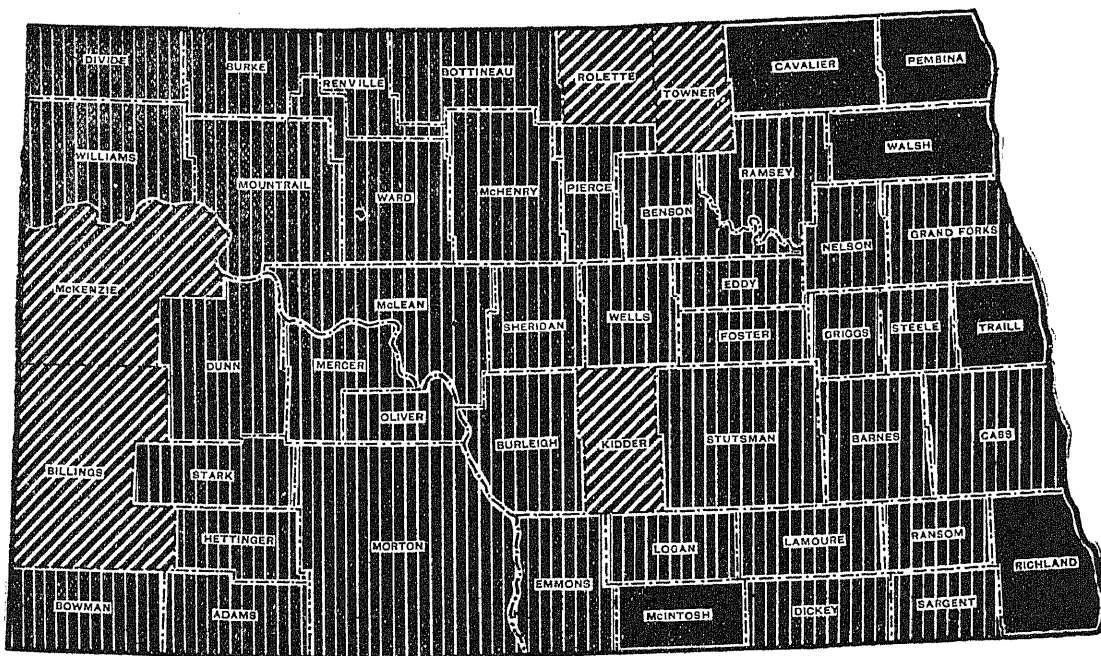


TABLE II.—COMPOSITION AND CHARACTERISTICS OF THE POPULATION FOR CITIES OF 10,000 OR MORE.

SUBJECT.	TOTAL, CITIES NAMED.	Fargo.	Grand Forks.	SUBJECT.	TOTAL, CITIES NAMED.	Fargo.	Grand Forks.
COLOR AND NATIVITY				SEX			
Total population, 1910.....	26,809	14,331	12,478	Total.. Male.....	13,803	7,352	6,451
1900.....	17,241	9,589	7,652	Female.....	13,006	6,979	6,027
Native white—Native parentage.....	8,953	5,422	3,531	White.. Male.....	13,704	7,288	6,416
Native white—Foreign or mixed parentage.....	10,884	5,599	5,285	Female.....	12,940	6,933	6,007
Foreign-born white.....	6,807	3,200	3,607	Negro.. Male.....	84	54	30
Negro.....	148	99	49	Female.....	64	45	19
Indian, Chinese, and Japanese.....	17	11	6	MALES OF VOTING AGE			
FOREIGN NATIONALITIES				CITIZENSHIP OF FOREIGN-BORN WHITE.			
FOREIGN-BORN WHITE: Born in—				Total number.....	8,805	4,769	4,036
Austria.....	59	31	28	Native white—Native parentage.....	2,944	1,760	1,184
Canada—French.....	122	61	61	Native white—Foreign or mixed parentage.....	2,348	1,279	1,069
Canada—Other.....	1,458	474	984	Foreign-born white.....	3,425	1,669	1,756
Denmark.....	129	76	53	Negro.....	76	53	23
England.....	269	145	124	ILLITERACY			
Finland.....	18	8	10	Total number 10 years old and over.....	21,893	11,835	10,058
France.....	10	5	5	Number illiterate.....	408	95	313
Germany.....	590	288	302	Native white 10 years old and over.....	15,099	8,592	6,507
Greece.....	34	3	3	Number illiterate.....	26	11	15
Holland.....	10	7	3	Foreign-born white 10 years old and over.....	6,634	3,134	3,500
Ireland.....	224	118	106	Number illiterate.....	377	82	295
Italy.....	95	56	39	Negro 10 years old and over.....	144	99	45
Norway.....	2,190	1,059	1,131	Number illiterate.....	2	2	.....
Roumania.....	34	8	26	Illiterate males of voting age.....	176	37	139
Russia.....	577	191	386	SCHOOL AGE AND ATTENDANCE			
Scotland.....	111	54	57	Total number 6 to 20 years, inclusive.....	7,311	3,766	3,545
Sweden.....	776	551	225	Number attending school.....	4,735	2,514	2,221
Switzerland.....	26	18	8	PERSONS 6 TO 14 YEARS, INCLUSIVE.			
Turkey.....	29	18	11	Total number.....	3,992	1,980	2,012
Wales.....	18	10	9	Number attending school.....	3,380	1,756	1,624
Other foreign countries.....	28	19	8	Native white—Native parentage, number.....	1,463	858	605
NATIVE WHITE: Both parents born in—				Number attending school.....	1,237	763	474
Austria.....	46	23	23	Native white—Foreign or mixed parentage, number.....	2,307	1,054	1,253
Canada—French.....	96	48	48	Number attending school.....	1,958	930	1,028
Canada—Other.....	981	253	728	Foreign-born white, number.....	216	68	148
Denmark.....	98	55	43	Number attending school.....	179	63	116
England.....	151	76	75	Negro, number.....	6	.....	6
France.....	23	14	9	Number attending school.....	6	.....	6
Germany.....	906	542	364	DWELLINGS AND FAMILIES			
Ireland.....	474	280	194	Dwellings, number.....	4,798	2,607	2,191
Norway.....	2,566	1,270	1,296	Families, number.....	5,313	2,847	2,466
Russia.....	327	118	209				
Scotland.....	88	52	36				
Sweden.....	650	458	192				
Switzerland.....	18	10	8				
Wales.....	12	9	3				
All others of foreign parentage.....	1,113	596	517				

¹ Native whites having both parents born in countries other than specified, and also those having both parents of foreign birth but born in different countries.

TABLE III.—COMPOSITION AND CHARACTERISTICS OF THE POPULATION FOR CITIES OF 2,500 TO 10,000.

SUBJECT.	TOTAL, CITIES NAMED.	Bismarck.	Devils Lake.	Dickinson.	James-town.	Mandan.	Minot.	Valley City.	Williston.
SEX, COLOR, AND NATIVITY									
Total population, 1910.....	36,427	5,443	5,157	3,678	4,358	3,873	6,188	4,608	3,124
1900.....	16,121	3,319	1,729	2,076	2,853	1,658	1,277	2,440	763
Male.....	20,106	3,073	3,038	2,032	2,270	2,458	3,307	2,174	1,754
Female.....	16,321	2,370	2,119	1,646	2,088	1,415	2,881	2,432	1,370
Native white—Native parentage.....	14,861	2,522	2,159	1,226	1,956	1,207	2,824	1,546	1,421
Native white—Foreign or mixed parentage.....	12,898	1,842	1,714	1,332	1,522	1,368	2,120	1,985	1,015
Foreign-born white.....	8,362	965	1,236	1,115	878	1,293	1,150	1,072	653
Negro.....	158	30	42	.....	2	4	58	2	20
Indian, Chinese, and Japanese.....	148	84	6	5	.....	1	36	1	15
MALES OF VOTING AGE									
Total number.....	12,989	1,989	2,120	1,217	1,410	1,639	2,150	1,305	1,159
Native white—Native parentage.....	5,060	875	895	426	625	492	914	378	455
Native white—Foreign or mixed parentage.....	3,416	568	549	256	357	407	580	384	315
Foreign-born white.....	4,352	514	352	530	426	739	557	540	364
Naturalized.....	2,037	301	255	239	203	276	325	317	171
Negro.....	92	20	19	.....	2	1	37	2	11
ILLITERACY									
Total number 10 years old and over.....	29,333	4,439	4,219	2,828	3,498	3,194	4,365	3,791	2,499
Number illiterate.....	706	122	129	94	45	148	28	17	125
Native white 10 years old and over.....	20,965	3,400	2,988	1,772	2,641	1,956	3,650	2,731	1,827
Number illiterate.....	25	2	2	4	2	7	6	.....	2
Foreign-born white 10 years old and over.....	8,087	939	1,189	1,051	855	1,233	1,124	1,057	639
Number illiterate.....	662	119	127	90	43	141	14	17	111
Negro 10 years old and over.....	144	27	36	.....	2	4	55	2	18
Number illiterate.....	10	1	.....	.....	.....	.....	5	.....	4
Illiterate males of voting age.....	408	89	75	61	17	85	12	7	62
SCHOOL AGE AND ATTENDANCE									
Total number 6 to 20 years, inclusive.....	9,956	1,560	1,273	1,084	1,218	1,071	1,488	1,490	772
Number attending school.....	6,633	1,076	775	689	628	685	1,103	1,191	506
PERSONS 6 TO 14 YEARS, INCLUSIVE.									
Native white, number.....	5,021	793	659	533	646	454	853	689	394
Number attending school.....	4,250	706	508	439	415	419	770	637	356
Foreign-born white, number.....	481	65	68	109	44	83	54	37	21
Number attending school.....	366	45	43	74	29	77	49	34	15
Negro, number.....	12	5	4	.....	.....	.....	2	.....	1
Number attending school.....	5	.....	2	.....	.....	.....	.....	.....	1
DWELLINGS AND FAMILIES									
Dwellings, number.....	6,468	904	811	679	889	616	1,158	819	592
Families, number.....	6,984	941	900	720	955	647	1,300	892	629

NOTES REGARDING CHANGES IN BOUNDARIES, ETC., OF COUNTIES.

- ADAMS.—Organized from part of Stark in 1907. (See also Note 1.)
- BARNES.—Organized from parts of Burbank and Cass in 1875.
- BENSON.—Organized from parts of De Smet and Ramsey in 1883.
- BILLINGS.—Formed from unorganized territory in 1879; part taken to form Bowman in 1883; Bowman and McKenzie and part of Allred annexed in 1897; part taken to form Bowman in 1907 and part of McKenzie in 1905. (See also Note 1.)
- BOTTNEAU.—Organized from part of Buffalo County, South Dakota, in 1873, and part of old Renville annexed in 1897.
- BOWMAN.—Formed from part of Billings in 1883; annexed to Billings in 1897; organized from part of Billings in 1907. (See also Note 1.)
- BURKE.—Organized from part of Ward in 1910. (See also Note 2.)
- BURLEIGH.—Organized from part of Buffalo County, South Dakota, in 1873.
- CASS.—Organized from part of Pembina in 1873; parts taken to form parts of Barnes and Traill in 1875.
- CAVALIER.—Organized from part of Pembina in 1873; part taken to form part of Towner in 1883.
- DICKEY.—Organized from part of Lamoure in 1881.
- DIVIDE.—Organized from part of Williams in 1910. (See also Note 3.)
- DUNN.—Formed from part of Howard in 1883; annexed to Stark in 1897; organized from parts of Mercer and Stark in 1908. (See also Note 1.)
- EDDY.—Organized from part of Foster in 1885.
- EMMONS.—Formed from unorganized territory in 1879.
- FOSTER.—Organized from part of Pembina in 1873; parts taken to form Eddy in 1885, part of Griggs in 1881, and part of Nelson in 1883.
- GRAND FORKS.—Organized from part of Pembina in 1873; parts taken to form part of Traill in 1875, part of Walsh in 1881, and part of Nelson in 1883.
- GRIFFS.—Organized from parts of Foster and Traill in 1881; part taken to form part of Steele in 1883.
- HETTINGER.—Organized from part of Stark in 1907. (See also Note 1.)
- KIDDER.—Organized from part of Buffalo County, South Dakota, in 1873.
- LAMOURE.—Organized from parts of Buffalo County, South Dakota, and Pembina in 1873; part taken to form Dickey in 1881.
- LOGAN.—Organized from part of Buffalo County, South Dakota, in 1873; part taken to form McIntosh in 1883.
- MC HENRY.—Organized from part of Buffalo County, South Dakota, in 1873; part taken to form part of Church in 1887; part of Church annexed between 1890 and 1900.
- MCINTOSH.—Organized from part of Logan in 1883.
- MCKENZIE.—Formed from part of Howard in 1883; annexed to Billings in 1897; organized from parts of Billings and Stark in 1905. (See also Note 1.)
- MCLEAN.—Organized from part of Stevens in 1883; Garfield and Sheridan annexed in 1891, and parts of Church and Stevens annexed between 1890 and 1900; part taken to form Sheridan in 1909. (See also Note 4.)
- MERCER.—Organized from part of Hanson County, South Dakota, in 1873; part taken to form Oliver in 1885; part of old Williams annexed between 1890 and 1900; part taken to form part of Dunn in 1908. (See also Note 1.)
- MOUNTRAIL.—Organized from part of Ward in 1909. (See also Note 2.)
- NELSON.—Organized from parts of Foster, Grand Forks, and Ramsey in 1883.
- OLIVER.—Organized from part of Mercer in 1885.
- PEMBINA.—Parts of Chippewa and Kittson annexed in 1871; parts taken to form Cass, Cavalier, Foster, Grand Forks, Ramsey, Ransom, and parts of Lamoure, Renville, and Stutsman in 1873 and part of Walsh in 1881.
- PIERCE.—Organized from De Smet in 1887 and part of Church annexed between 1890 and 1900.
- RAMSEY.—Organized from part of Pembina in 1873; parts taken to form parts of Benson and Nelson in 1883.
- RANSOM.—Organized from part of Pembina in 1873; part taken to form part of Sargent in 1883.
- RENVILLE.—Organized from part of Ward in 1910. (See also Note 2.)
- RICHLAND.—Formed from unorganized territory in 1873; part of Sisseton and Wahpeton Indian Reservation annexed between 1880 and 1890.
- ROLETTE.—Organized from part of Buffalo County, South Dakota, in 1873; part taken to form part of Towner in 1883.
- SARGENT.—Organized from parts of Ransom County and Sisseton and Wahpeton Indian Reservation in 1883.
- SHERIDAN.—Organized from part of McLean in 1909. (See also Note 4.)
- STARK.—Formed from unorganized territory in 1879; part taken to form old Hettinger in 1883; Dunn, Hettinger, and Wallace annexed in 1897 and part of old Williams annexed between 1890 and 1900; parts taken to form Adams and Hettinger in 1907, part of Dunn in 1908, and part of McKenzie in 1905. (See also Note 1.)
- STEELE.—Organized from parts of Griggs and Traill in 1883.
- STUTSMAN.—Organized from parts of Buffalo County, South Dakota, and Pembina in 1873.
- TOWNER.—Organized from parts of Cavalier and Rolette in 1883.
- TRAILL.—Organized from parts of Burchard, Cass, and Grand Forks in 1875; parts taken to form part of Griggs in 1881 and part of Steele in 1883.
- WALSH.—Organized from parts of Grand Forks and Pembina in 1881.
- WARD.—Organized from parts of Stevens and old Renville in 1885; old Mountrail annexed in 1891, part of old Renville annexed in 1897, and part of Stevens annexed between 1890 and 1900; parts taken to form Mountrail in 1909 and Burke and Renville in 1910. (See also Note 2.)
- WELLS.—Organized as Gingras from part of Buffalo County, South Dakota, in 1873. Name changed in 1881.
- WILLIAMS.—Organized from Buford, Flannery, and part of Allred between 1890 and 1900; part taken to form Divide in 1910. (See also Note 3.)
- NOTE 1.—*Adams, Billings, Bowman, Dunn, Hettinger, McKenzie, Mercer, and Stark Counties combined.*—Total population: 1910, 55,091, 1900, 10,374; increase, 1900-1910, 44,717; per cent of increase, 431.0. Urban population—1910, 3,678; same places in 1900, 2,076; per cent of increase, 77.2. Rural population—1910, 51,413; same territory in 1900, 8,298; per cent of increase, 519.6. Rural population—1900, 10,374. Per cent in places of 2,500 or more in 1910, 6.7.
- NOTE 2.—*Burke, Mountrail, Renville, and Ward Counties combined.*—Total population: 1910, 50,676, 1900, 7,961; increase, 1900-1910, 42,715; per cent of increase, 536.6. Urban population—1910, 6,188; same places in 1900, 1,277; per cent of increase, 384.6. Rural population—1910, 44,488; same territory in 1900, 6,684; per cent of increase, 565.6. Rural population—1900, 7,961. Per cent in places of 2,500 or more in 1910, 12.2.
- NOTE 3.—*Divide and Williams Counties combined.*—Total population: 1910, 20,240; 1900, 1,530; increase, 1900-1910, 18,710; per cent of increase, 1,223.5. Urban population—1910, 3,124; same places in 1900, 763; per cent of increase, 309.4. Rural population—1910, 17,116; same territory in 1900, 767; per cent of increase, 2,132.7. Rural population—1900, 1,530. Per cent in places of 2,500 or more in 1910, 15.4.
- NOTE 4.—*McLean and Sheridan Counties combined.*—Total population: 1910, 22,599; 1900, 4,791; increase, 1900-1910, 17,808; per cent of increase, 371.7. Rural population—1910, 22,599; same territory in 1900, 4,791; per cent of increase, 371.7. Rural population—1900, 4,791.
- NOTE 5.—In computing this increase the population of Indian reservations in 1900 has been deducted from the total population of the county in order to make that total comparable with the total for 1890, which does not include the population of Indian reservations. The population thus deducted in the several counties was as follows: Benson, 1,268; McLean, 998; Mercer, 40; Morton, 2,208; and Rolette, 2,393.

CHAPTER 3.

STATISTICS OF AGRICULTURE FOR THE STATE AND ITS COUNTIES.

Introduction.—This chapter presents a complete statement of the statistics of agriculture for North Dakota collected at the census of 1910. Statistics of farms and farm property relate to April 15, 1910; those of farm products, expenses, and receipts are for the calendar year 1909.

Definitions.—To assist in securing comparability for its statistics of agriculture, the Bureau of the Census provided the enumerators with certain definitions and instructions, the more important of which were essentially as given below.

Farm.—A "farm" for census purposes is all the land which is directly farmed by one person managing and conducting agricultural operations, either by his own labor alone or with the assistance of members of his household or hired employees. The term "agricultural operations" is used as a general term referring to the work of growing crops, producing other agricultural products, and raising animals, fowls, and bees. A "farm" as thus defined may consist of a single tract of land, or of a number of separate and distinct tracts, and these several tracts may be held under different tenures, as where one tract is owned by the farmer and another tract is hired by him. Further, when a landowner has one or more tenants, renters, croppers, or managers, the land operated by each is considered a "farm."

In applying the foregoing definition of a "farm" for census purposes, enumerators were instructed to report as a "farm" any tract of 3 or more acres used for agricultural purposes, and also any tract containing less than 3 acres which produced at least \$250 worth of farm products in the year 1909.

Farmer.—A "farmer" or "farm operator," according to the census definition, is a person who directs the operations of a farm. Hence owners of farms who do not themselves direct the farm operations are not reported as "farmers." Farmers are divided by the Bureau of the Census into three general classes according to the character of their tenure, namely, owners, tenants, and managers.

Farm owners include (1) farmers operating their own land only, and (2) those operating both their own land and some land hired from others. The latter are sometimes referred to in the census reports as "part owners," the term "owners" being then restricted to those owning all their land.

Farm tenants are farmers who, as tenants, renters, or croppers, operate hired land only. They were reported in 1910 in three classes: (1) *Share tenants*—those who pay a certain share of the products, as one-half, one-third, or one-quarter; (2) *share-cash tenants*—those who pay a share of the products for part of the land rented by them and cash for part, and (3) *cash tenants*—those who pay a cash rental or a stated amount of labor or products, such as \$7, 10 bushels of wheat, or 100 pounds of seed cotton per acre.

Managers are farmers who are conducting farm operations for the owner for wages or a salary.

Farm land.—Farm land is divided into (1) improved land, (2) woodland, and (3) all other unimproved land. The same classification was followed in 1880. At former censuses, except that of 1880, farm land was divided into improved land and unimproved land, woodland being included with unimproved land. *Improved*

land includes all land regularly tilled or mowed, land pastured and cropped in rotation, land lying fallow, land in gardens, orchards, vineyards, and nurseries, and land occupied by farm buildings. *Woodland* includes all land covered with natural or planted forest trees, which produce, or later may produce, firewood or other forest products. *All other unimproved land* includes brush land, rough or stony land, swamp land, and any other land which is not improved or in forest. The census classification of farm land as "improved land," "woodland," and "other unimproved land" is one not always easy for the farmers or enumerators to make, and the statistics therefore must be considered at best only a close approximation.

Total value of farm products.—No attempt has been made at this census to compute or even to estimate approximately the total value of farm products. Among the numerous difficulties which stand in the way of obtaining a total which would be at once comprehensive, free from duplication, and confined exclusively to the products of a definite period of time are the following:

(1) The duplication resulting from the feeding of farm crops to farm live stock, when the value both of the products derived from such live stock and of the crops are included in the same total. In 1900 an attempt was made to eliminate this duplication by means of an inquiry as to the total value of the products of each farm fed to the live stock on that farm, but, aside from the fact that this would not eliminate the duplication where the products of one farm are fed to the live stock of another farm, it is believed that the farmers were unable to make even approximately accurate answers to the inquiry, and it was accordingly not included in the schedule for 1910.

(2) The fact that farmers may buy domestic animals during the census year which are subsequently sold or slaughtered during the same year, and that it is impossible to eliminate the duplication accurately; and the further fact that the value of domestic animals sold or slaughtered, or of forest products cut, during a given year (as well as some other minor items) does not usually represent a value created wholly during that year, and that it is quite impossible to ascertain the value created during the year.

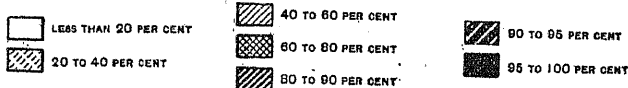
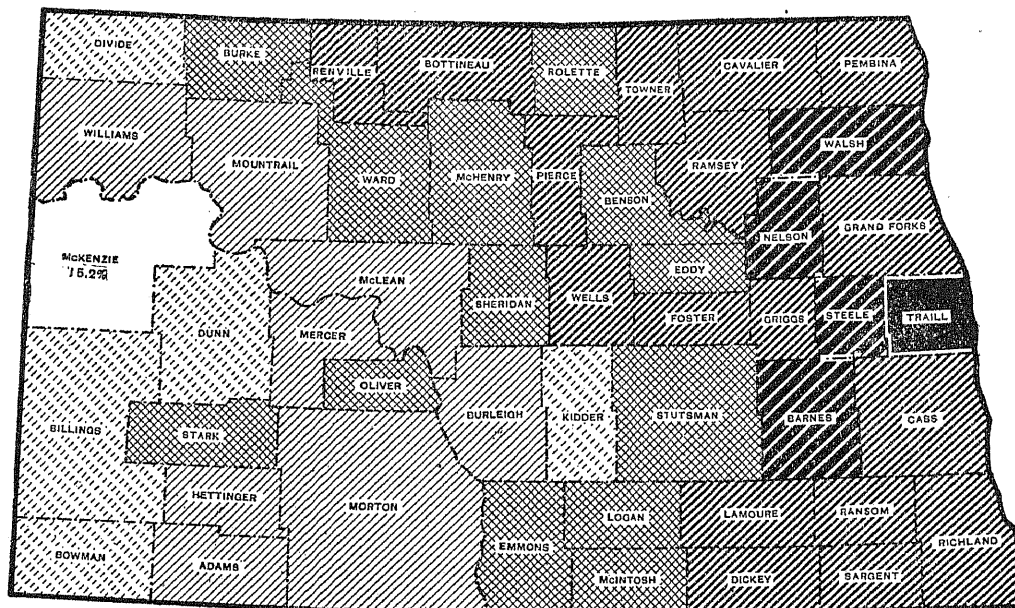
(3) The fact that the returns for some products are incomplete. The returns for all products are to a considerable extent estimates made by the farmers. Special difficulty was encountered in cases where the person in possession of the farm in April, 1910, when the census was taken, was not in possession of it during the crop year 1909. In such cases the farmer was not always able to report completely and accurately the products of the land for the preceding year. It is probable that the returns for the principal crops are in general fairly accurate but that those for minor crops and for dairy and poultry products are frequently understated, particularly because the home consumption was disregarded or underestimated. In the belief that no accurate result could be obtained from such an inquiry, the Bureau of the Census did not even attempt to ascertain the total quantity and value of certain by-products, such as straw and cornstalks, which are of considerable importance, the schedule calling only for the value of such by-products sold.

PER CENT OF LAND AREA IN FARMS, AND AVERAGE VALUE OF FARM LAND PER ACRE, IN NORTH DAKOTA, BY COUNTIES: 1910.

PER CENT OF LAND AREA IN FARMS.

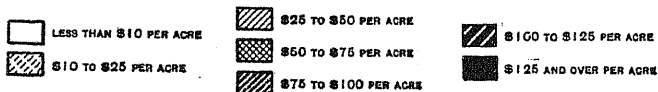
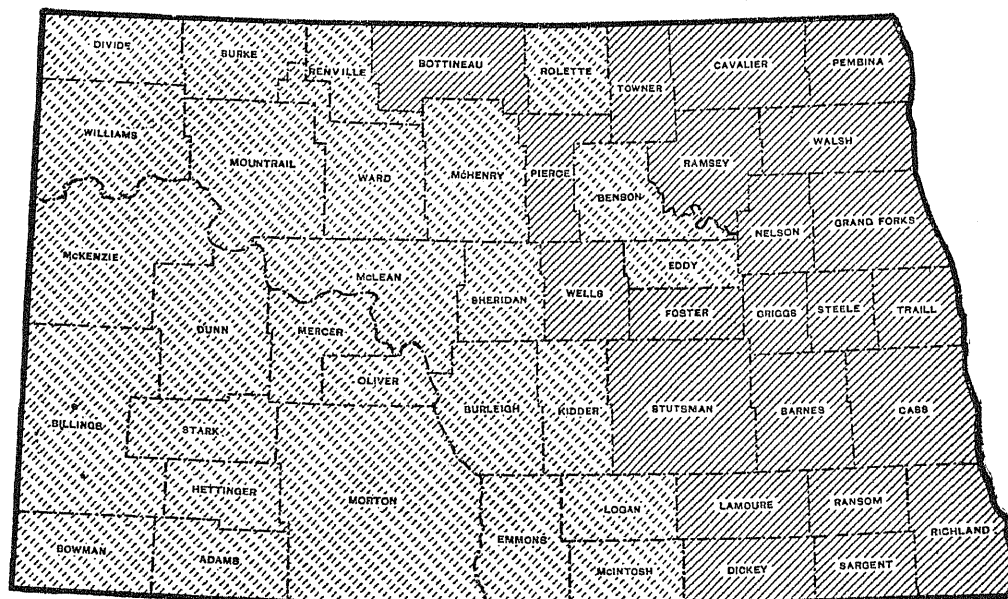
[Per cent for the state, 63.3.]

The per cent of land area in farms, when less than 20, is inserted under the county name.



AVERAGE VALUE OF FARM LAND PER ACRE.

[Average for the state, \$25.69.]



FARMS AND FARM PROPERTY.

North Dakota ranks sixteenth in land area and thirty-seventh in population among the states and territories of continental United States. The state of North Dakota lies chiefly within the northwestern portion of the Mississippi Basin. A narrow belt of country in the eastern portion of the state constitutes the western part of the great Red River Valley, within which the lowest elevations in the state are to be found. Immediately to the west of this valley the glaciated plateau country forms a rolling upland through which the broad elevation known as the Coteau des Prairies extends with a generally northwestwardly trend. This division comprises by far the greatest area of the state. Along the southern portion of the western boundary of the state is found a small area of the high plains section of the United States. Between this and the glaciated upland there lies a broad rolling tract of the residual prairies, constituting the most northern extension of this physical division within the United States.

The great Red River Valley in the eastern portion is an almost absolutely level plain of alluvial and lacustrine origin. Farther to the west, where it joins the glaciated plateau, the surface is rolling to ridged, attaining gradually to the higher elevations of the plateau country. The alluvial and lacustrine soils are predominantly black to dark-brown clay loams and clays characterized by a highly calcareous subsoil. These constitute the great spring wheat soils of the Red River Valley. In the more rolling western por-

tion of the valley the prevailing soils are sands, sandy loams, and gravelly loams of yellow, brown, or gray color which were deposited as marginal deltas along the shores of the old glacial lakes, or as sand and gravel bars immediately along the shore line.

The glaciated plateau is covered to depths ranging from 10 to 200 feet by glacial till. This is decidedly variable in character in the different portions of the plateau, but throughout the region fine sandy loam, silt loam, and loam soils are found, while only the higher ridges and steeper slopes are marked by stony areas.

The soils of the residual prairie region are principally loams and clay loams derived through the weathering of the underlying shales. The high plains area along the southwestern boundary includes extensive areas of deeply eroded "bad lands," together with smaller areas of more level residual soils.

The rainfall over the whole state of North Dakota is sufficient for growing grain crops without irrigation, the normal annual precipitation ranging from about 15 inches at the western boundary to about 20 inches at the eastern boundary. In the extreme western part of the state irrigation is practiced to a limited extent.

Progress during the decade 1900 to 1910.—The following table summarizes for the state the more significant facts relating to population and land area, the number, value, and acreage of farms, and the value of all other farm property in 1910 and 1900:

NUMBER, AREA, AND VALUE OF FARMS.	1910 (April 15)	1900 (June 1)	INCREASE.	
			Amount.	Per cent.
Population.....	577,056	319,146	257,910	80.8
Number of all farms.....	74,360	45,332	29,028	64.0
Approximate land area of the state..... acres..	44,917,120	44,917,120	.....	.....
Land in farms..... acres..	28,426,650	15,542,640	12,884,010	82.9
Improved land in farms..... acres..	20,455,092	9,644,520	10,810,572	112.1
Average acres per farm.....	332.3	342.9	39.4	11.5
Value of farm property:				
Total.....	\$974,814,205	\$255,266,751	\$719,547,454	281.9
Land.....	730,380,131	173,352,270	557,027,861	321.3
Buildings.....	92,276,613	25,428,430	66,848,183	262.9
Implements and machinery.....	43,907,595	14,055,560	29,852,035	212.4
Domestic animals, poultry, and bees.....	108,249,866	42,430,491	65,819,375	155.1
Average value of all property per farm.....	\$13,109	\$5,631	\$7,478	132.8
Average value of land per acre.....	\$25.69	\$11.15	\$14.54	130.4

NOTE.—Ranges or ranches using the public domain for grazing purposes but not owning or leasing land were counted as farms in 1910 and 1900. They were included as owned or managed, free from mortgage, and under 3 acres in size. The counting of these ranges as farms affects all totals, averages, and percentages in which the number of farms is a factor. In 1910 there were 36 such ranges included as farms.

The two maps on the opposite page show, for the different counties, the proportion of the total land area which is in farms and the average value of farm

land per acre. Of the state's entire land area somewhat more than three-fifths is in farms. The proportion of land in farms, however, varies considerably in

the different counties, ranging from 15.2 per cent in McKenzie County to 95.5 per cent in Traill County. With few exceptions those counties which have more than 60 per cent of their land in farms lie in the eastern half of the state, which contains several counties in which the percentage in farms exceeds 90.

The average value of farm land per acre for the whole state is \$25.69. In practically all the counties in the western two-thirds of the state the average value is between \$10 and \$25 per acre, while in the eastern third of the state the average value of farm land is generally between \$25 and \$50 per acre.

Between 1900 and 1910 there was an increase of 80.8 per cent in the population of the state, of 64 per cent in the number of farms, and of 82.9 per cent in the acres of farm land. The average size of the farms increased 39.4 acres, or 11.5 per cent.

The aggregate value of farm property has increased during the decade \$719,547,000, and was nearly four times as great as in 1900. This increase is chiefly made up of the increases of \$557,028,000 in the value of land and of \$66,848,000 in the value of buildings. There is also an increase of \$95,671,000 in the value of farm equipment, including implements and machinery and live stock, of which more than two-thirds represents a gain in the value of live stock and the remainder the increase in the value of implements and machinery. In considering the increase of values in agriculture the general increase in the prices of all commodities in the last 10 years should be borne in mind.

The average value of a farm with its equipment in 1900 was \$5,631, while 10 years later it was \$13,109. The average value of land rose from \$11.15 per acre in 1900 to \$25.69 in 1910.

Irrigation.—Of the 74,360 farms in the state, 69, or only one-tenth of 1 per cent, were reported as irrigated in 1909. The acreage reported as irrigated in 1909 was 10,248 acres, or less than one-tenth of 1 per cent of the improved land in farms. The area to which enterprises existing in 1910 were capable of supplying water was 21,917 acres, while the total acreage included in irrigation projects, completed or under way, in 1910 was 38,173 acres.

Population, number of farms, and farm acreage: 1890 to 1910.—In the 20 years since 1890 the population of the state has increased 386,073, or 202.2 per cent, about two-thirds of this increase occurring during the last decade.

In 1910 there were 74,360 farms in North Dakota, or slightly more than two and two-thirds times as many as in 1890. The absolute increase was most rapid during the last decade, when it averaged 2,903 per year, as compared with 1,772 a year during the decade 1890–1900.

The land surface of North Dakota is approximately 44,917,120 acres, and of this area 28,426,650 acres, or 63.3 per cent, are included in farms. Of this farm

acreage, 20,455,092 acres, or 72 per cent, are reported as improved land, representing 45.5 per cent of the total land area of the state. The total acreage of farm land increased by 12,884,010 acres, or 82.9 per cent, during the last decade, and the acreage of improved land by 10,810,572 acres, or 112.1 per cent. The proportion of farm land which is improved was higher in 1910 than in 1900. In the decade 1890 to 1900 both total acreage and improved acreage more than doubled.

The following table presents for the state as a whole for each census from 1890 to 1910, inclusive, a statement of the total population, the number of farms, and the acreage of farm land and of improved land in farms. It also gives the percentage of the land area in farms, the percentage of farm land improved, and the percentage of increase during each decade in the number of farms and in the land in farms.

CENSUS YEAR.	Population.	FARMS.		LAND IN FARMS.			Per cent of land area in farms.	Per cent of farm land improved.
		Number.	Per cent of increase.	All land.		Improved land (acres).		
				Acres.	Per cent of increase.			
1910.....	577,056	74,360	64.0	28,426,650	82.9	20,455,092	63.3	72.0
1900.....	319,146	45,332	64.2	15,542,640	102.9	9,644,520	34.6	62.1
1890 ¹	190,983	27,611	.....	7,600,333	.....	4,658,015	17.1	60.8

¹ Dakota territory prior to 1890. In 1880 the territory had 135,177 population, 17,435 farms, and 3,800,656 acres in farm land, of which 1,150,413 acres were reported as improved.

Values of farm property: 1890 to 1910.—The agricultural changes in North Dakota since 1890, as reflected in the values of the several classes of farm property, are shown in the table which follows:

CENSUS YEAR.	FARM PROPERTY.							
	Total.		Land and buildings.		Implements and machinery.		Domestic animals, poultry, and bees.	
	Value.	Per cent of increase.	Value.	Per cent of increase.	Value.	Per cent of increase.	Value.	Per cent of increase.
1910.....	\$974,814,205	281.9	\$822,656,744	313.8	\$43,907,595	212.4	\$108,249,866	155.1
1900.....	255,266,751	153.4	198,780,700	163.9	14,055,560	111.4	42,430,491	125.8
1890 ¹	100,745,779	.....	75,310,305	.....	6,648,180	.....	18,787,294	.....

¹ Dakota territory prior to 1890. In 1880 the total value of farm property for the territory was reported as \$32,346,449, of which \$22,401,084 represented land and buildings; \$2,390,091 implements and machinery; and \$7,555,274 domestic animals, poultry, and bees (including estimated value of range animals).

The total wealth in the form of farm property is \$974,814,000, of which 84.4 per cent is represented by land and buildings, 4.5 per cent by implements and machinery, and 11.1 per cent by live stock. The total value of farm property is nearly four times what it was in 1900, and about ten times what it was in 1890. The absolute and relative gains in all classes of farm property have been rapid and continuous since 1890.

Average acreage and values per farm: 1890 to 1910.—The changes which have taken place during the past 20 years in the average acreage of North Dakota farms and in the average values of the various classes of farm property, as well as in the average value per acre of land and buildings, are shown in the following table:

CENSUS YEAR.	Average acres per farm.	AVERAGE VALUE PER FARM. ¹				Average value of land and buildings per acre.
		All farm property.	Land and buildings.	Implements and machinery.	Domestic animals, poultry, and bees.	
1910.....	382.3	\$13,109	\$11,063	\$590	\$1,456	\$28.94
1900.....	342.9	5,631	4,385	310	936	12.79
1890 ²	277.4	3,649	2,728	241	680	9.83

¹ Averages are based on "all farms" in state.
² Dakota territory prior to 1890. In 1880 the averages for the territory were as follows: Average acres per farm, 218; average value per farm of all farm property, \$1,855; of land and buildings, \$1,285; of implements and machinery, \$137; and of domestic animals, poultry, and bees, \$433; and average value of land and buildings per acre, \$5.89.

In average size the North Dakota farm has increased in each decade since 1890, the increase in number of acres being from 277.4 in 1890 to 342.9 in 1900 and to 382.3 in 1910. This increase may be accounted for by the fact that at the earlier dates there was a larger proportion of farms which had been acquired from the Government and were still of the original size, usually 160 or 320 acres. These tracts have been united in many cases into larger farms as a result of the requirements of the wheat growers and live stock farmers.

The average value of a North Dakota farm, including its equipment, as noted above, amounted in 1910 to \$13,109. Of this amount, \$11,063 represents the value of land and buildings, \$1,456 the value of live stock, and \$590 the value of implements and machinery. The average value of land and buildings in 1910 was \$28.94 per acre, or more than twice as much as 10 years ago. Between 1890 and 1900 the average value per farm of all farm property increased from \$3,649 to \$5,631; in the next decade it increased to \$13,109, or about two and one-half fold.

Farm tenure: 1890 to 1910.—The next table shows the distribution of the farms of the state according to character of tenure at each census since 1890.

As is usual in newly settled sections of the country, the proportion of farms in North Dakota which are operated by tenants is still small, being only half as great as the proportion of farms operated by tenants in the North Central States as a group, and a little less than two-fifths as great as the proportion reported for the whole United States. The comparatively small proportion of farms in North Dakota which are operated by tenants is largely the result of the low price of land in that state and of the recent acquisition of a considerable number of farms from the Government in the form of homesteads.

This proportion, however, as well as the actual number of such farms, has increased in the last 20

years. In 1890 only 6.9 per cent of all the farms in the state were operated by tenants; in 1900, 8.5 per cent of all the farms were so operated; and in 1910, 14.3 per cent. The proportion of farms operated by owners and managers has declined from 93.1 per cent in 1890 to 85.7 per cent in 1910. In 1910 farms operated by owners and managers were about two and a half times as numerous as in 1890, whereas farms operated by tenants were more than five and a half times as numerous. Of the latter, almost eight-tenths are rented either wholly or in part for a share of the products. This proportion is less than it was in 1900, but greater than it was in 1890. Of all farms in the state, 11.1 per cent are rented wholly or in part for a share of the product, and 3.2 per cent for cash, including non-specified.

TENURE.	1910	1900	1890 ¹
Number of all farms.....	74,360	45,332	27,611
Farms operated by owners and managers...	63,696	41,467	25,698
Farms consisting of owned land only.....	44,667	34,078	(²)
Farms consisting of owned and hired land...	18,545	6,894	(²)
Farms operated by managers.....	484	495	(²)
Farms operated by tenants.....	10,664	3,865	1,913
Share tenants.....	8,086	3,274	1,374
Share-cash tenants ³	178		
Cash tenants.....	324	591	539
Tenure not specified ⁴	2,076		
Per cent of farms operated by—			
Owners and managers.....	85.7	91.5	93.1
Tenants.....	14.3	8.5	6.9
Share and share-cash.....	11.1	7.2	5.0
Cash and nonspecified.....	3.2	1.3	2.0

¹ Dakota territory prior to 1890. Of the 17,435 farms in the territory in 1880, 16,757 were operated by owners and managers and 678 by tenants (606 share and share-cash, and 72 cash and nonspecified).

² Not reported separately.

³ Share-cash tenants were doubtless largely included with share tenants in 1900 and 1890.

⁴ Prior to 1910 nonspecified tenants were included with cash tenants.

The following table shows the acreage, improved acreage, and value of land and buildings for farms operated by owners (including part owners), managers, and tenants, respectively:

FARMS OPERATED BY—	ALL LAND IN FARMS (ACRES).		IMPROVED LAND IN FARMS (ACRES).		VALUE OF LAND AND BUILDINGS.	
	1910	1900	1910	1900	1910	1900
Total..	28,426,650	15,542,640	20,455,092	9,644,520	\$822,656,744	\$198,780,700
Owners.....	23,586,728	13,539,689	16,407,698	8,312,269	658,809,090	168,790,590
Managers....	477,213	661,711	374,882	306,960	16,898,168	7,782,970
Tenants.....	4,362,709	1,341,240	3,672,512	1,025,291	146,949,486	22,207,140

The following table shows the per cent distribution by tenure groups of the items in the preceding table, and also of the number of farms:

FARMS OPERATED BY—	PER CENT OF TOTAL.							
	Number of farms.		All land in farms.		Improved land in farms.		Value of land and buildings.	
	1910	1900	1910	1900	1910	1900	1910	1900
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Owners.....	85.0	90.4	83.0	87.1	80.2	86.2	80.1	84.9
Managers.....	0.7	1.1	1.7	4.3	1.8	3.2	2.1	3.9
Tenants.....	14.3	8.5	15.3	8.6	18.0	10.6	17.9	11.2

It will be seen that, in 1910, 83 per cent of all land in farms was in farms operated by their owners (including part owners), 1.7 per cent in farms operated by managers, and 15.3 per cent in farms operated by tenants, the percentage for owners and for managers being lower and that for tenants higher than in 1900.

As shown by the next table, the average size of farms operated by managers in 1910 (986 acres) was nearly two and one-half times as great as that of farms operated by tenants (409.1 acres), which was in turn larger than that of farms operated by owners (373.1 acres). The average size of farms operated by managers decreased decidedly between 1900 and 1910, while that of farms operated by owners and by tenants increased. In 1910 the percentage of farm land improved was highest for farms operated by tenants and lowest for farms operated by owners.

FARMS OPERATED BY—	AVERAGE ACRES PER FARM.				PER CENT OF FARM LAND IMPROVED.		AVERAGE VALUE OF LAND AND BUILDINGS.			
	All land.		Improved land.				Per farm.		Per acre.	
	1910	1900	1910	1900	1910	1900	1910	1900	1910	1900
	Total.....	382.3	342.9	275.1	212.8	72.0	62.1	\$11,063	\$4,385	\$28.94	$12.79
Owners.....	373.1	330.5	259.6	202.9	69.6	61.4	10,422	4,120	27.93	12.47
Managers.....	986.0	1,336.8	774.5	620.1	78.6	46.4	34,914	15,723	35.41	11.76
Tenants.....	409.1	347.0	344.4	265.3	84.2	76.4	13,780	5,746	33.68	16.56

Farm mortgages: 1890 to 1910.—The Eleventh Census (1890) was the first to collect data relating to mortgage debt on farms. The basis of the returns was the "farm home" occupied by its owner. The same class of information was secured by the population schedules of the Twelfth Census (1900). The agricultural schedules of the Thirteenth Census (1910) secured practically the same information, except that the basis was "owned farms" instead of "owned farm homes"—a difference involving, however, no appreciable incomparability.

The following table relates to farms operated by persons owning all or part of the land, and shows for 1910 (1) the number of such farms reported as free from mortgage; (2) the number reported as mortgaged; and (3) the number for which no mortgage reports were secured. Comparable items are included for 1900 and 1890.

CLASS.	OWNED FARMS. ¹		OWNED FARM HOMES.		OWNED FARM HOMES. ²	
	1910		1900		1890	
	Number.	Per cent. ³	Number.	Per cent. ³	Number.	Per cent.
Total.....	63,212	.....	39,456	.....	25,431	.....
Free from mortgage.....	30,651	49.1	26,113	68.6	13,054	51.3
Mortgaged.....	31,727	50.9	11,905	31.4	12,377	48.7
Unknown.....	834	.....	1,378	.....	

¹ Includes all farms owned in whole or in part by the operator.
² The 387 "owned farm homes" for which no reports were secured were distributed between "free from mortgage" and "mortgaged" in 1890.
³ Per cent of combined total of "free from mortgage" and "mortgaged."

In 1910 the total number of farms owned in whole or in part by the operators was 63,212. Of this number 30,651 were reported as free from mortgage, 31,727 were reported as mortgaged, and for 834 no report relative to mortgage indebtedness was obtained. The number of mortgaged farms constituted 50.9 per cent of the total number of owned farms, exclusive of those for which no mortgage report was obtained. In 1900 such farms constituted 31.4 per cent and in 1890, 48.7 per cent. It may be noted that the percentages given for the three censuses are comparable, but that the number of mortgaged and unmortgaged farms reported in 1890 is not entirely comparable with the numbers reported at the later censuses because at the census of 1890 the farms for which no reports were secured were distributed between the two classes of mortgaged and unmortgaged farms. It is evident, however, that the number of mortgaged farms decreased slightly from 1890 to 1900, but increased greatly from 1900 to 1910.

The statement of mortgage debt and of the value of mortgaged farm property is restricted to the farms of those farmers who own all of their land and report the amount as well as the fact of indebtedness. Of the 31,727 farms reported as mortgaged, 19,981 are wholly owned by the farmers, and for 19,187 of these the amount of mortgage debt is reported. Only these last-mentioned farms are included for 1910 in the next table, which presents data relating to mortgaged farms for 1910 and 1890. In this connection it should be noted that in 1890 the amount of mortgage debt of farms with incomplete reports was estimated according to the percentages and averages obtained from farms with full reports, but that no such estimate is here made for 1910. The table gives a comparative statement of the value of mortgaged farms owned entirely by their operators and the amount of indebtedness, together with the average value of such farms, the average debt per farm, and the average equity per farm for 1910 and 1890. Data regarding the amount of mortgage debt were not obtained in 1900.

	OWNED FARMS OR FARM HOMES MORTGAGED.		INCREASE.	
	1910 ¹	1890 ²	Amount.	Per cent.
Number.....	19,187	12,377	.....	.....
Value—Land and buildings.....	\$213,642,953	\$30,709,226	.....	.....
Amount of mortgage debt.....	\$47,841,587	\$11,168,854	.....	.....
Per cent of debt to value.....	22.4	36.3	.....	.....
Average value per farm.....	\$11,135	\$2,486	\$8,649	347.9
Average debt per farm.....	\$2,493	\$902	\$1,591	176.4
Average equity per farm.....	\$8,642	\$1,584	\$7,058	445.6

¹ Includes only farms consisting wholly of owned land and reporting value of farm and amount of debt.
² Includes all owned farm homes, estimates being made of value of farms and amount of debt for all defective reports.

The average debt of mortgaged farms has increased in the last 20 years from \$902 to \$2,493, or 176.4 per cent, while the average value of such farms rose from \$2,486 to \$11,135, or 347.9 per cent. Thus the

owner's equity increased from \$1,584 to \$8,642, or 445.6 per cent. As a result of the greater relative increase in farm value than in farm debt, the mortgage indebtedness, which was 36.3 per cent of the value of the farm in 1890, had decreased to 22.4 per cent of this value in 1910.

Farms, by size groups: 1910 and 1900.—The following table shows the distribution of farms by size groups at the censuses of 1910 and 1900:

SIZE GROUP.	NUMBER OF FARMS.		INCREASE. ¹		PER CENT OF TOTAL.	
	1910	1900	Number.	Per cent.	1910	1900
Total	74,360	45,332	29,028	64.0	100.0	100.0
Under 20 acres.....	54	154	-100	-64.9	0.1	0.3
20 to 49 acres.....	82	253	-171	-67.6	0.1	0.6
50 to 99 acres.....	93	384	-291	-75.8	0.1	0.8
100 to 174 acres.....	450	555	-105	-18.9	0.6	1.2
175 to 499 acres.....	1,207	716	491	68.6	1.6	1.6
500 to 999 acres.....	23,003	18,471	4,532	24.5	30.9	40.7
1,000 acres and over.....	5,345	2,526	2,819	111.6	7.2	5.6
	29,048	15,813	13,235	83.7	39.1	34.9
	12,662	5,114	7,548	147.6	17.0	11.3
	2,416	1,346	1,070	79.5	3.2	3.0

¹ A minus sign (—) denotes decrease.

Of the total number of farms in North Dakota, 39.1 per cent are between 260 and 499 acres and 30.9 per cent are between 100 and 174 acres. Farms of 175 or more acres increased at a much more rapid rate during the last decade than farms under that size. Of the total absolute increase in the number of farms more than four-tenths was in farms between 260 and 499 acres. Over 97 per cent of the farms have 100 acres or more each.

The number of farms under 50 acres, which has always been insignificant, is not much more than half as great as 10 years ago. This is probably due to an actual decrease in small-scale farming, but in the very small groups may be due partly to a different interpretation by the enumerators as to what constitutes a small farm. Each of the higher groups shows a considerable actual and relative increase.

The following table shows the total and improved acreage and the value of land and buildings for farms of various size groups, consolidating into one group the farms of less than 20 acres (numbering in all 229), and also the farms of between 175 and 499 acres (numbering 34,393):

SIZE GROUP.	ALL LAND IN FARMS (ACRES).		IMPROVED LAND IN FARMS (ACRES).		VALUE OF LAND AND BUILDINGS.	
	1910	1900	1910	1900	1910	1900
Total	28,426,650	15,542,640	20,455,092	9,644,520	\$822,656,744	\$198,780,700
Under 20 acres.....	1,601	7,711	1,224	5,180	364,599	212,784
20 to 49 acres.....	16,687	18,063	10,718	13,883	739,953	301,440
50 to 99 acres.....	94,199	59,040	59,653	36,622	2,539,341	920,380
100 to 174 acres.....	3,640,003	2,945,787	2,124,647	1,495,925	83,425,352	30,366,450
175 to 499 acres.....	12,000,916	6,403,548	9,065,590	4,370,594	354,271,009	88,146,756
500 to 999 acres.....	8,783,550	3,561,491	6,675,379	2,362,193	271,500,607	48,035,210
1,000 acres and over.....	3,889,694	2,547,000	2,525,881	1,359,423	109,815,883	30,791,700

The next table shows the per cent distribution, by size groups, of the items presented in the preceding table, and also of the number of farms.

Of the total farm acreage of the state in 1910, 42.2 per cent was in farms of 175 to 499 acres, and 30.9 per

cent in farms of 500 to 999 acres, these two being from the standpoint of aggregate acreage the most important size groups. Between 1900 and 1910 the proportion of the total acreage in these two size groups increased, while the proportion in farms of 50 to 174 acres and in those of 1,000 acres and over decreased.

SIZE GROUP.	PER CENT OF TOTAL.							
	Number of farms.		All land in farms.		Improved land in farms.		Value of land and buildings.	
	1910	1900	1910	1900	1910	1900	1910	1900
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 20 acres.....	0.3	1.7	(¹)	(¹)	(¹)	0.1	(¹)	0.1
20 to 49 acres.....	0.6	1.2	0.1	0.1	0.1	0.1	0.1	0.2
50 to 99 acres.....	1.6	1.6	0.3	0.4	0.3	0.4	0.3	0.5
100 to 174 acres.....	30.9	40.7	12.8	19.0	10.4	15.5	10.1	15.3
175 to 499 acres.....	40.3	40.5	42.2	41.2	44.3	45.3	43.1	44.3
500 to 999 acres.....	17.0	11.3	30.9	22.9	32.6	24.5	33.0	24.2
1,000 acres and over.....	3.2	3.0	13.7	16.4	12.3	14.1	13.3	15.5

¹ Less than one-tenth of 1 per cent.

As shown by the next table, the percentage of farm land improved is highest for farms of under 20 acres, but it is nearly as high for farms of 175 to 999 acres. Owing to the fact that buildings normally have a higher value in proportion to farm acreage in small than in large farms, the average value of land and buildings per acre of land is very much higher for the farms under 20 acres in size than for those of any other group; the average value per acre is higher for farms of 175 acres and over, however, than for those of 50 to 174 acres.

SIZE GROUP.	PER CENT OF FARM LAND IMPROVED.		AVERAGE VALUE OF LAND AND BUILDINGS.			
	1910	1900	Per farm.		Per acre.	
			1910	1900	1910	1900
Total	72.0	62.1	\$11,063	\$4,385	\$28.94	\$12.79
Under 20 acres.....	76.5	80.1	1,592	269	227.73	27.59
20 to 49 acres.....	64.2	76.9	1,644	543	44.34	16.69
50 to 99 acres.....	57.0	62.0	2,104	1,294	26.96	15.69
100 to 174 acres.....	58.4	50.8	3,627	1,644	22.92	10.31
175 to 499 acres.....	75.5	68.3	10,301	4,807	29.52	13.77
500 to 999 acres.....	76.0	66.3	21,442	9,393	30.91	13.49
1,000 acres and over.....	64.9	53.4	45,454	22,876	28.23	12.09

Color and nativity of farmers: 1910.—Prior to the Thirteenth Census no attempt was made to secure information on the farm schedules concerning the nativity of farmers. The table which follows shows the color and nativity of farm operators by character of tenure for 1910:

COLOR AND NATIVITY.	FARM OPERATORS.							
	Total.		Own-ers.	Ten-ants.	Man-agers.	Per cent of total.		
	Num-ber.	Per cent dis-tribution.				Own-ers.	Ten-ants.	Man-agers.
Total	74,360	100.0	63,212	10,664	484	85.0	14.3	0.7
Native white.....	35,750	48.1	29,082	6,352	316	81.3	17.8	0.9
Foreign-born white.	37,887	50.9	33,403	4,298	166	88.2	11.4	0.4
Negro and other nonwhite.....	743	1.0	727	14	2	97.8	1.9	0.3

Slightly less than one-half of the North Dakota farmers were native whites and about half were foreign-born whites. Only 743, or 1 per cent of all farmers, are nonwhites, 721 being Indians and 22 negroes. Among the native whites 17.8 per cent were tenants, as compared with 11.4 per cent among the foreign-born whites.

DOMESTIC ANIMALS, POULTRY, AND BEES.

Domestic animals on farms: 1910.—The census of 1910 was taken as of April 15, and that of 1900 as of June 1. Since a great many domestic animals are born during the six weeks between April 15 and June 1, and, on the other hand, a considerable number of older animals are slaughtered or die during the same period, the numbers of the different classes of animals for the two censuses are not closely comparable, and the same is true in somewhat less degree of the values. For this reason the figures for 1900 are not presented in this chapter, but in the general reports of the census the figures for the several states will be presented and the extent to which their comparability is affected by the change in the date of enumeration will be discussed.

The total value of live stock on farms, including domestic animals, poultry, and bees in 1910 was \$108,250,000, of which domestic animals contributed \$106,761,000. The value of cattle represented 16.4 per cent of the total value of live stock; that of horses and mules, 78.2 per cent; of swine, 2.9 per cent; of sheep and lambs, 1.2 per cent; and that of poultry, 1.4 per cent, the other classes being insignificant.

Of the total number of farms enumerated, 71,634, or 96.3 per cent, report domestic animals of some kind, the number without any domestic animals being only 2,726.

Of all the farms in the state, 86.4 per cent report cattle, 84.7 per cent reporting "dairy cows," and only 30.2 per cent "other cows." The average number of "dairy cows" per farm reporting is about 4, while the average number of "other cows" per farm reporting that class is slightly over 5. The total number of cows, especially "dairy cows," increased materially during the decade, while the average values of "dairy cows" increased slightly and of "other cows" decreased considerably.

Horses and colts are reported by 94.1 per cent of all the farms in the state, while 41.6 per cent report yearlings. It is noteworthy that in spite of the early date of enumeration 20.3 per cent report spring colts. Mature horses are valued at \$139.57, about twice as much as in 1900. Only about one farm in every twenty-five reports mules, and the average values are somewhat higher than those of horses of the corresponding age groups.

Sheep and lambs were reported from 3,671 farms, or 4.9 per cent of all the farms in the state, whereas 10.9 per cent of all farms reported sheep in 1900. Of the 3,671 farms, 54 per cent reported spring lambs, the number of the latter being equal to 27.8 per cent of the number of ewes. This comparatively small propor-

tion is doubtless due to the early date of enumeration. The average flock in the state, including all classes, is almost 80 sheep, and the average number of ewes is about 54 per farm reporting that class. The farms reporting rams and wethers show an average of nearly 36 per farm.

The following table summarizes the statistics of domestic animals on farms for the state, recorded as of April 15, 1910. Cattle and sheep are divided into age and sex groups, while horses, mules, and swine are presented by age groups only.

The following table summarizes the statistics of domestic animals on farms for the state, recorded as of April 15, 1910. Cattle and sheep are divided into age and sex groups, while horses, mules, and swine are presented by age groups only.

AGE AND SEX GROUP.	FARMS REPORTING.		ANIMALS.		
	Number.	Percent of all farms.	Number.	Value.	Average value.
Total.....	71,634	96.3	.....	\$106,761,317	.....
Cattle	64,224	86.4	743,762	17,711,398	\$23.81
Dairy cows (cows and heifers kept for milk, born before Jan. 1, 1909).....	62,977	84.7	259,173	8,738,468	33.72
Other cows (cows and heifers not kept for milk, born before Jan. 1, 1909).....	22,468	30.2	119,510	3,256,904	27.25
Heifers born in 1909.....	37,065	49.8	104,203	1,550,721	14.88
Calves born after Jan. 1, 1910.....	41,866	56.3	130,683	875,807	6.70
Steers and bulls born in 1909.....	23,855	32.1	71,566	1,169,759	16.35
Steers and bulls born before Jan. 1, 1909.....	13,837	18.6	58,627	2,119,739	36.16
Horses	69,945	94.1	650,599	83,461,739	128.28
Mares, stallions, and geldings born before Jan. 1, 1909.....	60,846	93.9	564,313	78,762,790	139.57
Colts born in 1909.....	30,960	41.6	61,671	3,873,395	62.81
Colts born after Jan. 1, 1910.....	15,115	20.3	24,615	825,554	33.54
Mules	2,800	3.8	7,695	1,149,001	149.32
Mules born before Jan. 1, 1909.....	2,571	3.5	7,164	1,112,691	155.32
Mule colts born in 1909.....	266	0.4	421	31,780	75.49
Mule colts born after Jan. 1, 1910.....	86	0.1	110	4,530	41.18
Asses and burros	94	0.1	133	22,915	172.29
Swine	42,972	57.8	331,603	3,152,909	9.51
Hogs and pigs born before Jan. 1, 1910.....	40,809	54.9	199,707	2,797,423	14.01
Pigs born after Jan. 1, 1910.....	14,952	20.1	131,896	355,486	2.70
Sheep	3,671	4.9	293,371	1,257,737	4.29
Ewes born before Jan. 1, 1910.....	3,500	4.7	187,249	913,530	4.88
Rams and wethers born before Jan. 1, 1910.....	1,528	2.1	54,143	244,907	4.52
Lambs born after Jan. 1, 1910.....	1,984	2.7	51,979	99,300	1.91
Goats	294	0.4	1,074	5,618	5.23

Of all farms, 57.8 per cent reported swine, the average number being about 8 per farm reporting. Probably on account of the early date of enumeration only 20.1 per cent report spring pigs. The average value of the swine reported as "hogs and pigs born before January 1, 1910," is \$14.01.

Poultry on farms: 1910 and 1900.—The increase in the number of fowls on North Dakota farms during the last decade amounts to 119.4 per cent, while the value increased from \$477,000 to \$1,485,000, or 211.2 per cent. The number of farms reporting poultry increased 78.5 per cent and the number of fowls per farm reporting increased from 43 to 53, approximately. Important increases were made in all classes for which reports were secured. The value of poultry and the number of farms reporting were obtained in 1900 for the total of all fowls only, and not for each kind as in 1910.

The following table gives the numbers of the various kinds of poultry reported in 1910 and 1900, together with their value and the number of farms reporting each kind in 1910:

KIND.	1910 (April 15)				1900 (June 1)
	Farms reporting.		Number of fowls.	Value.	Number of fowls.
	Number.	Per cent of all farms.			
Total	61,532	82.7	3,268,109	\$1,485,463	1,489,380
Chickens.....	61,452	82.6	3,095,026	1,327,727	1,409,285
Turkeys.....	14,040	18.9	61,621	84,440	39,073
Ducks.....	10,131	13.6	39,938	26,720	23,816
Geese.....	8,009	10.8	30,456	33,924	17,206
Guinea fowls.....	857	1.2	2,666	1,521	(1)
Pigeons.....	2,181	2.9	38,360	5,958	(2)
Peafowls.....	17	(3)	42	173	(2)

¹ Included with chickens. ² Not reported. ³ Less than one-tenth of 1 per cent.

Bees on farms: 1910 and 1900.—The number of farms reporting bees has increased from 30 in 1900 to 79 in 1910. The number of colonies of bees increased from 279 to 495, or 77.4 per cent, and their value increased from \$1,474 to \$3,086, or 109.4 per cent. The average value of bees per farm reporting was \$49.13 in 1900 and \$39.06 in 1910. About one farm in every thousand reports bees.

Domestic animals not on farms: 1910.—Most of the domestic animals not on farms are found in cities,

LIVE STOCK PRODUCTS.

The returns for live stock products obtained at the census of 1910, like those for crops, relate to the activities of the calendar year 1909. It is impossible to give a total representing the annual production of live stock products for the reason that, as shown elsewhere, the total value of products from the business of raising domestic animals for use, sale, or slaughter can not be calculated from the census returns. Even if this value could be ascertained and were added to the value of the crops the sum would not correctly represent the total value of farm products, because, as already more fully explained, duplication would result from the fact that part of the crops are fed to the live stock.

towns, and villages. Statistics for such animals are shown below. No provision was made by law to secure data pertaining to poultry and bees not on farms. In the table below age groups are omitted for the sake of brevity.

KIND.	Number of inclosures reporting.	ANIMALS.		
		Number.	Value.	Average value.
Total	9,784		\$3,415,679	
All cattle.....	6,238	12,429	401,580	\$32.31
Dairy cows.....	6,106	8,640	329,031	38.08
Horses.....	7,133	22,214	2,854,134	128.48
Mules.....	116	716	117,747	164.45
Asses and burros.....	21	23	7,655	332.83
Swine.....	602	2,461	28,334	11.51
Sheep.....	28	1,188	5,156	4.34
Goats.....	40	133	1,073	8.07

As would be expected, horses are by far the most important class of domestic animals not on farms, both in number and in value; cattle, consisting mainly of dairy cows, rank next in importance.

Domestic animals on farms and not on farms: 1910.—The following table gives the total number and value of domestic animals, distinguishing those on farms from those not on farms:

KIND.	DOMESTIC ANIMALS.					
	Total.		On farms.		Not on farms.	
	Number.	Value.	Number.	Value.	Number.	Value.
Total		\$110,176,996		\$106,761,317		\$3,415,679
All cattle.....	750,191	18,112,978	743,762	17,711,398	12,429	401,580
Dairy cows.....	267,813	9,067,499	259,173	8,738,488	8,640	329,031
Horses.....	672,813	86,315,873	650,599	83,461,739	22,214	2,854,134
Mules.....	8,411	1,269,748	7,695	1,149,001	716	117,747
Asses and burros.....	156	30,570	133	22,915	23	7,655
Swine.....	334,064	3,181,243	331,603	3,152,909	2,461	28,334
Sheep.....	294,559	1,262,893	293,371	1,257,737	1,188	5,156
Goats.....	1,207	6,691	1,074	3,618	133	1,073

The total value of all domestic animals in the state in 1910 was \$110,177,000, of which the value of animals not on farms represented 3.1 per cent.

Dairy products: 1909 and 1899.—The next table shows the principal statistics relative to dairy products in 1909, with certain comparative statistics for 1899.

The number of farms reporting dairy cows on April 15, 1910, was 62,977, but only 51,484 reported dairy products in 1909. That there should be this difference is not surprising. Doubtless some farmers who had dairy cows in 1910 had none in 1909, while other farmers neglected to give information for the preceding year, or were unable to do so, perhaps because the farm was then in other hands. Dairy products in general are somewhat less accurately reported than the principal crops. This is particularly the case as regards

the quantity of milk produced. The number of farms which made any report of milk produced during 1909 was 43,493 (considerably less than the total number reporting dairy products), and the number of dairy cows on such farms on April 15, 1910, was 182,000. The amount of milk reported was 70,638,000 gallons; assuming that there were the same number of cows in 1909 as in 1910, this would represent an average of 388 gallons per cow. In considering this average, however, it should be borne in mind that the quantity of milk reported is probably deficient and that the distinction between dairy and other cows is not always strictly observed in the census returns.

By reason of the incompleteness of the returns for milk produced, the Census Bureau has made no attempt to determine the total value of dairy products for 1909. For convenience a partial total has been presented comprising the reported value of milk, cream, and butter fat sold and the reported value of butter and cheese made, whether for home consumption or for sale. The total thus obtained for 1909 is \$4,872,000, which may be defined as the total value of dairy products exclusive of milk and cream used on the farm producing.

Only a very small proportion of the milk reported by North Dakota farmers in 1909 was sold as such, a comparatively large quantity being sold as butter fat. The butter made on farms in 1909 was valued at \$3,509,000.

	FARMS REPORTING.		Number or quantity.	Unit.	VALUE.	
	Number.	Per cent of all farms.			Total.	Average per unit.
Dairy cows on farms April 15, 1910.....	62,977	84.7	259,173	Head		
On farms reporting dairy products in 1909.....	51,484	69.2	227,345	Head		
On farms reporting milk produced in 1909.....	43,493	58.5	181,898	Head		
Specified dairy products, 1909:						
Milk reported.....			70,637,899	Gals.		
Butter made.....	46,838	63.0	16,414,439	Lbs.	\$3,508,579	\$0.21
Cheese made.....	277	0.4	22,754	Lbs.	2,976	0.13
Milk sold.....	1,106	1.5	1,644,150	Gals.	293,956	0.18
Cream sold.....	3,315	4.5	834,103	Gals.	528,977	0.63
Butter fat sold.....	3,494	4.7	2,185,377	Lbs.	537,816	0.25
Butter sold.....	27,005	37.1	7,019,160	Lbs.	1,514,215	0.22
Cheese sold.....	38	0.1	9,974	Lbs.	1,334	0.13
Total receipts from sales, 1909.....					2,876,298	
Total value of milk, cream, and butter fat sold and butter and cheese made, 1909.....					4,872,304	
Specified dairy products, 1899:						
Butter made.....	28,117	62.0	9,178,815	Lbs.		
Cheese made.....	277	0.6	70,881	Lbs.		
Butter sold.....			3,551,805	Lbs.	545,362	0.15
Cheese sold.....			46,762	Lbs.	4,844	0.10

Comparisons are made between 1909 and 1899 for but few of the census items relating to dairy products, for the reason that in 1899 estimates were made for farms with incomplete reports, which was not done at

the census of 1910. The figures for milk produced and milk sold are particularly affected, but those for butter and cheese are approximately comparable. The table shows a decided increase between 1899 and 1909 in the amount of butter made and a large relative decrease in the production of cheese.

Wool: 1909 and 1899.—The table below gives statistics as to the production of wool on farms, the figures being partly based on estimates:¹

	Number of farms reporting.	Sheep of shearing age.	WOOL PRODUCED.		
			Fleeces (number).	Weight (pounds).	Value.
Sheep of shearing age on farms April 15, 1910.....	3,624	241,392			
Wool produced, as reported, 1909.....	1,879		192,614	1,230,585	\$280,073
On farms reporting sheep April 15, 1910.....	1,783	162,563	176,431	1,129,244	257,067
On other farms.....	96		16,183	101,341	23,006
Total production of wool (partly estimated):					
1909.....			261,985	1,676,830	381,722
1899.....			469,831	3,030,478	503,744
Decrease, 1899 to 1909.....			207,846	1,353,648	122,022
Per cent of decrease.....			44.2	44.7	24.2

The total number of sheep of shearing age in North Dakota on April 15, 1910, was 241,000, representing a decrease of 46.5 per cent as compared with the number on June 1, 1900 (451,000). The approximate production of wool during 1909 was 262,000 fleeces, weighing 1,677,000 pounds, and valued at \$382,000. Of these totals about one-fourth represents estimates. The number of fleeces produced in 1909 was 44.2 per cent less than in 1899. The average weight per fleece in 1909 was 6.4 pounds, practically the same as in 1899, and the average value per pound was 23 cents, as compared with 17 cents in 1899.

Goat hair and mohair: 1909.—Although 294 farmers reported 1,074 goats and kids on their farms April 15, 1910, only 36 reported the production of goat hair or mohair during 1909. These farmers reported 118 fleeces, weighing 470 pounds and valued at \$133.

Poultry products: 1909 and 1899.—The next statement gives data relative to the production and sale of eggs and poultry.

¹ Farmers should be able in general to report the production of wool more accurately than that of dairy products. There were, however, 1,841 farmers who reported the possession of 78,829 sheep of shearing age on April 15, 1910, without reporting any wool produced in 1909. Probably in a large proportion of cases this failure was due to the fact that they did not have these sheep, or did not occupy the same farm, during the preceding year. The returns of farms reporting wool in 1909 but no sheep of shearing age on April 15, 1910, would partially make up this deficiency, but it is believed that in many cases enumerators, having found that a farm had no sheep in 1910, omitted the inquiry as to wool produced in 1909 and thus missed more or less wool actually produced. It is a fairly safe assumption that the entire production of wool in 1909 bore the same relation to the entire number of sheep of shearing age on April 15, 1910, as the production of wool on those farms reporting both production and sheep bore to the number of sheep reported on such farms. Statistics for this group of farms are given in the table, and the total wool product, estimated on the basis of the above assumption, is also given.

	Number of farms reporting.	Number of fowls on hand.	PRODUCT.	
			Quantity.	Value.
Fowls on farms April 15, 1910.....	61,532	3,268,109		
On farms reporting eggs produced in 1909.....	50,165	2,892,363		
On other farms.....	11,367	375,746		
Eggs produced, as reported, 1909.....	50,441		<i>Dozns.</i> 15,194,736	\$2,675,931
Total production of eggs (partly estimated):				
1909.....			17,294,322	3,045,687
1899.....			7,438,400	782,790
Increase, 1899 to 1909.....			9,855,922	2,262,897
Per cent of increase.....			132.5	289.1
Eggs sold, as reported, 1909.....	32,322		6,464,074	1,142,043
Fowls on farms April 15, 1910:				
On farms reporting poultry raised in 1909.....	45,975	2,720,539		
On other farms.....	15,557	547,570		
Poultry raised, as reported, 1909.....	46,465		<i>No. of fowls.</i> 3,365,998	1,273,984
Total poultry raised (partly estimated):				
1909.....			4,043,481	1,530,402
1899.....				594,751
Increase, 1899 to 1909.....				935,651
Per cent of increase.....				157.3
Fowls sold, as reported, 1909.....	13,729		588,492	283,972

The total number of fowls on North Dakota farms on April 15, 1910, was 3,268,000. Of the 61,532 farms reporting fowls, 11,367 did not report any eggs produced in 1909, and 15,557 did not report any poultry raised in 1909. The production of eggs actually reported for the year 1909 was 15,195,000 dozens, valued at \$2,676,000. According to the Twelfth Census reports, the production of eggs in 1899 was 7,438,000 dozens, the value being \$783,000. The latter figures, however, are somewhat in excess of the actual returns at that census, because they include estimates made to cover those cases where the schedules reported fowls on hand without reporting the production of eggs. In order to make the returns for 1909 comparable with those published for 1899, similar estimates have been made, the method of estimate and the justification therefor being substantially the same as in the case of wool. The total production of eggs in 1909, including these estimates, was 17,294,000 dozens, valued at \$3,046,000. The total production of poultry in 1909, including estimates made on the same basis as for eggs, was 4,043,000 fowls, valued at \$1,530,000.

Honey and wax: 1909.—Although, as noted elsewhere, 79 farms reported 495 colonies of bees on hand April 15, 1910, 25 of these farms, with 44 colonies on hand April 15, 1910, made no report of honey or wax produced in 1909. The actual returns show the production of 11,084 pounds of honey, valued at \$1,840, and 92 pounds of wax, valued at \$29. The true totals are doubtless somewhat above these figures.

Sale or slaughter of domestic animals on farms: 1909 and 1899.—The following statement presents statistics relating to the sale or slaughter of domestic animals by North Dakota farmers during the year 1909, with certain items for 1899:

	FARMS REPORTING.		Number of animals.	VALUE.	
	Number.	Percent of all farms.		Total.	Average.
1909—All domestic animals:				\$11,409,158	
Sold.....				3,047,690	
Slaughtered.....					
Calves:					
Sold.....	7,694	10.3	22,263	190,363	\$8.55
Slaughtered.....	7,992	10.7	14,419	112,570	7.81
Other cattle:					
Sold.....	24,736	33.3	159,392	4,693,933	29.45
Slaughtered.....	19,714	26.5	31,570	700,388	24.09
Horses:					
Sold.....	11,013	14.8	39,983	4,800,432	129.80
Mules:					
Sold.....	248	0.3	636	92,121	144.84
Asses and burros:					
Sold.....	22	(¹)	78	2,173	27.86
Swine:					
Sold.....	14,743	19.8	115,414	1,351,790	11.71
Slaughtered.....	37,893	51.0	130,227	2,154,990	15.82
Sheep:					
Sold.....	773	1.0	75,459	277,821	3.68
Slaughtered.....	927	1.2	4,342	19,563	4.51
Goats:					
Sold.....	22	(¹)	121	525	4.34
Slaughtered.....	7	(¹)	21	79	3.76
1899—All domestic animals:				3,902,074	
Sold.....				1,573,588	
Slaughtered.....					

¹ Less than one-tenth of 1 per cent.
² Schedules called for receipts from sales of animals raised on the farms reporting.

The total value of domestic animals sold during 1909 was \$11,409,000 and that of animals slaughtered on farms \$3,048,000, making an aggregate of \$14,457,000. This total, however, involves considerable duplication, resulting from the resale or slaughter of animals which had been purchased by the farmers during the same year.

The value of the cattle (including calves) sold during 1909 represented more than two-fifths of the total value of domestic animals sold, and the value of horses sold represented about another two-fifths of the total value of animals sold.

The census of 1900 called for the receipts from the sale of all domestic animals raised on the farms reporting and the total value of those slaughtered during 1899, which amounted, respectively, to \$3,902,000 and \$1,574,000. The item of sales is not closely comparable with that for 1909, when the inquiry covered all sales whether of animals raised on the farms reporting or elsewhere. It is believed, however, that in many cases the returns for 1899 also included receipts from the sales of animals not actually raised on the farms reporting.

CROPS.

Summary: 1909 and 1899.—The following table summarizes the census data relative to all of the farm crops of 1909 and 1899. It includes not only general farm crops, but also flowers and plants, nursery products, and forest products of farms. In comparing one year with the other it should be borne in mind that acreage is on the whole a better index of the general

changes or tendencies of agriculture than either the quantity or the value of the crops, since variations in quantity may be due largely to temporarily favorable or unfavorable climatic conditions, and variations in the value of the crops are largely affected by changes in prices. (See also discussion of "Total value of farm products.")

	ACRES.				PER CENT OF IMPROVED LAND OCCUPIED.		VALUE OF PRODUCTS.					
	1909	1899	Increase.		1909	1899	1909	1899	Increase.		Per cent of total.	
			Amount.	Per cent.					Amount.	Per cent.	1909	1899
All crops.....							\$180,635,520	\$54,040,817	\$126,594,703	234.3	100.0	100.0
Crops with acreage reports.....	15,888,756	7,821,705	8,067,051	103.1	77.7	81.1	180,279,872	53,911,419	126,368,453	234.4	99.8	99.8
Cereals.....	11,887,141	5,610,374	6,276,767	111.9	58.1	58.2	149,133,451	40,126,051	109,007,400	271.7	82.6	74.3
Other grains and seeds.....	1,069,019	774,353	294,666	38.1	5.2	8.0	15,509,897	7,740,513	7,769,384	100.4	8.6	14.3
Hay and forage.....	2,864,218	1,410,534	1,453,684	103.1	14.0	14.6	12,368,014	5,182,917	7,185,097	138.6	6.8	9.0
Tobacco.....	6	1	5	(1)	(2)	(2)	530	22	508	(1)	(2)	(2)
Sugar crops.....	29	10	19	(1)	(2)	(2)	1,092	181	911	503.3	(2)	(2)
Sundry minor crops.....	18	8	10	(1)	(2)	(2)	725	95	630	(1)	(2)	(2)
Potatoes and sweet potatoes and yams.....	54,067	21,936	32,131	146.5	0.3	0.2	2,079,179	587,500	1,491,679	253.9	1.2	1.1
Other vegetables.....	13,383	4,289	9,094	212.0	0.1	(2)	1,069,125	256,206	812,919	317.3	0.6	0.5
Flowers and plants and nursery products.....	476	133	343	257.9	(2)	(2)	78,218	10,149	68,069	670.7	(2)	(2)
Small fruits.....	399	67	332	(1)	(2)	(2)	39,641	7,785	31,856	409.2	(2)	(2)
Crops with no acreage reports.....												
Seeds.....							355,648	129,398	226,250	174.9	0.2	0.2
Fruits and nuts.....							100,099	10,707	89,392	834.9	0.1	(2)
Maple sugar and sirup.....							9,702	3,177	6,525	724.3	(2)	(2)
Forest products of farms.....							100		100	(2)	(2)	(2)
Miscellaneous.....							235,386	112,807	122,579	108.7	0.1	0.2
							10,361	4,707	5,654	120.1	(2)	(2)

¹ Per cent not calculated when base is less than 100. ² Less than one-tenth of 1 per cent. ³ Includes value of raisins and other dried fruits, wine, cider, vinegar, etc.

The total value of crops in 1909 was \$180,636,000. Of this amount, 99.8 per cent was contributed by crops for which the acreage as well as the value was reported, the remainder consisting of the value of by-products (straw, garden and grass seeds, etc.) derived from the same land as other crops reported, or of orchard fruits, nuts, forest products, and the like. The combined acreage of crops for which acreage was reported was 15,888,756, representing 77.7 per cent of the total improved land in farms (20,455,092 acres). Most of the remaining improved land doubtless consisted of improved pasture, land lying fallow, house and farm yards, and land occupied by orchards and vineyards, the acreage for which was not reported.

The general character of North Dakota agriculture is indicated by the fact that more than four-fifths (82.6 per cent) of the total value of crops in 1909 was contributed by the cereals. The remainder, representing 17.4 per cent of the total, consisted mostly of other grains and seeds and of hay and forage.

The total value of crops in 1909 was 234.3 per cent greater than in 1899, this increase being due in large measure to the increase in agricultural production in the state, and also to some extent to higher prices. There was an increase of 103.1 per cent in the total acreage of crops for which acreage was reported, the greatest absolute increases being those in the acreage of cereals and of hay and forage.

General farm crops, minor grains and seeds, and sundry minor crops: 1879 to 1909.—The next table presents statistics for 1909 regarding cereals, other grains and seeds, hay and forage, potatoes, tobacco, and sundry minor crops.

The leading crops of the state, in the order of their importance as judged by value, are wheat, \$109,130,000; oats, \$24,114,000; flaxseed, \$15,488,000; hay and forage, \$12,368,000; barley, \$11,962,000; corn, \$2,403,000; and potatoes, \$2,079,000.

Wheat is by far the most important crop, representing in both acreage and value more than two-thirds of all cereals combined. In value nearly six-sevenths of the total wheat crop is common spring wheat, and about one-seventh is durum or macaroni, this wheat yielding 15.7 bushels per acre. In value per acre durum or macaroni wheat is reported at \$12.51, as compared with \$13.33 per acre for all wheat. Oats, though less than one-fourth as great in value as wheat, ranks second in this respect. In acreage hay and forage ranks second, though in value this crop is but little over one-half as great as oats. Compared with the combined cereals hay and forage is less than one-fourth as great in acreage and a little less than one-twelfth as great in value. Barley, with an acreage less than half as great as that of hay and forage, has a value almost as great. Of "other grains and seeds," flaxseed alone is important, with an acreage almost

as great as that of barley and a value considerably greater.

Of the hay and forage crops, "wild, salt, or prairie grasses" is most important, since it represents three-fourths of the total value and about five-sixths of the total acreage of these crops. The next in importance is "timothy alone."

CROP.	Farms reporting.	Acres harvested.	QUANTITY.		Value.
			Amount.	Unit.	
Cereals, total.....		11,887,141	217,246,973	Bu....	\$149,133,451
Corn.....	15,025	185,122	4,941,152	Bu....	2,403,303
Oats.....	56,903	2,147,032	65,886,702	Bu....	24,114,345
Wheat, total.....	59,365	8,188,782	116,781,886	Bu....	109,129,869
Common winter.....	874	93,078	1,294,743	Bu....	1,234,720
Common spring.....	53,364	6,872,515	96,311,566	Bu....	92,587,299
Durum or macaroni.....	11,075	1,223,189	19,175,577	Bu....	15,307,850
Emmer and spelt.....	6,428	101,144	2,564,732	Bu....	1,102,782
Barley.....	33,167	1,215,811	26,365,758	Bu....	11,962,036
Buckwheat.....	74	1,039	17,066	Bu....	9,135
Rye.....	1,463	48,188	689,233	Bu....	411,722
Kafir corn and milo maize.....	8	23	444	Bu....	253
Other grains and seeds with acreage report, total¹.....		1,069,019	10,256,561	Bu....	15,509,897
Dry edible beans.....	394	544	5,073	Bu....	12,862
Flaxseed.....	30,632	1,068,049	10,245,684	Bu....	15,488,016
Dry peas.....	103	399	5,543	Bu....	8,368
Seeds with no acreage report, total².....					100,099
Timothy seed.....	437	(³)	30,020	Bu....	47,985
Clover seed.....	24	(³)	754	Bu....	6,405
Millet seed.....	244	(³)	29,403	Bu....	27,084
Other tame grass seed.....	96	(³)	13,932	Bu....	17,077
Flower and garden seeds.....	4	(³)			1,075
Hay and forage, total.....	55,662	2,864,218	3,010,401	Tons.	12,368,014
Timothy alone.....	6,930	183,686	197,947	Tons.	1,046,470
Timothy and clover mixed.....	972	34,068	39,724	Tons.	202,325
Clover alone.....	116	1,172	1,386	Tons.	7,765
Alfalfa.....	467	3,033	5,638	Tons.	36,050
Millet or Hungarian grass.....	7,102	88,931	149,429	Tons.	768,173
Other tame or cultivated grasses.....	2,669	70,757	74,102	Tons.	340,313
Wild, salt, or prairie grasses.....	48,805	2,393,694	2,372,618	Tons.	9,213,861
Grains cut green.....	2,916	45,628	61,507	Tons.	292,930
Coarse forage.....	3,324	43,232	107,924	Tons.	458,667
Root forage.....	15	17	126	Tons.	1,400
Potatoes.....	51,386	54,067	5,551,430	Bu....	2,079,125
Sweet potatoes and yams.....	3	(⁴)	27	Bu....	54
Tobacco.....	16	6	3,968	Lbs..	530
Sundry minor crops ⁵	3	13	7,250	Lbs..	725

¹ Includes small amounts of broom corn seed and peanuts.
² Includes small amount of alfalfa seed.
³ The entire acreage from which these seeds were secured is believed to be included in the acreage given elsewhere for hay and forage, flowers and plants, etc.
⁴ Reported in small fractions.
⁵ Consists entirely of broom corn.

The increases in the acreages of some of the principal crops in North Dakota during the past 20 years are shown in the following table:

CROP YEAR.	ACRES HARVESTED.					
	Corn.	Oats.	Wheat.	Barley.	Flaxseed.	Hay and forage.
1909.....	185,122	2,147,032	8,188,782	1,215,811	1,068,049	2,864,218
1899.....	62,373	780,517	4,451,251	287,092	773,999	1,410,534
1889 ¹	11,954	402,855	2,709,421	109,400	43,724	558,720

¹ Dakota territory prior to 1890. In the crop year 1879 the territory had 90,852 acres of corn, 78,226 of oats, 265,298 of wheat, 16,156 of barley, and 188,792 of hay and forage. (Flaxseed not reported.)

The acreage of corn is more than fifteen times as great as it was in 1889, but the extent to which it is cultivated is still small, as compared with the other crops specified in the above table. Oats have increased in acreage to more than five times their extent in 1889. The acreage of wheat is more than three times as great, and the acreage of barley is over eleven times as great as in 1889. In the case of each of

these four cereals the greater actual gain occurred during the last of the two decades. The acreage of flaxseed is over twenty-four times as great as in 1889, the greater part of the gain having, however, been made between 1889 and 1899. The acreage of hay and forage is over five times as great as in 1889, it having more than doubled in each decade.

The following table shows for 1909 and 1899 the percentage which the farms reporting specified crops represented of all farms, the percentage of improved land devoted to these crops, and the percentage of increase in the acreage of each crop during the decade, together with the average yields and average values per acre for 1909:

CROP.	PER CENT OF FARMS REPORTING.		PER CENT OF IMPROVED LAND.		Per cent of increase in acres: 1899 to 1900	AVERAGE YIELD PER ACRE.	AVERAGE VALUE PER ACRE.
	1909	1899	1909	1899			
Corn.....	20.2	13.4	0.9	0.6	196.8	26.7 Bu..	\$12.98
Oats.....	76.5	64.2	10.5	8.1	175.1	30.7 Bu..	11.23
Wheat.....	79.8	73.0	40.0	46.2	84.0	14.3 Bu..	13.33
Barley.....	44.6	38.0	5.9	3.0	323.5	21.7 Bu..	9.84
Flaxseed.....	41.2	38.5	5.2	8.0	38.0	9.6 Bu..	14.50
Hay and forage.....	74.9	75.9	14.0	14.6	103.1	1.05 Tons.	4.32
Potatoes.....	69.1	57.7	0.3	0.2	146.5	102.7 Bu..	38.45

Out of every hundred farms 80 report wheat, 76 report oats, 75 report hay and forage, 69 report potatoes, 45 report barley, 41 report flaxseed, and 20 report corn. These percentages are greater in every instance, except in that of hay and forage, than they were in 1899. The seven crops shown in the above table cover about 77 per cent of the improved land of the state, as compared with about 81 per cent in 1899. In each instance the proportion of improved land in wheat was greater than that of the other six combined. During the past decade there was an increase of 6,276,767 acres, or 111.9 per cent, in the acreage of the combined cereals and of 1,453,684 acres, or 103.1 per cent, in hay and forage. The average value per acre of all cereals combined is \$12.55. The average values of wheat and corn are slightly above this amount, being \$13.33 and \$12.98, respectively; those of other cereals are below it. The average for hay and forage is a little over one-third that of the average for the combined cereals. Potatoes, on the contrary, have an average value per acre somewhat over three times as great as that of the combined cereals.

Corn is grown to a larger extent in the southeastern part of the state than in any other section, Richland and Cass Counties reporting more than one-third of the acreage of the state. For the last decade three counties, Eddy, McIntosh, and Cavalier, show decreases in corn acreage. The acreage of oats is well distributed over the state, and shows an increase during the past decade for all counties except McIntosh. The acreage of wheat has shifted somewhat to the west during the past decade, great gains being recorded in the central and western counties, while the whole tier of counties along the east end of the state show heavy decreases. The greater part of the acreage in wheat, however, is still in the eastern section.

Every county shows an increase in the acreage of barley, the greatest increases occurring, however, in the eastern part of the state.

The acreage of hay and forage has increased in every county where comparison with 1900 is possible except Steele. The acreage of flaxseed shows a marked falling off in the eastern part of the state, the other sections showing increases. It is to be noticed that the decreases in the flaxseed acreages correspond in location quite closely to the heaviest increases in the acreage of barley.

Vegetables, flowers and plants, and nursery products: 1909 and 1899.—The table which follows shows details with regard to vegetables (not including potatoes and sweet potatoes and yams, which appear elsewhere), and also with regard to flowers and plants and nursery products:

CROP.	FARMS REPORTING: 1909		ACRES.		VALUE OF PRODUCTS.	
	Num-ber.	Per cent of all farms.	1909	1899	1909	1899
Vegetables, other than potatoes and sweet potatoes and yams, total.....	132,753	44.0	13,383	4,289	\$1,069,125	\$256,206
Farms reporting a product of \$500 or over.....	42	0.1	321	.....	41,109	.....
All other farms.....	32,711	44.0	13,062	.....	1,028,016	.....
Flowers and plants, total.....	16	(?)	4	2	47,221	2,900
Farms reporting a product of \$250 or over.....	9	(?)	.....	.....	46,476	.....
All other farms.....	7	(?)	.....	.....	745	.....
Nursery products, total.....	40	0.1	472	131	30,997	7,249
Farms reporting a product of \$250 or over.....	11	(?)	.....	.....	27,912	.....
All other farms.....	38	0.1	.....	.....	3,085	.....

¹ Does not include 10,499 farms which reported that they had vegetable gardens, but gave no information as to their products.
² Less than one-tenth of 1 per cent.

In 1909 the total acreage of potatoes and other vegetables was 67,450 and their value \$3,148,304. Excluding potatoes and sweet potatoes and yams (so far as reported separately ¹), the acreage of vegetables was 13,383 and their value \$1,069,000, both acreage and value being decidedly greater than in 1899.

The raising of flowers and plants and of nursery products is also of some importance in North Dakota, 476 acres being devoted to them in 1909, and the output being valued at \$78,218.

Small fruits: 1909 and 1899.—The following table shows data with regard to small fruits on farms:

CROP.	Number of farms reporting: 1909	ACRES.		Quantity (quarts): 1909	Value: 1909
		1909	1899		
Small fruits, total.....	.....	399	67	285,696	\$39,641
Strawberries.....	883	88	3	66,028	10,445
Blackberries and dewberries.....	75	2	1	3,404	470
Raspberries and loganberries.....	923	85	12	60,742	9,141
Currants.....	2,378	138	36	97,598	12,128
Gooseberries.....	1,857	86	10	56,804	7,332
Cranberries.....	29	(?)	(³)	1,120	125
Other berries.....	.....	.....	5	.....	.....

¹ It is probable that some of the potatoes and sweet potatoes and yams raised in farm gardens were not reported separately by farmers, but were included in their returns for vegetables.

² Reported in small fractions.
³ Less than 1 acre.

The production of small fruits in North Dakota in 1909 was 285,696 quarts, as compared with 70,152 quarts in 1899, and the value \$39,641, as compared with \$7,785. Currants were the most important of the small fruits raised in the state.

Orchard fruits, grapes, and nuts: 1909 and 1899.—The following table presents data with regard to orchard fruits, grapes, and nuts. The acreage devoted to these products was not ascertained. In comparing one year with the other the number of trees or vines of bearing age is on the whole a better index of the general changes or tendencies than the quantity of product, but the data for the censuses of 1910 and 1900 are not closely comparable, and the product is therefore compared, although variations may be due largely to temporarily favorable or unfavorable climatic conditions.

CROP.	TREES OR VINES OF BEARING AGE: 1910		TREES OR VINES NOT OF BEARING AGE: 1910		PRODUCT.		
	Farms reporting.	Num-ber.	Farms report-ing.	Num-ber.	1909		1899
					Quantity. ¹	Value.		Quantity.^{1}
Orchard fruits, total.....	.....	40,296	.....	128,037	5,685	\$9,688	1,647
Apples.....	1,248	15,941	3,906	70,023	4,374	7,270	1,273
Peaches and nectarines.....	14	90	34	604	35	71	.....
Pears.....	5	24	61	327	8	15	1
Plums and prunes.....	737	19,147	2,320	35,459	1,048	1,866	365
Cherries.....	410	5,076	1,837	21,484	209	445	4
Apricots.....	2	11	17	87	10	20	.....
Quinces.....	2	7	4	22	1	1	(?)
Mulberries.....	.....	.....	2	31	.....	.....	(?)²
Unclassified.....	.....	.....	.....	.....	.....	.....	(?)³
Grapes.....	20	379	98	1,464	360	14	1,500
Nuts ⁴.....	.....	62	.....	560	.....	.....	200

¹ Expressed in bushels for orchard fruits and pounds for grapes and nuts.
² Included with "unclassified."
³ Consists of products not separately named by the enumerator, but grouped under the designation "all other."
⁴ Includes pecans, chestnuts, butternuts, black walnuts, and hazelnuts for 1909 and miscellaneous nuts for 1899.

The total quantity of orchard fruits produced in 1909 was 5,685 bushels, valued at \$9,688, while that of grapes and of nuts was entirely insignificant.

The following table shows the quantities of the more advanced products manufactured by farmers from orchard fruits and grapes. Values were not called for on the schedule.

PRODUCT.	FARMS REPORTING: 1909		QUANTITY PRODUCED.		
	Num-ber.	Per cent of all farms.	Unit.	1909	1899
Cider.....	.....	.....	Gals.....	.....	158
Vinegar.....	.....	.....	Gals.....	44	126
Wine and grape juice.....	2	(¹)	Gals.....	128	99
Dried fruits.....	11	(¹)	Lbs.....	106	.....

¹ Less than one-tenth of 1 per cent.

Sugar crops: 1909 and 1899.—The production of sugar crops in North Dakota is insignificant. One farm reported the production in 1909 of 300 pounds of maple sugar, valued at \$60, and 20 gallons of maple sirup, valued at \$40; 4 farmers reported a total of 3

acres of sugar beets with a production of 59 tons, valued at \$370; and 8 farmers reported a total of 26 acres of sorghum cane with a product of 128 tons, valued at \$722. The sugar beets and most of the sorghum cane were used as root forage and coarse forage.

Forest products: 1909 and 1899.—The census schedules for 1910 called for the "value of all firewood, fencing material, logs, railroad ties, telegraph and telephone poles, materials for barrels, bark, naval stores, or other forest products cut or produced in 1909, whether used on farm, sold, or on hand April 15, 1910;" and also, in a separate item, for the "amount received from sale of standing timber in 1909." There were 2,803 farms in North Dakota (3.8 per cent of all farms in the state) which reported forest products in 1909, the total value of such products being \$235,386, as compared with \$112,807 in 1899, an increase of 108.7 per cent. Of the value in 1909, \$160,829 was reported as that of products used or to be used on

the farms themselves, \$67,684 as that of products sold or for sale, and \$6,873 as the amount received for standing timber. It should be noted that forest products not produced on farms are not included in this report.

Miscellaneous crops: 1909.—Straw and cornstalks derived as by-products from the production of grain and corn have a considerable value for feed and other purposes. They are, however, mainly consumed on the farms producing them. The Census Bureau made no attempt to ascertain the total quantity or value of these products, but the schedules called for the quantity and value of those sold during the year 1909. The returns show that 163 farmers reported the sale of 2,764 tons of flax straw, valued at \$6,292. In addition, 82 farmers in North Dakota sold, during 1909, 1,009 tons of straw, for which they received \$1,631, and that 49 farmers sold 536 tons of cornstalks and leaves, for which they received \$2,420.

SELECTED FARM EXPENSES AND RECEIPTS.

Farm expenses: 1909 and 1899.—The next table shows the number of farms reporting expenditures for labor, feed, and fertilizer at the census of 1910, as well as the sums expended in 1909 and 1899:

EXPENSE.	1909		Amount.	1899	INCREASE. ¹	
	Farms reporting.				Amount.	Amount.	Per cent.
	Number.	Per cent of all farms.				
Labor.....	45,775	61.6	\$21,740,149	\$9,207,220	\$12,532,929	136.1
Feed.....	19,624	26.4	2,003,028	(²)		
Fertilizer.....	175	0.2	10,003	13,855	-3,852	-27.8

¹ A minus sign (-) denotes decrease. ² Not reported at the census of 1900.

Over three-fifths of all farmers in the state (45,775) hire labor, and the total expenditure is \$21,740,000, or an average of \$475 per farm hiring. Of the total amount expended, more than one-fifth is in the form of rent and board. During the decade 1899 to 1909 the total expenditure for labor increased by \$12,533,000, or 136.1 per cent. For no census prior to 1910 were reports secured of the value of rent and board furnished, or tabulation made of the number of farmers reporting expenditures for labor.

Of all farmers, 26.4 per cent report some expenditure for feed, while only two-tenths of 1 per cent report the

purchase of fertilizer. The total amount, \$10,000, reported as paid for fertilizer shows a decrease of \$3,852, or 27.8 per cent, since 1899. The expenditure for fertilizer in 1909 averaged \$57.16 per farm reporting; that for feed, \$102.07. No tabulation was made of the number of farmers reporting expenditures for fertilizer at prior censuses.

Receipts from sale of feedable crops: 1909.—An effort was made at the census of 1910 to secure as complete a statement as possible of the sales as well as of the production of the more important feedable crops (that is, crops ordinarily fed to live stock). The following table summarizes the data reported:

CROP.	FARMS REPORTING.		QUANTITY SOLD.		Amount received.
	Number.	Per cent of all farms.	Amount.	Unit.	
Total.....					\$6,679,840
Corn.....	760	1.0	140,769	Bu.....	76,408
Oats.....	10,096	13.6	6,135,574	Bu.....	2,345,631
Barley.....	11,234	15.1	8,552,914	Bu.....	3,946,294
Hay and coarse forage.....	3,852	5.2	63,332	Tons...	311,507

While the total amount expended by North Dakota farmers for the purchase of feed in 1909 was \$2,003,000, the total receipts from the sale of feed by those reporting sales amounted to \$6,680,000.

COUNTY TABLES.

Tables 1 to 6, which follow, present by counties the more important agricultural data collected at the Thirteenth Census, 1910.

Change of boundaries.—In comparing the data secured in 1910 with those for 1900, the following changes in county boundaries should be considered: Adams County was organized from part of Stark County in 1907; Bowman County was organized from part of Billings County in 1907; Burke County was organized from part of Ward County in 1910; Divide

County was organized from part of Williams County in 1910; Dunn County was organized from parts of Stark and Mercer Counties in 1908; Hettinger County was organized from part of Stark in 1907; McKenzie County was organized from parts of Stark and Billings Counties in 1905; Mountrail County was organized from part of Ward County in 1909; Renville County was organized from part of Ward County in 1910; and Sheridan County was organized from part of McLean County in 1909.

TABLE 1.—FARMS AND FARM PROPERTY, BY COUNTIES: APRIL 15, 1910—Continued.

[Comparative data for June 1, 1900, in italics.]

Table with 12 columns: County Name, Steele, Stutsman, Towner, Traill, Walsh, Ward, Wells, Williams, Indian Reservations. Rows include Population, Number of all farms, Color and nativity of farmers, Number of farms classified by size, LAND AND FARM AREA, VALUE OF FARM PROPERTY, DOMESTIC ANIMALS (farms and ranges), and POUSTRY AND BEES.

1 Change of boundary. (See explanation at close of text.) 2 Agricultural data for Indians on reservations in 1900 shown separately in last column of table. 3 Population of Standing Rock Indian Reservation, not located by counties.

TABLE 2.—NUMBER, ACREAGE, AND VALUE OF FARMS CLASSIFIED BY TENURE; COLOR AND [Comparative data for June 1, 1900, in italics.]

Table with 10 columns representing counties (Burke, Burleigh, Cass, Cavalier, Dickey, Divide, Dunn, Eddy, Emmons) and multiple rows for farm statistics including 'FARMS OPERATED BY OWNERS', 'FARMS OPERATED BY TENANTS', and 'FARMS OPERATED BY MANAGERS'.

1 Agricultural data for Indians on reservations in 1900 shown separately in last column of table. 2 Change of boundary. (See explanation at close of text.)

TABLE 3.—LIVE STOCK PRODUCTS, AND DOMESTIC ANIMALS SOLD

Table with 10 columns representing counties (Burke, Burleigh, Cass, Cavalier, Dickey, Divide, Dunn, Eddy, Emmons) and rows for 'LIVE STOCK PRODUCTS' (Dairy, Poultry, Honey, Wool) and 'DOMESTIC ANIMALS SOLD OR SLAUGHTERED'.

TABLE 4.—VALUE OF ALL CROPS AND PRINCIPAL CLASSES THEREOF, AND ACREAGE

		Kidder.	Lamoure.	Logan.	McHenry.	McIntosh.	McKenzie.	McLean.	Mercer.	Morton.
VALUE OF ALL CROPS										
1	Total.....	dollars 1,294,535	5,106,657	1,654,686	5,827,882	1,913,417	1,121,161	3,923,082	1,132,971	4,990,799
2	Cereals.....	dollars 669,148	4,065,093	970,722	5,051,481	1,271,058	723,269	2,683,255	826,401	3,603,681
3	Other grains and seeds.....	dollars 383,721	680,002	489,079	297,648	430,760	208,601	877,341	148,863	656,305
4	Hay and forage.....	dollars 204,090	309,612	166,495	372,011	178,860	144,733	270,736	131,597	539,097
5	Vegetables.....	dollars 37,507	51,173	28,245	96,210	32,652	38,663	89,907	25,942	175,962
6	Fruits and nuts.....	dollars 44	515	145	841	87		378		506
7	All other crops.....	dollars 25	262		9,691		5,895	1,465	168	15,188
SELECTED CROPS (acres and quantity)										
Cereals:										
8	Total.....	acres. 70,233	319,023	91,122	420,065	125,942	46,472	246,072	69,431	248,053
9	Corn.....	bushels 1,058,466	6,187,932	1,377,504	6,869,462	1,723,670	1,237,808	3,756,599	1,201,314	4,991,166
10	acres.....	1,841	3,576	1,141	1,141	975	1,343	3,012	1,885	12,321
11	Oats.....	bushels 50,818	109,194	13,907	24,696	23,451	34,422	64,530	45,335	290,412
12	acres.....	16,238	36,799	8,623	78,755	5,716	18,244	49,845	14,699	53,841
13	Wheat.....	bushels 388,760	1,246,796	239,637	2,207,266	157,316	659,570	1,329,373	404,271	1,749,303
14	acres.....	39,200	231,181	64,272	313,862	93,549	25,613	182,422	49,980	172,579
15	Emmer and spelt.....	bushels 414,485	3,722,778	750,211	4,097,885	997,545	502,815	2,137,657	685,451	2,706,208
16	acres.....	3,030	5,629	6,817	1,480	9,440	174	2,463	866	3,774
17	Barley.....	bushels 58,273	148,148	155,401	36,712	217,441	5,390	58,633	21,645	106,647
18	acres.....	5,995	41,680	10,662	22,618	16,097	1,093	7,974	2,001	5,337
19	Buckwheat.....	bushels 106,156	935,759	214,812	477,211	326,047	35,486	160,880	44,612	134,801
20	acres.....		2		14		4			30
21	bushels.....		5		56		98			507
22	Rye.....	acres. 3,869	156	247	2,195	165		356		170
23	bushels.....	39,972	4,252	3,536	25,636	1,370	27	5,526		3,270
24	Kafir corn and milo maize.....	acres.....								1
25	bushels.....									18
Other grains and seeds:										
26	Dry peas.....	acres.....			3			4		
27	bushels.....				50			38		3
28	Dry edible beans.....	acres.....			22			34	5	21
29	bushels.....		2		227		2	288	10	187
30	Flaxseed.....	acres.....	26,790	43,445	30,358	22,548	30,480	12,696	69,621	10,403
31	bushels.....	245,093	477,384	314,898	190,387	303,221	123,616	560,709	95,883	391,460
Hay and forage:										
32	Total.....	acres. 55,192	66,269	63,564	101,206	48,772	38,415	110,617	40,391	153,617
33	All tame or cultivated grasses.....	tons. 64,064	73,644	55,827	112,589	55,195	37,220	84,044	35,031	133,615
34	acres.....	1,353	9,154	537	6,933	929	2,022	2,459	1,539	2,843
35	Timothy alone.....	tons. 2,082	13,131	658	9,247	1,194	2,429	2,628	1,181	4,605
36	acres.....	4,109	22	3,313	3,313		9	318		68
37	tons.....	5,049	59	4,224	4,224		7	348		68
38	Timothy and clover mixed.....	acres. 15	118	241	241			50		1
39	tons.....	20	168	322	322			60		1
40	Clover alone.....	acres.....								
41	tons.....									
42	Alfalfa.....	acres. 199	41	2	62	15	322	36	2	33
43	tons.....	647	59	7	118	20	559	64	7	44
44	Millet or Hungarian grass.....	acres. 35	2,490	73	1,242	167	85	265	107	1,936
45	tons.....	68	5,145	167	2,144	236	216	479	159	3,858
46	Other tame or cultivated grasses.....	acres. 1,104	2,396	440	2,075	747	1,606	1,790	1,430	805
47	tons.....	1,347	2,710	425	2,439	938	1,647	1,677	1,015	634
48	Wild, salt, or prairie grasses.....	acres. 53,242	56,156	63,021	92,448	47,546	35,365	107,090	38,498	148,875
49	tons.....	61,036	58,654	55,154	100,310	53,669	33,532	80,273	33,588	125,817
50	Grains cut green.....	acres. 575	599		989	297	996	1,004	345	1,559
51	tons.....	876	769		1,158	332	1,170	1,035	236	2,370
52	Coarse forage.....	acres. 22	360	6	836		30	64	9	340
53	tons.....	70	1,089	15	1,874		86	106	26	823
Special crops:										
54	Potatoes.....	acres. 548	804	464	1,329	421	456	1,322	225	2,304
55	bushels.....	45,050	95,077	41,592	128,825	44,425	49,198	103,118	22,148	237,515
56	All other vegetables.....	acres. 132	111	178	417	176	327	390	287	1,105
FRUITS AND NUTS										
Orchard fruits:										
57	Total.....	trees.....	721	97	748	33	2	57		603
58	Apples.....	bushels.....	42	1	9	60	1			66
59	trees.....	131	16	427	33	2	6			353
60	Peaches and nectarines.....	bushels.....	22		2	60				37
61	trees.....	15								
62	Pears.....	bushels.....	5							
63	trees.....	2								
64	Plums and prunes.....	trees.....	534	48	183			30		189
65	bushels.....	7	1	7						29
66	Cherries.....	trees.....	39	33	138			21		60
67	bushels.....	8						1		
68	Grapes.....	vines.....								
69	pounds.....									12
Small fruits:										
71	Total.....	acres. 3	2	10				5		4
72	Strawberries.....	quarts. 209	3,135	954	4,906	56		2,884		4,428
73	acres.....	135	1,105	79	1,611			86		280
74	Raspberries and loganberries.....	quarts. 1						2		
75	acres.....	25	336	18	426			720		95
76	Currants.....	quarts. 1						1		2
77	acres.....	25	737	14	1,990			794		2,411
78	Gooseberries.....	quarts. 1						2		2
79	acres.....	24	783	843	879	56		1,276		1,642
80	Nuts.....	trees.....								
81	pounds.....									
82										

TABLE 5.—SELECTED FARM EXPENSES

1	Labor..... Farms reporting.....	dollars 401	937	309	1,601	585	669	1,408	516	1,498
2	Cash expended.....	dollars 75,099	339,199	45,326	468,080	179,746	102,696	271,687	161,559	210,958
3	Rent and board furnished.....	dollars 24,452	85,725	11,407	101,635	16,880	24,784	67,736	12,985	73,787
4	Fertilizer..... Farms reporting.....	dollars 2	45		8					1
5	Amount expended.....	dollars 110	4		691	40				50
6	Feed..... Farms reporting.....	dollars 387	438	224	590	45	319	906	81	665
7	Amount expended.....	dollars 26,892	52,682	13,698	50,063	15,151	22,344	93,883	4,156	50,185
8	Receipts from sale of feedable crops.....	dollars 17,695	224,236	23,227	120,508	2,221	43,392	27,726	3,941	84,619

TABLE 4.—VALUE OF ALL CROPS AND PRINCIPAL CLASSES THEREOF, AND ACREAGE AND PRODUCTION OF PRINCIPAL CROPS, BY COUNTIES: 1909—Continued.

		Steele.	Stutsman.	Towner.	Trall.	Walsh.	Ward.	Wells.	Williams.	
VALUE OF ALL CROPS										
1	Total.....	dollars. 4,163,580	5,318,022	4,984,058	4,629,971	6,463,894	5,289,631	4,239,421	3,285,245	
2	Cereals.....	dollars. 3,607,981	4,002,197	4,537,275	4,074,024	5,640,243	4,219,855	3,599,340	2,092,434	
3	Other grains and seeds.....	dollars. 315,128	850,026	246,703	155,452	260,277	520,642	286,013	185,439	
4	Hay and forage.....	dollars. 198,593	356,875	173,922	329,732	407,746	405,747	286,435	312,799	
5	Vegetables.....	dollars. 37,747	106,533	55,476	52,372	124,213	109,649	66,399	88,274	
6	Fruits and nuts.....	dollars. 1,887	863	588	4,661	4,743	932	702	153	
7	All other crops.....	dollars. 2,244	1,228	94	13,730	26,667	32,806	332	6,146	
SELECTED CROPS (acres and quantity)										
8	Cereals:									
9	Total.....	acres. 271,053	370,939	317,905	306,371	425,670	346,531	368,408	177,977	
10	bushels. 5,217,320	5,781,319	6,392,411	5,672,240	8,093,084	6,021,991	5,239,894	3,909,129	3,909,129	
11	Corn.....	acres. 2,336	1,870	2,463	6,416	2,096	582	836	768	
12	bushels. 66,135	54,439	82,015	151,529	65,225	12,404	21,877	20,750	20,750	
13	Oats.....	acres. 44,544	71,504	51,421	46,498	70,959	73,615	58,717	45,021	
14	bushels. 1,435,088	1,917,328	1,776,505	1,456,106	2,234,362	2,172,108	1,575,930	1,457,511	1,457,511	
15	Wheat.....	acres. 189,234	253,668	217,600	211,680	280,556	259,047	272,033	127,202	
16	bushels. 2,920,720	2,975,966	3,405,966	3,159,902	4,237,016	3,546,271	2,932,219	2,295,808	2,295,808	
17	Emmer and spelt.....	acres. 273	3,869	1,895	40	245	2,585	2,407	1,012	
18	bushels. 8,630	89,741	54,684	1,380	5,980	58,379	50,049	59,176	59,176	
19	Barley.....	acres. 34,646	39,176	44,409	38,444	71,050	10,383	32,189	2,071	
20	bushels. 786,422	731,889	1,072,171	815,673	1,537,194	227,347	630,309	74,067	74,067	
21	Buckwheat.....	acres. 20	4	4	4	175	4	4	24	
22	bushels. 20	548	117	3,289	589	314	2,082	101	101	
23	Rye.....	acres. 325	11,946	1,070	57,632	9,041	5,482	28,101	1,733	
24	bushels. 177	10	5	45	15	13	6	3		
25	Kafir corn and milo maize.....	acres. 1	13	3	3	47	6	10		
26	bushels. 29	135	9	101	669	486	32	73		
27	Dry peas.....	acres. 19,806	63,327	14,778	11,252	16,231	44,922	20,275	15,574	
28	bushels. 209,774	583,954	157,209	97,825	162,630	341,752	192,788	123,855		
29	Hay and forage:									
30	Total.....	acres. 28,747	88,761	29,878	57,560	65,519	101,931	47,797	86,858	
31	bushels. 40,740	98,736	42,956	67,864	78,556	96,774	56,632	71,359		
32	All tame or cultivated grasses.....	acres. 9,030	5,991	2,266	37,693	28,386	8,438	10,105	2,123	
33	bushels. 11,986	10,332	3,282	38,916	32,422	9,465	15,019	2,409		
34	Timothy alone.....	acres. 3,084	1,152	608	22,282	13,052	3,740	1,724	330	
35	bushels. 3,454	1,458	826	20,533	12,029	4,248	2,070	418		
36	Timothy and clover mixed.....	acres. 433	24	75	7,127	2,002	162	62	15	
37	bushels. 578	40	62	8,027	2,252	144	76	30		
38	Clover alone.....	acres. 1	23	291	219	6	4	4		
39	bushels. 1	14	315	217	227	91	17	250		
40	Alfalfa.....	acres. 6	282	44	95	26	91	25		
41	bushels. 11	686	59	164	32	95	25	481		
42	Millet or Hungarian grass.....	acres. 4,320	2,664	687	7,038	11,010	1,857	5,833		
43	bushels. 6,100	6,038	1,383	8,972	15,624	2,700	10,407	303		
44	Other tame or cultivated grasses.....	acres. 1,186	1,869	829	860	2,077	2,588	2,463		
45	bushels. 1,842	2,110	938	905	2,258	2,278	2,437	1,324		
46	Wild, salt, or prairie grasses.....	acres. 18,162	81,327	26,391	12,382	32,254	89,622	34,063		
47	bushels. 25,422	85,688	37,755	11,962	35,748	81,902	35,255	67,921		
48	Grains cut green.....	acres. 430	289	966	970	2,665	1,647	2,816		
49	bushels. 622	516	1,529	1,412	3,661	1,996	4,231	268		
50	Coarse forage.....	acres. 1,125	1,154	255	6,515	2,214	2,224	813		
51	bushels. 2,710	2,200	390	15,574	6,725	3,411	2,127	761		
52	Special crops:									
53	Potatoes.....	acres. 671	1,655	639	1,094	2,852	1,699	793	1,294	
54	bushels. 85,954	158,376	77,743	127,875	327,228	118,846	67,545	107,890		
55	All other vegetables.....	acres. 176	522	240	132	418	482	339	251	
FRUITS AND NUTS										
56	Orchard fruits:									
57	Total.....	acres. 1,016	1,521	133	2,411	2,410	484	103	562	
58	bushels. 225	130	1	504	1,169	25	1	8		
59	Apples.....	acres. 597	341	13	1,371	1,318	127	1		
60	bushels. 161	6	12	382	965	14	1			
61	Peaches and neetarinens.....	acres. 4	4	4	4	4	4	4		
62	bushels. 2	2	2	2	2	2	2			
63	Pears.....	acres. 336	1,062	68	846	868	187	68		
64	bushels. 54	116	112	112	174	8	8			
65	Plums and prunes.....	acres. 79	118	40	194	213	170	34		
66	bushels. 12	8	1	10	19	3	3			
67	Cherries.....	acres. 12	8	1	10	19	3			
68	bushels. 12	8	1	10	19	3	3			
69	Grapes.....	vines. 28								
70	pounds. 28									
71	Small fruits:									
72	Total.....	acres. 19	9	7	33	25	8	5	1	
73	bushels. 11,320	5,823	3,558	26,289	17,184	5,561	4,409	858		
74	Strawberries.....	acres. 1	1	1	11	6	1	1		
75	bushels. 1,892	697	327	11,779	3,989	1,182	1,037	20		
76	Raspberries and loganberries.....	acres. 7	2	1	10	4	1	1		
77	bushels. 3,997	1,322	280	6,426	2,589	829	336	4		
78	Currants.....	acres. 5	4	3	8	9	4	2		
79	bushels. 3,055	2,778	1,832	5,802	6,623	2,084	1,725	597		
80	Gooseberries.....	acres. 4	2	2	4	5	2	2		
81	bushels. 2,004	1,031	1,099	2,154	3,472	1,386	1,311	234		
82	Nuts.....	acres. 2								
	bushels. 2									
	pounds. 2									

TABLE 5.—SELECTED FARM EXPENSES AND RECEIPTS, BY COUNTIES: 1909—Continued.

1	Labor.....	Farms reporting 785	1,030	861	984	1,881	1,611	995	1,040
2	Cash expended.....	dollars. 598,776	348,266	554,227	780,613	774,979	308,560	426,010	142,446
3	Rent and board furnished.....	dollars. 143,417	96,012	126,632	216,122	246,164	92,751	123,088	47,659
4	Fertilizer.....	Farms reporting 1	1	1	3	6	4	2	1
5	Amount expended.....	dollars. 54	15	31	141	375	285	130	697
6	Feed.....	Farms reporting 221	438	230	402	649	1,037	259	697
7	Amount expended.....	dollars. 28,680	59,975	32,909	49,905	57,236	92,538	26,987	48,004
8	Receipts from sale of feedable crops.....	dollars. 194,581	119,502	258,556	140,088	269,213	73,261	149,321	40,520

STATISTICS OF AGRICULTURE.

TABLE 6.—NUMBER AND VALUE OF DOMESTIC ANIMALS NOT ON FARMS, BY COUNTIES: APRIL 15, 1910.

		The State.	Adams.	Barnes.	Benson.	Billings.	Bottineau.	Bowman.	Burke.	Burleigh.	Cass.
1	Inclosures reporting domestic animals...	9,784	5	413	188	33	284	23	174	240	571
2	Value of domestic animals.....dollars..	3,415,679	11,337	121,687	68,810	20,490	95,915	10,296	75,595	70,639	103,578
	Cattle:										
3	Total number.....	12,429	6	393	257	136	254	45	238	274	537
4	Value.....dollars..	401,580	187	13,097	8,561	4,765	8,199	1,826	6,700	9,213	18,725
5	Number of dairy cows.....	8,640	4	290	185	35	205	16	113	228	432
	Horses:										
6	Total number.....	22,214	29	835	450	148	624	64	485	451	1,276
7	Value.....dollars..	2,854,134	3,150	105,305	57,680	15,305	85,000	8,375	67,390	53,958	173,598
8	Number of mature horses.....	21,413	23	818	424	146	604	64	471	436	1,253
	Mules and asses and burros:										
9	Total number.....	739	54	16	3	2	12		10	67	5
10	Value.....dollars..	125,402	8,000	2,715	500	300	2,100		1,092	7,400	540
11	Number of mature mules.....	708	54	15	3	2	12		10	67	5
	Swine:										
12	Total number.....	2,461		41	133	9	43	3	38	4	94
13	Value.....dollars..	28,334		559	2,069	120	596	90	398	65	658
	Sheep and goats:										
14	Total number.....	1,321		5			2	1	2	1	8
15	Value.....dollars..	6,229		11			20	5	15	3	57

		Cavalier.	Dickey.	Divide.	Dunn.	Eddy.	Emmons.	Foster.	Grand Forks.	Griggs.	Hettinger.
1	Inclosures reporting domestic animals...	218	204	23	13	71	73	148	602	83	13
2	Value of domestic animals.....dollars..	52,418	81,541	19,027	8,405	26,842	15,424	47,883	161,104	42,510	16,765
	Cattle:										
3	Total number.....	205	284	31	16	73	69	207	642	119	20
4	Value.....dollars..	6,567	8,870	1,057	315	2,681	2,565	6,691	24,383	4,064	930
5	Number of dairy cows.....	163	211	28	10	67	69	110	575	81	20
	Horses:										
6	Total number.....	348	570	113	39	170	112	292	1,066	305	172
7	Value.....dollars..	44,645	71,578	17,900	5,475	22,845	12,699	39,370	135,975	35,670	15,750
8	Number of mature horses.....	339	548	112	36	163	108	283	1,038	291	172
	Mules and asses and burros:										
9	Total number.....	5	5	1		6		1	2	10	
10	Value.....dollars..	650	700	50		1,000		1,500	250	2,000	
11	Number of mature mules.....	5	5			6			2	10	
	Swine:										
12	Total number.....	41	45	2	14	30	18	23	45	58	8
13	Value.....dollars..	550	393	20	115	316	160	301	411	776	85
	Sheep and goats:										
14	Total number.....	1			490			5	18		
15	Value.....dollars..	6			2,500			21	85		

		Kidder.	Lamoure.	Logan.	McHenry.	McIntosh.	McKenzie.	McLean.	Mercer.	Morton.	Mountrail.
1	Inclosures reporting domestic animals...	39	169	55	218	67	1	200	10	363	117
2	Value of domestic animals.....dollars..	17,196	61,794	22,467	133,298	26,044	241	84,856	13,847	173,510	53,701
	Cattle:										
3	Total number.....	70	169	113	185	243	2	294	323	409	161
4	Value.....dollars..	1,810	5,048	2,897	7,148	5,358	41	9,368	7,292	12,588	4,739
5	Number of dairy cows.....	40	131	71	153	106	1	187	14	289	111
	Horses:										
6	Total number.....	130	390	145	737	108	2	657	62	936	396
7	Value.....dollars..	13,045	54,230	18,890	109,065	20,115	200	74,262	6,325	116,475	48,730
8	Number of mature horses.....	117	382	133	718	101	2	640	38	914	366
	Mules and asses and burros:										
9	Total number.....	2	9	2	70			5		268	
10	Value.....dollars..	400	2,450	300	16,700			800		44,000	
11	Number of mature mules.....	2	8	2	89			5		268	
	Swine:										
12	Total number.....	18	6	52	48	51		43	24	47	18
13	Value.....dollars..	161	66	371	381	543		421	230	395	230
	Sheep and goats:										
14	Total number.....	440		2	1	10		1		12	1
15	Value.....dollars..	1,780		9	4	28		5		49	2

		Nelson.	Oliver.	Pembina.	Pierce.	Ramsey.	Ransom.	Renville.	Richland.	Rolette.	Sargent.
1	Inclosures reporting domestic animals...	208	3	434	128	362	288	99	478	217	217
2	Value of domestic animals.....dollars..	71,757	955	123,201	37,166	111,183	93,715	30,476	122,687	71,597	91,492
	Cattle:										
3	Total number.....	266	2	729	156	409	381	86	558	331	430
4	Value.....dollars..	8,245	55	21,323	4,960	15,370	11,494	2,864	16,624	9,130	15,617
5	Number of dairy cows.....	191	1	476	126	277	264	67	467	208	184
	Horses:										
6	Total number.....	497	6	746	240	660	614	238	857	477	622
7	Value.....dollars..	61,630	900	97,218	31,970	90,421	79,520	25,615	103,348	61,690	73,630
8	Number of mature horses.....	477	6	716	229	642	532	234	827	462	606
	Mules and asses and burros:										
9	Total number.....	5		11	1	13	9	3	9	1	8
10	Value.....dollars..	560		2,975	35	2,500	2,150	450	930	200	1,410
11	Number of mature mules.....	2		9		12	3	2	8	1	5
	Swine:										
12	Total number.....	109		141	32	198	23	56	102	52	52
13	Value.....dollars..	1,312		1,361	201	2,882	551	795	1,773	572	830
	Sheep and goats:										
14	Total number.....	2		81		1		85	3	1	1
15	Value.....dollars..	10		324		10		752	12	5	5

SUPPLEMENT FOR NORTH DAKOTA.

TABLE 6.—NUMBER AND VALUE OF DOMESTIC ANIMALS NOT ON FARMS, BY COUNTIES: APRIL 15, 1910—Continued.

	Sheridan.	Stark.	Steele.	Stutsman.	Towner.	Traill.	Walsh.	Ward.	Wells.	Williams.
1 Inclosures reporting domestic animals...	147	300	109	285	140	339	375	520	206	311
2 Value of domestic animals.....dollars..	60,709	85,750	37,435	97,699	51,321	75,809	99,907	197,537	60,696	167,367
Cattle:										
3 Total number.....	244	467	137	276	111	431	493	481	231	435
4 Value.....dollars..	6,805	12,739	4,560	9,480	3,900	13,624	16,715	17,850	7,590	16,950
5 Number of dairy cows.....	158	247	121	226	97	366	387	388	187	277
Horses:										
6 Total number.....	407	537	282	700	287	528	668	1,300	430	1,006
7 Value.....dollars..	52,820	68,520	31,925	86,206	45,320	60,668	81,076	172,465	52,342	143,845
8 Number of mature horses.....	366	522	270	690	273	518	644	1,265	402	942
Mules and asses and burros:										
9 Total number.....	1	15	6	5	9	6	1	31	5	45
10 Value.....dollars..	150	3,600	700	1,250	1,180	850	100	6,550	515	5,850
11 Number of mature mules.....	1	13	6	1	9	6	.....	29	4	42
Swine:										
12 Total number.....	100	76	22	88	79	60	171	57	28	59
13 Value.....dollars..	934	876	240	759	684	652	1,791	672	244	722
Sheep and goats:										
14 Total number.....	2	1	2	2	51	4	86	.....	1	.....
15 Value.....dollars..	15	10	4	237	15	225	.....	.....	5	.....

CHAPTER 4.

STATISTICS OF IRRIGATION FOR THE STATE AND ITS COUNTIES.

Introduction.—This chapter presents the larger part of the statistics of irrigation for North Dakota obtained in connection with the Thirteenth Census. The statistics of the number of farms and acreage irrigated, cost of operation and maintenance, and irrigated crops are for the calendar year 1909; those of irrigation works, cost of enterprises, acreage enterprises were capable of irrigating in 1910, and acreage included in projects are of the date July 1, 1910.

These statistics have been collected under the law of February 25, 1910, which contained the following clause relating to irrigation:

Inquiries shall also be made as to the location and character of irrigation enterprises, quantity of land irrigated in the arid region of the United States and in each state and county in that section under state and Federal laws; the price at which these lands, including water rights, are obtainable; the character and value of crops produced on irrigated lands, the amount of water used per acre for said irrigation and whether it was obtainable from national, state, or private works; the location of the various projects and methods of construction, with facts as to their physical condition; the amount of capital invested in such irrigation works.

The information called for by this law which could be supplied by farm operators was obtained on supplemental schedules by the regular census enumerators as a part of the agricultural census. The remaining data, which were supplied by the owners or officials of irrigation enterprises, were obtained on special schedules by special agents. The data relating to number of farms irrigated and irrigated crops are taken from the supplemental schedules, while all data relating to acreage irrigated and to irrigation works and their construction and operation are taken from the special schedules.

In accordance with the law, the data collected have been classified primarily by the state and Federal laws by virtue of which the land was brought under irrigation. The results are presented in detail at the end of this chapter and summarized in text tables.

Such of the terms used as are not self-explanatory are defined below.

Farms irrigated.—The number of "farms irrigated" is the number of farms on which irrigation is practiced and is equivalent to the term "number of irrigators" used in previous census reports.

Types of enterprise.—The types of enterprise under which the lands irrigated in 1909 are classified are as follows:

United States Reclamation Service enterprises, which operate under the Federal law of June 17, 1902, providing for the construction of irrigation works with the receipts from the sale of public lands.

United States Indian Service enterprises, which operate under various acts of Congress providing for the construction by that service of works for the irrigation of land in Indian reservations.

Carey Act enterprises, which operate under the Federal law of August 18, 1894, granting to each of the states in the arid region 1,000,000 acres of land on condition that the state provide for its irrigation, and under amendments to that law granting additional areas to Idaho and Wyoming.

Irrigation districts, which are public corporations that operate under state laws providing for their organization and management, and empowering them to issue bonds and levy and collect taxes with the object of obtaining funds for the purchase or construction, and for the operation and maintenance of irrigation works.

Cooperative enterprises, which are controlled by the water users under some organized form of cooperation. The most common form of organization is the stock company, the stock of which is owned by the water users.

Commercial enterprises, which supply water for compensation to parties who own no interest in the works. Persons obtaining water from such enterprises are usually required to pay for the right to receive water, and to pay, in addition, annual charges based in some instances on the acreage irrigated and in others on the quantity of water received.

Individual and partnership enterprises, which belong to individual farmers or to neighboring farmers, who control them without formal organization. It is not always possible to distinguish between partnership and cooperative enterprises, but as the difference is slight this is unimportant.

Source of water supply.—Of the terms used in the classification according to source of water supply, none requires explanation except "reservoirs." The only reservoirs which are treated as independent sources of supply are those filled by collecting storm water or from watercourses that are ordinarily dry. When reservoirs are filled from streams or wells, the primary source is considered the source of supply.

Acre-foot.—The "acre-foot," used to express the capacity of reservoirs, is the volume of water required to cover 1 acre to a depth of 1 foot, or 43,560 cubic feet.

Cost.—The cost of irrigation enterprises is that given by the owners. For the larger works the cost given is taken, in most cases, from the books of account and represents the actual cost. In the case of most of the private and partnership and many of the cooperative enterprises, however, the works were built by their owners without records of money or labor expended, and the cost given represents the owners' estimates. The cost reported for 1910 includes the cost of construction and of acquiring rights. The latter usually consists of filing fees only. In some instances it includes the purchase price of rights, but these cases are so rare that they are unimportant. The cost reported for 1899 is designated "cost of construction," but probably includes the cost of acquiring rights, as in 1910. The average cost per acre is based on the acreage enterprises were capable of irrigating in 1910 and the cost to July 1, 1910.

FARMS AND ACREAGE IRRIGATED.

The entire area of North Dakota lies within the Great Plains. Throughout the state the rainfall is sufficient in most seasons for the maturing of crops without irrigation, the normal annual precipitation ranging from about 20 inches at the eastern boundary to about 15 inches at the western boundary.

Partly because irrigation is not necessary in every year, and partly because of the proximity of the lands which require no irrigation, the practice of irrigation has as yet been less developed in this state than in the states farther to the west.

Irrigation is for the most part confined to the ex-

treme northwestern counties of the state, along the Missouri River. The western counties bordering on this river, McKenzie and Williams, contain about 87 per cent of the total acreage reported as irrigated in 1909.

The following table shows for the state as a whole the number of farms and acreage irrigated in 1909, in comparison with the total number of farms, the total land area, the total land in farms, and the total acreage of improved land in farms in 1910, together with the areas not yet irrigated for which water has been or is being made available. Comparative figures for the census of 1900 are included as far as possible.

	CENSUS OF—		INCREASE.	
	1910	1900	Amount.	Per cent.
Number of all farms.....	1 74,360	2 45,332	29,028	64.0
Approximate land area of the state.....acres.	44,917,120	44,917,120		
Land in farms.....acres.	1 28,426,650	2 15,542,640	12,884,010	82.9
Improved land in farms.....acres.	1 20,455,092	2 9,644,520	10,810,572	112.1
Number of farms irrigated.....	3 69	4 54	15	27.8
Acreage irrigated.....	3 10,248	4 4,872	5,376	110.3
Acreage enterprises were capable of irrigating.....	5 21,917	(6)		
Acreage included in projects.....	6 38,173	(7)		
Percentage irrigated of—				
Number of all farms.....	0.1	0.1		
Approximate land area of the state.....	(7)	(7)		
Land in farms.....	(7)	(7)		
Improved land in farms.....	0.1	0.1		
Excess of acreage enterprises were capable of irrigating in 1910 over acreage irrigated in 1909.....	11,669			
Excess of acreage included in projects over acreage irrigated in 1909.....	27,925			

1 April 15. 2 June 1. 3 In 1909. 4 In 1899. 5 July 1. 6 Not reported. 7 Less than one-tenth of 1 per cent.

Number of farms irrigated.—According to the figures presented in the table, irrigation was practiced on only about one-tenth of 1 per cent of the farms in the state in either 1909 or 1899. Williams County, with 2 per cent of its farms irrigated, was the only county in which the proportion of irrigated farms was as high as 1 per cent.

From 1899 to 1909 the increase in the number of farms irrigated was 27.8 per cent.

Acreage irrigated.—The total acreage reported as irrigated in 1909 was 10,248, as against 4,872 acres in 1899 and 445 acres in 1889.

The average acreage irrigated per farm increased from 90.2 in 1899 to 148.5 in 1909. During the same period the average size of the farms in the state increased from 342.9 to 382.3.

At both censuses the larger part of the irrigated land was in Williams County, where 8,043 acres were irrigated in 1909 and 2,632 acres in 1899. McKenzie County had the next largest irrigated area in 1909—850 acres.

Acreage included in projects.—The foregoing table shows that in 1910 existing enterprises were ready to

supply water to 21,917 acres, or 11,669 acres more than were irrigated in 1909. The acreage included in projects exceeds the acreage irrigated in 1909 by 27,925 acres, which is more than five times the acreage brought under irrigation between 1899 and 1909, and nearly three times the acreage irrigated in 1909. This acreage represents the area which will be available for the extension of irrigation in the next few years upon the completion of existing enterprises and without new undertakings.

Acreage irrigated, classified by character of enterprise.—The following table gives the distribution of the acreage irrigated in 1909 according to the character of the enterprise controlling the irrigation works:

CHARACTER OF ENTERPRISE.	ACREAGE IRRIGATED IN 1909.	
	Amount.	Per cent distribution.
All classes.....	10,248	100.0
U. S. Reclamation Service.....	1,610	15.7
Individual and partnership enterprises.....	8,638	84.3

North Dakota has not accepted the conditions of the Carey Act and has no irrigation district law. As United States Reclamation Service enterprises are to be turned over to the water users eventually, it is evident that the entire acreage irrigated in 1909 was supplied by works that are either controlled by the water users or to come under their control later.

Acreage irrigated, classified by source of water supply.—The following table shows the distribution of the acreage irrigated in 1909 according to the source of water supply:

SOURCE OF WATER SUPPLY.	ACREAGE IRRIGATED IN 1909.	
	Amount.	Per cent distribution.
All sources.....	10,248	100.0
Streams.....	8,767	85.5
Wells.....	1	(¹)
Springs.....	200	2.0
Reservoirs.....	1,280	12.5

¹ Less than one-tenth of 1 per cent.

From the table it is apparent that up to the present time there has been comparatively little development of any source of water supply other than streams.

IRRIGATION WORKS.

The following statement summarizes the data collected relating to works for supplying water for irrigation in 1910. None of these items was reported in 1900.

Independent enterprises.....	number..	49
Ditches, total length.....	miles..	126
Main ditches.....	number..	47
Length.....	miles..	52
Capacity.....	cubic feet per second..	2,161
Lateral ditches.....	number..	46
Length.....	miles..	74
Reservoirs.....	number..	22
Capacity.....	acre-feet..	132,187
Pumped wells.....	number..	1
Capacity.....	gallons per minute..	15
Pumping plants.....	number..	4
Engine capacity.....	horsepower..	2,038
Pump capacity.....	gallons per minute..	182,115

Assuming that the enterprises in operation in 1909 were identical with those reported in 1910, the average acreage irrigated per enterprise was 209.1, and the acreage irrigated per mile of main ditch was 197.1.

There has been almost no utilization of underground water for irrigation, no flowing wells being reported and only one pumped well, which watered 1 acre in 1909. The water pumped for irrigation is taken principally from the Missouri River by the United States Reclamation Service at its Williston projects.

Cost of construction, operation, and maintenance.—The following table gives data in regard to the cost of construction, operation, and maintenance of irrigation enterprises.

	CENSUS OF—	
	1910	1900
Cost of irrigation enterprises.....	¹ \$836,482	² \$16,980
Average per acre.....	³ \$38.17	⁴ \$3.49
Estimated final cost of existing enterprises.....	\$836,482	(⁵)
Average per acre included in projects.....	\$21.91	(⁵)
Operation and maintenance:		
Acreage for which cost is reported.....	1,610	(⁵)
Total cost reported.....	⁶ \$45,718	(⁵)
Average cost per acre.....	\$28.40	(⁵)

¹ Reported July 1.
² Cost of construction of systems operated in 1899.
³ Based on acreage enterprises were capable of irrigating in 1910.
⁴ Based on acreage irrigated in 1899.
⁵ Not reported.
⁶ For 1909.

The cost of irrigation systems reported at the census of 1910 is nearly 50 times as great as that reported at the preceding census, and the average cost per acre, as given in the table, likewise shows a large increase. The average cost per acre shown for the census of 1910 is based on the acreage under ditch in that year, but since the corresponding acreage for 1900 was not reported, the figure for average cost at the earlier census is based on the acreage actually irrigated in 1899. If computed on the basis of the acreage irrigated in 1909, the average cost in 1910 would be \$81.62, which is more than twice as great as the average based on the acreage enterprises were capable of irrigating in 1910. This high average cost per acre irrigated is due to the fact that some of the enterprises upon which heavy expenditures have been made did not operate to their full capacity in either 1909 or 1910. An average based on the estimated final cost and the acreage included in projects, \$21.91, probably represents the average cost per acre of irrigation in North Dakota more exactly than either of the averages noted above.

The average cost per acre enterprises were capable of irrigating in 1910 was \$6.63 in McLean County, \$7.84 in McKenzie County, and \$39.72 in Williams County. Williams County also shows a higher estimated final cost per acre included in projects than either of the other counties referred to, \$22.40, as compared with \$2.02 in McLean County and \$4.35 in McKenzie County.

The entire cost of operation and maintenance reported relates to a single large pumping enterprise which is supplying water to only a small part of the land which it was designed to serve. For this reason the average cost per acre shown is not representative of the normal cost of operating and maintaining such works.

CROPS.

The next table shows the acreage, yield, and value of the principal crops reported as grown under irrigation in 1909.

CROP.	IRRIGATED CROPS: 1909				Value.
	Acreage.	YIELD.			
		Unit.	Amount.	Average per acre.	
Cereals:					
Oats	544	Bu....	25,655	47.2	\$8,368
Wheat	1,268	Bu....	28,011	22.1	26,145
Hay and forage:					
Alfalfa	136	Tons..	274	2.01	2,115
Wild, salt, or prairie grasses	1,057	Tons..	1,424	1.35	9,518

Although other crops were irrigated to some extent, the areas reported for these are in every case less than 100 acres. Alfalfa is the only crop shown in the table of which the acreage under irrigation formed as much as 1 per cent of the total acreage in that crop, the proportion for alfalfa being 4.5 per cent.

Of the crops shown in the table, wheat has the largest acreage, representing 42.2 per cent of the total irrigated acreage of the crops given. "Wild, salt, or prairie grasses" is next, with 35.2 per cent of this total, and oats follow with 18.1 per cent.

COUNTY TABLE.

The next table gives in detail, for the state and principal counties, the data summarized in this section, except those relating to crops.

Change of boundaries.—In comparing the data secured in 1910 with those for the preceding census, the following changes in the boundaries of the counties which are shown separately in the table should be considered: The organization of McKenzie County from parts of Stark and Billings Counties in 1905; that of Sheridan County from part of McLean County in 1909; and that of Divide County from part of Williams County in 1910.

ACREAGE IRRIGATED, EXTENT AND COST OF IRRIGATION ENTERPRISES, AND COST OF OPERATION AND MAINTENANCE, BY COUNTIES: 1909 AND 1910.

[Comparative data for 1899 in italics.]

	THE STATE.	McKenzie.	McLean. ¹	Williams. ¹	All other counties.
1 Number of all farms in 1910	74,360	1,406	2,379	2,602	67,973
2 Number of farms irrigated in 1909	69	7	1	53	8
3 Per cent of all farms	0.1	0.5	(²)	2.0	(²)
4 <i>Number of farms irrigated in 1899</i>	<i>54</i>	<i>(¹)</i>		<i>25</i>	<i>(²)</i>
5 Per cent of increase, 1899-1909	27.8				(²)
LAND AND FARM AREA					
6 Approximate land area	44,917,120	1,822,080	1,475,200	1,368,320	40,251,520
7 Land in farms	28,426,650	277,857	837,250	786,983	26,524,560
8 Improved land in farms	20,455,092	95,295	580,606	305,292	19,473,589
9 Acreage irrigated in 1909	10,248	850	120	8,043	1,235
10 Per cent of total land area	(²)	(²)	(²)	0.6	(²)
11 Per cent of land in farms	(²)	0.3	(²)	1.0	(²)
12 Per cent of improved land in farms	0.1	0.9	(²)	2.6	(²)
13 <i>Acreage irrigated in 1899</i>	<i>4,872</i>	<i>(¹)</i>		<i>2,632</i>	<i>2,240</i>
14 Per cent of increase, 1899-1909	110.3				(²)
15 Acreage enterprises were capable of irrigating in 1910	21,917	850	163	19,664	1,240
16 Acreage included in projects	38,173	1,532	535	34,865	1,241
ACREAGE IRRIGATED AND INCLUDED IN PROJECTS					
CLASSIFIED BY CHARACTER OF ENTERPRISE.					
17 U. S. Reclamation Service, irrigated in 1909	1,610			1,610	
18 Enterprises were capable of irrigating in 1910	12,096			12,096	
19 Included in projects	24,480			24,480	
20 Individual and partnership enterprises, irrigated in 1909	8,638	850	120	6,433	1,235
21 Enterprises were capable of irrigating in 1910	9,821	850	163	7,568	1,240
22 Included in projects	13,693	1,532	535	10,385	1,241
ACREAGE IRRIGATED					
CLASSIFIED BY SOURCE OF WATER SUPPLY.					
23 Supplied from streams	8,767	590	120	6,843	1,214
24 By gravity	7,153	590	120	5,233	1,210
25 By pumping	1,614			1,610	4
26 Supplied from wells	1				1
27 By pumping	1				1
28 Supplied from springs	200			200	
29 Supplied from reservoirs	1,280	260		1,000	20
30 Total acreage supplied by pumping	1,615			1,610	5
IRRIGATION ENTERPRISES					
31 Independent enterprises	49	6	1	34	8
32 Main ditches	47	5	1	35	6
33 Length	52	8	1	40	3
34 Capacity	2,161	162	3	1,703	293
35 Laterals	46	16		30	
36 Length	74	1		73	
37 Reservoirs	22	8	1	13	
38 Capacity	132,187	25	5	132,157	
39 Pumped wells	1				1
40 Capacity	15				15
41 Pumping plants	4	1		1	2
42 Engine capacity	2,033	30		2,000	8
43 Pump capacity	182,115	2,000		180,000	115
COST					
44 Cost of enterprises up to July 1, 1910	836,482	(¹)	1,080	781,100	47,689
45 <i>Cost in 1899</i>	<i>16,980</i>	<i>6,663</i>		<i>7,889</i>	<i>8,991</i>
46 Per cent of increase, 1899-1910	4,826.3				(²)
47 Average cost per acre enterprises were capable of irrigating in 1910	38.17	7.84	6.63	39.72	38.42
48 <i>Average cost per acre irrigated in 1899</i>	<i>8.49</i>	<i>(¹)</i>		<i>5.04</i>	<i>4.01</i>
49 Estimated final cost of existing enterprises	836,482	6,663	1,080	781,100	47,689
50 Average per acre included in projects	21.91	4.35	2.02	22.40	38.39
OPERATION AND MAINTENANCE					
51 Acreage for which cost is reported	1,610			1,610	
52 Total cost reported	45,718			45,718	
53 Average per acre for which cost is reported	28.40			28.40	

¹ Change of boundary. (See explanation at close of text.)

² Less than one-tenth of 1 per cent.

³ Does not include the same territory at the two censuses.

CHAPTER 5.

STATISTICS OF MANUFACTURES FOR THE STATE, CITIES, AND INDUSTRIES.

Introduction.—This chapter gives the statistics of manufactures for the state of North Dakota for the calendar year 1909, as shown by the Thirteenth Census.

The text summarizes the general results of the census inquiry, presenting a series of special tables in which the main facts printed in the general tables are given in convenient form for the state as a whole and for important industries. It also presents tables in which the statistics for the industries of the state as a whole and for a few important industries are classified by character of ownership, size of establishments, number of wage earners, and prevailing hours of labor, information which could not be presented in general tables for each industry without disclosing the facts for individual establishments.

At the end of the chapter are three general tables.

Table I gives for 1909, 1904, and 1899 the number of establishments and of persons engaged in the industries, primary power, capital, salaries and wages, cost of materials, value of products, and value added by manufacture reported for all industries combined and for certain important industries for the state as a whole. It also gives the same items for all industries combined for every city having in 1910 a population of over 10,000 but less than 50,000.

Table II gives statistics in detail for 1909 for the state and for a larger number of industries.

Table III gives statistics in detail for 1909 for all industries combined for each city having from 10,000 to 50,000 inhabitants.

Scope of census: Factory industries.—Census statistics of manufactures are compiled primarily for the purpose of showing the absolute and relative magnitude of the different branches of industry covered and their growth or decline. Incidentally, the effort is made to present data throwing light upon character of organization, location of establishments, size of establishments, labor force, and similar subjects. When use is made of the data for these purposes it is imperative that due attention should be given to the limitations of the figures. Particularly is this true when the attempt is made to derive from them figures purporting to show average wages, cost of production, or profits. These limitations will be fully discussed in the general report on manufactures for the United States as a whole.

The census of 1909, like that of 1904, was confined to manufacturing establishments conducted under the factory system, as distinguished from the neighborhood, hand, and building industries. Where statistics for 1899 are given they have been reduced to a

comparable basis by eliminating the latter classes of industries. The census does not include establishments which were idle during the entire year, or had a value of products of less than \$500, or the manufacturing done in educational, eleemosynary, and penal institutions, or in governmental establishments, except those of the Federal Government.

Period covered.—The returns cover the calendar year 1909, or the business year which corresponds most nearly to that calendar year. The statistics cover a year's operations, except for establishments which began or discontinued business during the year.

The establishment.—The term "establishment" comprises the factories, mills, or plants which are under a common ownership or control, and for which one set of books of account is kept.

If, however, the plants constituting an establishment as thus defined were not all located within the same city or state, separate reports were secured in order that the separate totals might be included in the statistics for each city or state. In some instances separate reports were secured for different industries carried on in the same establishment.

Classification by industries.—The establishments were assigned to the several classes of industries according to their products of chief value. The products reported for a given industry may thus, on the one hand, include minor products very different from those covered by the class designation, and, on the other hand, may not include the total product covered by this designation, because some part of this product may be made in establishments in which it is not the product of chief value.

Selected industries.—The general tables at the end of this chapter give the principal facts separately for the industries of the state. A selection has been made of the leading industries of the state for more detailed consideration. Sometimes an industry of greater importance than some of those selected is omitted because it comprises so few establishments that these detailed presentations would reveal the operations of individual concerns.

Comparisons with previous censuses.—Owing to the changes in industrial conditions it is not always possible to classify establishments by industries in such a way as to permit accurate comparison with preceding censuses. Table I, giving comparable figures for 1909, 1904, and 1899, therefore, does not embrace all the industries shown for 1909 in Table II.

Influence of increased prices.—In considering changes in cost of materials, value of products, and value added by manufacture, account should be taken of the general increase in the prices of commodities during recent years. To the extent to which this factor has been influential the figures can not be taken as an exact measure of increase in the volume of business.

Persons engaged in industry.—At the censuses of 1909, 1904, and 1899, the following general classes of persons engaged in manufacturing industries have been distinguished: (1) Proprietors and firm members, (2) salaried officers of corporations, (3) superintendents and managers, (4) clerks, and (5) wage earners. In the censuses of 1904 and 1899 these five classes were shown according to the three main groups: (1) Proprietors and firm members, (2) salaried officials, clerks, etc., and (3) wage earners. The second group included the

three classes of salaried officers of corporations, superintendents and managers, and clerks. In the present census an entirely different grouping is employed: That into (1) proprietors and officials, (2) clerks, and (3) wage earners. The first group includes proprietors and firm members, salaried officers of corporations, and superintendents and managers.

At this census the number of persons engaged in the industries, segregated by sex, and, in the case of wage earners, also by age (whether under 16 or 16 and over), was reported for December 15, or the nearest representative day. The 15th of December was selected as representing for most industries normal conditions of employment, but where conditions were exceptional, and particularly in the case of certain seasonal industries, such as canning, the December date could not be accepted as typical, and an earlier date had to be chosen.

In the case of employees other than wage earners the number thus reported on December 15, or other representative day, has been treated as equivalent to the average for the year, since the number of employees of this class does not vary much from month to month in a given industry. In the case of wage earners the average is obtained in the manner explained in the next paragraph.

Wage earners.—In addition to the report by sex and age of the number of wage earners on December 15, or other representative day, a report was obtained of the number employed on the 15th of each month, without distinction of sex or age. From these figures the average number of wage earners for the year has been calculated by dividing the sum of the numbers reported each month by 12. The average thus obtained represents the number of wage earners that would be required to perform the work done if all were constantly employed during the entire year. Accordingly, the importance of any industry as an employer of labor is believed to be more accurately measured by this average than by the number employed at any one time or on a given day.

The number of wage earners reported for the representative day, though given for each separate industry, is not totaled for all industries combined, because in view of the variations of date, such a total is believed not to be significant. It would involve more or less duplication of persons working in different industries at different times, would not represent the total number employed in all industries at any one time, and would give an undue weight to seasonal industries as compared with industries in continual operation.

In particular, totals by sex and age for the wage earners reported for the representative day would be misleading because of the undue weight given to seasonal industries, in some of which, such as canning and preserving, the distribution of the wage earners by sex and age is materially different from that in most industries of more regular operation. In order to determine as nearly as possible the sex and age distribution of the average number of wage earners in the state as a whole, the following procedure has been adopted:

The percentage distribution by sex and age of the wage earners in each industry, for December 15, or the nearest representative day, has been calculated from the actual numbers reported for that date. This percentage has been applied to the average number of wage earners for the year in that industry, to determine the average number of men, women, and children employed. These calculated averages for the several industries have been added up to give the average distribution for the state as a whole.

In 1899 and 1904 the schedule called for the average number of wage earners of each sex 16 years and over, and the total number under 16 years of age, for each month, and these monthly statements were combined in an annual average. Comparatively few manufacturing concerns, however, keep their books in such way as to show readily the number of men, women, and children (under 16) employed each month. These monthly returns by sex and age were, in fact, largely estimates. It was believed that a more accurate and reliable sex and age distribution could be secured by taking as a basis of estimate the actual numbers employed on a single day.

Prevailing hours of labor.—The census made no attempt to ascertain the number of employees working a given number of hours per week. The inquiry called merely for the prevailing practice followed in each establishment. Occasional variations in hours in an establishment from one period to another are disregarded, and no attention is given to the fact that a limited number of employees may have hours differing from those of the majority. In the tables all the wage earners of each establishment are counted in the class within which the establishment itself falls. In most establishments, however, all or practically all the employees work the same number of hours, so that these figures give a substantially correct picture of the hours of labor in manufacturing industries.

Capital.—For reasons stated in prior census reports, the statistics of capital secured by the census canvass are so defective as to be without value, except as indicating very general conditions. The instructions on the schedule for securing capital were as follows:

The answer should show the total amount of capital, both owned and borrowed, on the last day of the business year reported. All the items of fixed and live capital may be taken at the amounts carried on the books. If land or buildings are rented, that fact should be stated and no value given. If a part of the land or buildings is owned, the remainder being rented, that fact should be so stated and only the value of the owned property given. Do not include securities and loans representing investments in other enterprises.

Materials.—Cost of materials refers to the materials used during the year, which may be more or less than the materials purchased during the year. The term materials includes fuel, rent of power and heat, mill supplies, and containers, as well as materials forming a constituent part of the product. Fuel includes all fuel used, whether for heat, light, or power, or for the process of manufacture.

Expenses.—Under "Expenses" are included all items of expense incident to the year's business, except interest, whether on bonds or other forms of indebtedness, dividends on stock, and allowances for depreciation.

Value of products.—The value of products for any industry includes the total value of all products manufactured in establishments whose products of chief value fall under the industry designation. The amounts given represent the selling value at the factory of all products manufactured during the year, which may differ from the value of the products sold. Amounts received for work on materials furnished by others are included.

Value added by manufacture.—The value of products is not a satisfactory measure of either the absolute or the relative importance of a given industry, because only a part of this value is actually created by the manufacturing process carried on in the industry itself. Another part of it, and often by far the larger part, represents the value of the materials used, which have been produced by agriculture or mining or by other industrial establishments. For many purposes, therefore, the best measure of the importance of different classes of industry is the value created as the result of the manufacturing operations carried on within the industry. This value is obtained by deducting the cost of the materials consumed from the value of the product. The figure thus obtained is termed in the census reports "value added by manufacture."

There is a further statistical advantage which "value added" has over gross value of products. In combining the value of products for all industries the value of products produced by one establishment and used as materials in another is duplicated, and the total, therefore, gives a greatly exaggerated idea of the wealth created. No such duplication takes place in the total "value added by manufacture."

Cost of manufacture and profits.—Census data do not show the entire cost of manufacture, and consequently can not be used to show profits. No account has been taken of interest and depreciation. Even if the amount of profit could be determined by deducting the expenses from the value of the products, the rate of profit on the investment could not properly be calculated, because of the very defective character of the returns regarding capital.

Primary power.—The figures given for this item show the total of the primary power used by the establishments. They do not cover the power developed by motors operated by such power, the inclusion of which would evidently result in duplication.

Location of establishments.—The Census Bureau has classified establishments by their location in cities or classes of cities. In interpreting these figures due consideration should be given to the fact that often establishments are located just outside the boundaries of cities, and are necessarily so classified.

Laundries.—The census of 1909 was the first to include statistics of laundries. The reports are confined to establishments using mechanical power. The data are presented separately and are not included in the general total for manufacturing industries, in order to avoid interference with comparisons with prior censuses.

Custom gristmills.—In order to make the statistics for 1909 comparable with those for 1904 the data for these mills have been excluded from all the tables presenting general statistics, but are presented in a separate table at the end of this chapter.

INDUSTRIES IN GENERAL.

General character of the state.—North Dakota, with a gross area of 70,837 square miles, of which 654 represent water surface, ranks sixteenth in size among the states and territories of continental United States. Its population in 1910 was 577,056, as compared with 319,146 in 1900 and 190,983 in 1890. It ranked thirty-seventh among the 49 states and territories as regards population in 1910 and fortieth in 1900.

In 1910 only 11 per cent of the total population of the state resided in incorporated cities having a population of 2,500 or over, as compared with 7.3 per cent in 1900. Only two cities, Fargo and Grand Forks, have a population of more than 10,000.

The density of population in 1910 was 8.2 persons per square mile, as compared with 4.5 in 1900.

Several important railway systems traverse the state from east to west, and these lines, together with the connecting railways, provide excellent transportation facilities.

Importance and growth of manufactures.—Although North Dakota is primarily an agricultural community, the total value of manufactured products of the state has increased steadily at each census since 1899. Prior to that year manufacturing in the state was limited almost entirely to the so-called neighborhood, hand, and building industries; and, with the exception of the flour-mill and gristmill industry, practically the entire product was made for local consumption. The latter statement continued to be true to a great extent in 1909. In that year North Dakota ranked forty-fifth among the states of the Union in value of manufactures. The gross value of products per capita of the total population of the state increased from \$20 in 1899 to \$33 in 1909.

The following table gives the most important figures relative to all classes of manufactures combined for the state as returned at the censuses of 1909, 1904, and 1899, together with the percentages of increase from census to census:

	NUMBER OR AMOUNT.			PER CENT OF INCREASE.	
	1909	1904	1899	1904-1909	1899-1904
Number of establishments.....	752	507	337	48.3	50.4
Persons engaged in manufactures.....	4,148	2,545	(¹)	63.0	.....
Proprietors and firm members.....	723	494	(¹)	46.4	.....
Salaried employees.....	636	296	152	114.9	94.7
Wage earners (average number).....	2,789	1,755	1,358	58.9	29.2
Primary horsepower.....	13,196	9,873	7,351	33.7	34.3
Capital.....	\$11,585,000	\$5,704,000	\$3,512,000	103.1	62.4
Expenses.....	17,290,000	8,895,000	5,155,000	94.4	72.6
Services.....	2,416,000	1,289,000	801,000	87.4	60.9
Salaries.....	629,000	258,000	130,000	143.8	98.5
Wages.....	1,787,000	1,031,000	671,000	73.3	53.7
Materials.....	13,674,000	7,096,000	4,151,000	92.7	70.9
Miscellaneous.....	1,200,000	510,000	203,000	135.3	151.2
Value of products.....	19,138,000	10,218,000	6,260,000	87.3	63.2
Value added by manufacture (value of products less cost of materials).....	5,464,000	3,122,000	2,109,000	75.0	48.0

¹ Figures not available.

In 1909 the state of North Dakota had 752 manufacturing establishments, which gave employment to an average of 4,148 persons during the year and paid out \$2,416,000 in salaries and wages. Of the persons employed, 2,789 were reported as wage earners. These establishments turned out products to the value of \$19,138,000, to produce which materials costing \$13,674,000 were consumed. The value added by manufacture was thus \$5,464,000, which figure, as explained in the Introduction, best represents the net wealth created by manufacturing operations during the year.

In general, this table brings out the fact that the marked development in the manufacturing industries of North Dakota which took place from 1899 to 1904 continued even to a greater degree in the following five years. From 1899 to 1904 the value of products increased 63.2 per cent, and from 1904 to 1909, 87.3 per cent. As pointed out in the Introduction, it would be improper to infer that manufactures increased in volume to the full extent indicated by these figures regarding values, since the increase shown is certainly due, in part, to the increase that has taken place in the price of commodities.

It is a matter of interest to note that the percentages of increase shown for salaries and wages show a greater proportionate increase than those for numbers of sala-

ried employees and wage earners. The relative importance and growth of the leading manufacturing industries of the state are shown in the following table:

INDUSTRY.	Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.		PER CENT OF INCREASE. ¹			
		Average number.	Per cent distribution.	Amount.	Per cent distribution.	Amount.	Per cent distribution.	Value of products.		Value added by manufacture.	
								1904-1909	1899-1904	1904-1909	1899-1904
All industries.....	752	2,789	100.0	\$19,138,000	100.0	\$5,464,000	100.0	87.3	63.2	75.0	48.0
Flour-mill and gristmill products.....	84	435	15.6	11,685,000	61.1	1,630,000	29.8	80.8	67.9	63.0	33.7
Printing and publishing.....	330	788	28.3	1,910,000	10.0	1,470,000	26.9	72.1	54.2	68.4	53.7
Butter, cheese, and condensed milk.....	68	62	2.2	1,029,000	5.4	138,000	2.5	83.1	360.7	64.3	223.1
Leather goods.....	19	98	3.5	683,000	3.6	221,000	4.0				
Cars and general shop construction and repairs by steam-railroad companies.....	5	463	16.6	680,000	3.6	380,000	7.0	236.6	43.3	214.0	59.2
Bread and other bakery products.....	67	146	5.2	601,000	3.1	255,000	4.7	93.2	284.0	100.8	188.6
Brick and tile.....	13	188	6.7	287,000	1.5	214,000	3.9	68.8	28.8	57.4	33.3
Gas, illuminating and heating.....	6	28	1.0	199,000	1.0	121,000	2.2	95.1		77.9	
Tobacco manufactures.....	28	34	1.2	98,000	0.5	61,000	1.1	28.9	10.1	29.8	9.3
All other industries.....	132	547	19.6	1,986,000	10.3	974,000	17.8				

¹ Percentages are based on figures in Table I. Where the percentages are omitted, comparable figures can not be given.

It should be borne in mind, in considering this table, that the value of products in some of the industries involves a certain amount of duplication due to the use of the product of one establishment in the industry as material for another establishment.

The most important industries presented in this table, in which they are arranged in the order of the value of products, call for brief consideration.

Flour-mill and gristmill products.—North Dakota is one of the leading wheat-growing states; and, measured by the value of products, milling is the state's most important manufacturing industry. The value of products for this industry in 1909 formed 61.1 per cent of the total value of all manufactured products for the state. From 1904 to 1909 the value of products in the industry increased 80.8 per cent, while the value added by manufacture increased 63 per cent.

Printing and publishing.—In 1909 over one-fourth, 28.3 per cent, of the total average number of wage earners of all manufacturing industries in the state were employed in this industry. The establishments were principally small newspaper and job printing offices.

Butter, cheese, and condensed milk.—Butter was reported almost exclusively as the product of this industry at the last two censuses. Reports were received from four cheese factories in 1904 and from only one in 1909. No condensed-milk establishment was reported at either census. The growth of the butter and cheese industry from 1904 to 1909 was marked; the value of products increased 83.1 per cent and the value added by manufacture 64.3 per cent; the growth was more pronounced from 1899 to 1904, when the value of products increased 360.7 per cent and the value added by manufacture 223.1 per cent.

Leather goods.—This industry, which was represented by 19 establishments, embraces the manufac-

ture of saddlery, harness, trunks, and valises. There were five establishments in the industry in 1904, but the statistics for these can not be presented separately without disclosing the operations of individual establishments.

Measured by value added by manufacture, the industries in the preceding table show considerable change in their order from that when measured by value of products. The butter and cheese industry, which is third in value of products, is seventh in value added by manufacture; the leather-goods industry, which is fourth in value of products, is fifth in value added by manufacture; while the industries, cars and general shop construction and repairs by steam-railroad companies and bread and other bakery products, which are fifth and sixth, respectively, in value of products, are third and fourth, respectively, in value added by manufacture. This table also shows the percentages of increase for these leading industries in respect to value of products and value added by manufacture where the statistics are comparable. The railroad repair shop industry showed a greater rate of increase from 1904 to 1909 in value of products and value added by manufacture than any of the other specified industries, namely, 236.6 per cent and 214 per cent, respectively.

In the rate of increases, both in value of products and value added by manufacture, from 1899 to 1904, as compared with those for 1904 to 1909, some striking differences may be noted, especially in the case of the creameries, the bakeries, and the steam-railroad repair shops.

In addition to the nine industries presented separately, there are six industries which had a value of products in 1909 in excess of \$100,000. One of these, the mineral and soda-water industry, is not shown, because the

returns do not properly present the true condition of the industry, for the reason that bottling is also done largely in connection with other industries. The artificial-stone, confectionery, copper, tin, and sheet-iron, foundry and machine-shop, and lumber and timber industries are not shown separately, because in some cases the operations of individual establishments would thus be disclosed; in others, because the data for prior censuses are not available; and in still others, because there has been a change in classification. The 1909 statistics, however, for four of these industries are presented in Table II.

Persons engaged in manufacturing industries.—The following table shows, for 1909, the distribution of the number of persons engaged in manufactures, the average number of wage earners being distributed by sex and age. It should be borne in mind, however, that the sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the Introduction.

CLASS.	PERSONS ENGAGED IN MANUFACTURES.		
	Total.	Male.	Female.
All classes.....	4,148	3,777	371
Proprietors and officials.....	965	936	29
Proprietors and firm members.....	723	697	26
Salaried officers of corporations.....	64	64	.....
Superintendents and managers.....	178	175	3
Clerks.....	394	303	91
Wage earners (average number).....	2,789	2,538	251
16 years of age and over.....	2,732	2,489	243
Under 16 years of age.....	57	49	8

The average number of persons engaged in manufactures during 1909 was 4,148, of whom 2,789 were wage earners. Of the remainder, 965 were proprietors and officials and 394 were clerks. Corresponding figures for individual industries will be found in Table II.

The table following shows, for 1909, the percentage of proprietors and officials, clerks, and wage earners, respectively, among the total number of persons employed in manufactures. It covers all industries combined and seven important industries individually.

Of the total number of persons engaged in all manufacturing industries, 23.3 per cent were proprietors and officials, 9.5 per cent clerks, and 67.2 per cent wage earners. In the bakery, butter, and printing and publishing industries the majority of the establishments are small and, to a large extent, the work is done by the proprietors or their immediate representatives, so that the proportion of persons falling in the class of proprietors and officials is higher than for such an industry as railroad repair shops, which are operated by corporations, for which no proprietors are reported, and whose general officials

are not, as a rule, assigned to the supervision of this particular branch of the work.

INDUSTRY.	PERSONS ENGAGED IN MANUFACTURES.			
	Total number.	Per cent of total.		
		Proprietors and officials.	Clerks.	Wage earners (average number).
All industries.....	4,148	23.3	9.5	67.2
Bread and other bakery products.....	242	31.8	7.9	60.3
Brick and tile.....	214	11.2	0.9	87.8
Butter, cheese, and condensed milk.....	106	39.6	1.9	58.5
Cars and general shop construction and repairs by steam-railroad companies.....	494	3.0	3.2	93.7
Flour-mill and gristmill products.....	710	21.7	17.0	61.3
Leather goods.....	157	20.4	17.2	62.4
Printing and publishing.....	1,294	30.3	8.8	60.9
All other industries.....	931	24.6	10.0	65.4

The following table shows, in percentages, for 1909, for all industries combined the distribution of the average number of wage earners by age periods, and for those 16 years of age and over by sex, calculated in the manner described in the Introduction. It also shows for some of the important industries separately a similar distribution of wage earners as reported for December 15, or the nearest representative day. As a means of judging the importance of the several industries, the average total number employed for the year is also given in each case.

INDUSTRY	WAGE EARNERS.			
	Average number. ¹	Per cent of total.		
		16 years of age and over.		Under 16 years of age.
Male.	Female.			
All industries.....	2,789	89.3	8.7	2.0
Bread and other bakery products.....	146	77.4	19.9	2.7
Brick and tile.....	188	97.3	.....	2.7
Butter, cheese, and condensed milk.....	62	98.4	.....	1.6
Cars and general shop construction and repairs by steam-railroad companies.....	463	100.0	.....	.....
Flour-mill and gristmill products.....	435	99.8	0.2	.....
Leather goods.....	98	99.0	.....	1.0
Printing and publishing.....	788	77.4	17.3	5.3
All other industries.....	609	87.0	12.5	0.5

¹ For method of estimating the distribution, by sex and age periods, of the average number in all industries combined, see Introduction.

For all industries combined, 89.3 per cent of the average number of wage earners were males 16 years of age and over; 8.7 per cent, females 16 years of age and over; and 2 per cent, persons under the age of 16.

The larger part of the total number of female wage earners is made up of those employed in the printing and publishing industry. Among the industries not shown in the table, the confectionery industry also employed a large number of women. These two industries combined reported four-fifths of all female employees 16 years of age and over. The printing and publishing industry also includes the larger part of the

small total number of wage earners under 16 years of age.

In order to compare the distribution of persons engaged in manufactures in 1909 with that shown at the census of 1904, it is necessary to use the classification employed at the earlier census. (See Introduction.) The following table makes this comparison according to occupational status:

CLASS.	PERSONS ENGAGED IN MANUFACTURES.				
	1909		1904		Per cent of increase, 1904-1909.
	Number.	Per cent distribution.	Number.	Per cent distribution.	
Total	4,148	100.0	2,545	100.0	63.0
Proprietors and firm members.....	723	17.4	494	19.4	46.4
Salaried employees.....	636	15.3	296	11.6	114.9
Wage earners (average number).....	2,789	67.2	1,755	69.0	58.9

Comparable figures are not obtainable for 1899. The table shows a greater percentage of increase in the salaried employees than in the other two classes.

The following table shows the average number of wage earners, distributed according to age periods, and in the case of those 16 years of age and over according to sex, for 1909, 1904, and 1899. The averages for 1909 are estimated on the basis of the actual number reported for a single representative day. (See Introduction.)

CLASS.	AVERAGE NUMBER OF WAGE EARNERS.					
	1909		1904		1899	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total	2,789	100.0	1,755	100.0	1,358	100.0
16 years of age and over.....	2,732	98.0	1,720	98.0	1,324	97.5
Male.....	2,489	89.2	1,521	86.7	1,232	90.7
Female.....	243	8.7	199	11.3	92	6.8
Under 16 years of age.....	57	2.0	35	2.0	34	2.5

The present proportion of children is slightly less than it was 10 years ago; and while in 1909 the proportion of women employed was greater than in 1899, it was less than in 1904. In 1909 males 16 years of age and over formed 89.2 per cent of all wage earners, as compared with 86.7 per cent in 1904 and 90.7 per cent in 1899.

Wage earners employed, by months.—The following table gives the number of wage earners employed on the 15th of each month during the year 1909 for all industries combined, for the brick and tile industry, and for all other industries combined; it also gives the percentage which the number reported for each month is of the greatest number reported for any

month. In Table II, page 660, is shown, for practically all of the important industries in the state, the largest number and also the smallest number of wage earners reported for any month. The figures are for the 15th day, or the nearest representative day, of the month.

MONTH.	WAGE EARNERS.					
	All industries.		Brick and tile.		All other industries.	
	Number.	Per cent of maximum.	Number.	Per cent of maximum.	Number.	Per cent of maximum.
January.....	2,356	77.2	40	10.4	2,316	80.3
February.....	2,386	78.2	49	12.7	2,337	81.1
March.....	2,443	80.0	82	21.3	2,361	81.9
April.....	2,580	84.5	134	34.8	2,446	84.8
May.....	2,816	92.3	256	66.5	2,560	88.8
June.....	3,041	99.6	385	100.0	2,656	92.1
July.....	3,004	98.4	385	100.0	2,619	90.8
August.....	2,880	94.4	248	64.4	2,622	91.3
September.....	2,927	95.9	196	50.9	2,731	94.7
October.....	3,033	99.4	194	50.4	2,839	98.5
November.....	3,052	100.0	169	43.9	2,883	100.0
December.....	2,950	96.7	117	30.4	2,833	98.3

For all industries combined the number of wage earners employed was lowest in January and highest in November. Considerable irregularity in employment is shown, however, for the several months, which is due somewhat to the fluctuation in the number of wage earners employed in the brick and tile industry. During the first six months of the year there was a steady increase in the number of wage earners in this industry, from 40 in January to 385 in June and July. From this time the number fell continuously until in December it was 117. Outside of this industry the number of wage earners employed underwent no great change, the number increasing steadily from January to November, with the exception of July and August, when slightly smaller numbers were employed than in June.

In the table following wage earners have been classified according to the hours of labor prevailing in the establishments in which they are employed. In making this classification the average number of wage earners employed during the year is used, and the number employed in each establishment is classified as a total according to the hours prevailing in that establishment, even though some few employees work a greater or less number of hours.

Almost one-half of the total number of wage earners employed in the manufacturing industries of North Dakota were in establishments where the prevailing hours of labor were 60 per week or 10 per day; 3.9 per cent were reported in establishments where more than 60 hours per week prevail; and 49.4 per cent in those where less than 60 hours per week prevail.

INDUSTRY.	AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS GROUPED ACCORDING TO PREVAILING HOURS OF WORK PER WEEK.								
	Total.	48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.	Between 60 and 72.	72.	Over 72
All industries.....	2,789	423	186	542	227	1,303	59	30	19
Bread and other bakery products.....	146	1	.....	2	33	108	2	.....	.....
Brick and tile.....	188	.....	.....	4	.....	184	.....	.....	.....
Butter, cheese, and condensed milk.....	62	7	.....	3	.....	50	.....	2	.....
Cars and general shop construction and repairs by steam-railroad companies.....	463	.....	124	216	.....	123	.....	.....	.....
Flour-mill and gristmill products.....	435	3	1	.....	3	348	52	28	.....
Leather goods.....	98	.....	.....	2	67	20	.....	.....	.....
Printing and publishing.....	788	377	46	268	58	39	.....	.....	.....
All other industries.....	609	35	15	47	66	422	5	.....	.....

Location of establishments.—Fargo with 14,331 and Grand Forks with 12,478 inhabitants are the only cities which had a population of over 10,000 in 1910. Prior to this census there were no cities in the state having over 10,000 inhabitants. The 1909 totals given in Table I (p. 659) show that the two cities combined, although having slightly less than one-twentieth of the population of the state, reported nearly one-third of the total number of wage earners and almost one-fourth of the value of the manufactured products. In the former city the manufacture of saddlery and harness and the printing and publishing industry predominate. In Grand Forks the flour-mill and gristmill and printing and publishing industries are among the most important. Comparable data for earlier censuses are available for the city of Fargo

only. The total value of manufactured products in this city, which showed a decrease from 1899 to 1904, increased 113.4 per cent from 1904 to 1909.

Character of ownership.—The table that follows has for its purpose the presentation of conditions in respect to the character of ownership, or legal organization, of manufacturing enterprises. For all industries combined comparative figures are given covering the censuses of 1909 and 1904. Comparative data for 1899 are not available. Figures for 1909 only are presented for several important industries individually.

In order to avoid disclosing the operations of individual concerns reporting, it is necessary to omit several important industries from this table and the one following.

INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.	INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:					Butter, cheese, and condensed milk, 1909				
1909.....	752	2,789	\$19,137,506	\$5,463,916	Individual.....	68	62	\$1,029,135	\$137,806
1904.....	507	1,755	10,217,914	3,121,928	Firm.....	14	10	217,563	31,369
Individual:					Other.....	9	7	132,198	19,644
1909.....	472	775	3,555,937	1,561,752	Corporation.....	16	15	267,249	33,390
1904.....	295	565	2,546,425	1,045,945	Other.....	29	27	412,125	53,403
Firm:					Per cent of total.....	100.0	100.0	100.0	100.0
1909.....	112	233	1,570,604	483,322	Individual.....	20.6	16.1	21.1	22.8
1904.....	91	331	2,204,145	625,611	Firm.....	13.2	11.3	12.8	14.3
Corporation:					Corporation.....	23.5	29.0	26.0	24.2
1909.....	133	1,752	13,586,608	3,356,970	Other.....	42.6	43.5	40.0	38.8
1904.....	81	826	5,146,817	1,407,935	Flour-mill and gristmill products, 1909				
Other:					Individual.....	84	435	\$11,685,116	\$1,630,202
1909.....	35	29	424,357	61,872	Firm.....	32	52	1,268,595	233,200
1904.....	40	33	260,527	42,437	Other.....	17	41	835,135	120,443
Per cent of total:					Corporation.....	35	342	9,581,336	1,276,559
1909.....	100.0	100.0	100.0	100.0	Per cent of total.....	100.0	100.0	100.0	100.0
1904.....	100.0	100.0	100.0	100.0	Individual.....	38.1	12.0	10.9	14.3
Individual:					Firm.....	20.2	9.4	7.1	7.4
1909.....	62.8	27.8	18.6	28.6	Corporation.....	41.7	78.6	82.0	78.3
1904.....	58.2	32.2	24.9	33.5	Leather goods, 1909				
Firm:					Individual.....	19	98	\$683,273	\$221,326
1909.....	14.9	8.4	8.2	8.8	Firm.....	11	14	106,442	39,897
1904.....	17.9	18.9	22.2	20.0	Other.....	5	8	30,510	16,134
Corporation:					Corporation.....	3	76	546,321	165,295
1909.....	17.7	62.8	71.0	61.4	Per cent of total.....	100.0	100.0	100.0	100.0
1904.....	16.0	47.1	50.4	45.1	Individual.....	57.9	14.3	15.6	18.0
Other:					Firm.....	26.3	8.2	4.5	7.3
1909.....	4.7	1.0	2.2	1.1	Corporation.....	15.8	77.6	80.0	74.7
1904.....	7.9	1.9	2.5	1.4	Printing and publishing, 1909				
Bread and other bakery products, 1909					Individual.....	330	788	\$1,909,514	\$1,469,733
Individual.....	67	146	\$600,621	\$254,706	Firm.....	257	389	807,080	713,023
Firm.....	55	96	495,369	179,328	Other.....	37	71	176,783	138,609
Corporation.....	9	10	52,185	23,931	Per cent of total.....	100.0	100.0	100.0	100.0
Other.....	3	40	113,067	51,447	Individual.....	77.9	49.4	47.0	48.5
Per cent of total.....	100.0	100.0	100.0	100.0	Firm.....	11.2	9.0	9.3	9.4
Individual.....	82.1	65.8	72.5	70.4	Corporation.....	9.4	41.5	43.4	41.6
Firm.....	13.4	6.8	8.7	9.4	Other.....	1.5	0.1	0.3	0.4
Corporation.....	4.5	27.4	18.8	20.2					

From 1904 to 1909 the proportionate number of establishments under the different kinds of ownership

shows no pronounced change, although in this respect there were small increases in the proportion of estab-

lishments under individual and corporate ownership and slight decreases in the proportion of those under other forms. In the average number of wage earners employed, however, in the value of products and in the value added by manufacture, establishments operated by corporations reported a much larger proportion of the total in 1909 than in 1904. In 1909, of the total value of products of the bakeries, 72.5 per cent was reported by establishments under individual ownership. In the manufacture of butter and cheese, "Other" forms of ownership showed the largest value of products, because of the large number of cooperative organizations which are peculiar to this industry. In the flour-mill and gristmill and in the leather industries four-fifths of the value of products were reported by corporations.

Size of establishment.—The tendency for manufacturing to become concentrated in large establishments, or the reverse, is a matter of interest from the standpoint of industrial organization. In order to throw some light upon it the table which follows groups the establishments according to the value of their products. The table also shows the average size of establishments for all industries combined and for important industries separately, as measured by number of wage earners, value of products, and value added by manufacture. The totals for all industries are shown for the last two censuses, while for certain important industries figures are given for 1909 only.

This table shows that, in 1909, of the 752 establishments only 33, or 4.4 per cent, had a value of products exceeding \$100,000. These establishments, however, had an average number of wage earners of 859, or 30.8 per cent of the total number in all establishments, and reported 58 per cent of the total value of products and 36.6 per cent of the total value added by manufacture.

On the other hand, the very small establishments—that is, those having a value of products of less than \$5,000—represented more than one-half, 50.8 per cent, of the total number of establishments, but the average number of wage earners employed in them represented only 12.6 per cent, the value of their products only 4.8 per cent, and the value added by manufacture only 12.1 per cent of the corresponding totals for the state.

The increase from \$20,154 to \$25,449 in the average value of products per establishment, and from \$6,158 to \$7,266 in average value added by manufacture per establishment, is due to the greater proportion of the totals shown for these items in the establishments having products valued at over \$100,000. The average number of wage earners per establishment remained practically the same.

INDUSTRY AND VALUE OF PRODUCTS.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:				
1909.....	752	2,789	\$19,137,506	\$5,463,916
1904.....	507	1,755	10,217,914	3,121,928
Less than \$5,000:				
1909.....	382	351	915,406	658,537
1904.....	285	290	669,773	469,202
\$5,000 and less than \$20,000:				
1909.....	238	628	2,350,795	1,103,610
1904.....	132	439	1,262,776	641,385
\$20,000 and less than \$100,000:				
1909.....	99	951	4,767,125	1,703,216
1904.....	66	591	2,798,317	1,024,540
\$100,000 and less than \$1,000,000:				
1909 ¹	33	859	11,104,180	1,998,553
1904.....	24	435	5,487,048	986,801
Per cent of total:				
1909.....	100.0	100.0	100.0	100.0
1904.....	100.0	100.0	100.0	100.0
Less than \$5,000:				
1909.....	50.8	12.6	4.8	12.1
1904.....	56.2	16.5	6.6	15.0
\$5,000 and less than \$20,000:				
1909.....	31.6	22.5	12.3	20.2
1904.....	26.0	25.0	12.4	20.5
\$20,000 and less than \$100,000:				
1909.....	13.2	34.1	24.9	31.2
1904.....	13.0	33.7	27.4	32.8
\$100,000 and less than \$1,000,000:				
1909 ¹	4.4	30.8	58.0	36.6
1904.....	4.7	24.8	53.7	31.6
Average per establishment:				
1909.....		4	\$25,449	\$7,266
1904.....		3	20,154	6,158
Bread and other bakery products, 1909	67	146	\$600,621	\$254,706
Less than \$5,000.....	31	14	82,071	38,881
\$5,000 and less than \$20,000.....	30	68	290,483	124,193
\$20,000 and less than \$100,000.....	6	64	228,067	91,632
Per cent of total.....	100.0	100.0	100.0	100.0
Less than \$5,000.....	46.3	9.6	13.7	15.3
\$5,000 and less than \$20,000.....	44.8	46.6	48.4	48.8
\$20,000 and less than \$100,000.....	9.0	43.8	38.0	36.0
Average per establishment.....		2	\$8,964	\$3,802
Butter, cheese, and condensed milk, 1909	68	62	\$1,029,135	\$137,806
Less than \$5,000.....	10	7	30,705	7,031
\$5,000 and less than \$20,000.....	41	32	469,737	67,065
\$20,000 and less than \$100,000.....	17	23	528,693	63,710
Per cent of total.....	100.0	100.0	100.0	100.0
Less than \$5,000.....	14.7	11.3	3.0	5.1
\$5,000 and less than \$20,000.....	60.3	51.6	45.6	48.7
\$20,000 and less than \$100,000.....	25.0	37.1	51.4	46.2
Average per establishment.....		1	\$15,134	\$2,027
Flour-mill and gristmill products, 1909	84	435	\$11,685,116	\$1,630,302
Less than \$5,000.....	3	2	11,123	1,869
\$5,000 and less than \$20,000.....	22	14	282,066	46,980
\$20,000 and less than \$100,000.....	35	105	2,029,191	362,469
\$100,000 and less than \$1,000,000 ¹	24	314	9,362,736	1,218,884
Per cent of total.....	100.0	100.0	100.0	100.0
Less than \$5,000.....	3.6	0.5	0.1	0.1
\$5,000 and less than \$20,000.....	26.2	3.2	2.4	2.9
\$20,000 and less than \$100,000.....	41.7	24.1	17.4	22.2
\$100,000 and less than \$1,000,000 ¹	28.6	72.2	80.1	74.8
Average per establishment.....		5	\$139,109	\$19,407
Leather goods, 1909	19	98	\$683,273	\$221,326
Less than \$5,000.....	5	5	18,162	10,779
\$5,000 and less than \$20,000.....	11	24	112,975	45,931
\$20,000 and less than \$100,000 ²	3	69	552,136	164,616
Per cent of total.....	100.0	100.0	100.0	100.0
Less than \$5,000.....	26.3	5.1	2.7	4.9
\$5,000 and less than \$20,000.....	57.9	24.5	16.5	20.8
\$20,000 and less than \$100,000 ²	15.8	70.4	80.8	74.4
Average per establishment.....		5	\$35,962	\$11,649
Printing and publishing, 1909	330	788	\$1,909,514	\$1,469,733
Less than \$5,000.....	248	254	599,352	489,455
\$5,000 and less than \$20,000.....	69	246	559,883	439,454
\$20,000 and less than \$100,000 ²	13	288	750,279	540,824
Per cent of total.....	100.0	100.0	100.0	100.0
Less than \$5,000.....	75.2	32.2	31.4	33.3
\$5,000 and less than \$20,000.....	20.9	31.2	29.3	29.9
\$20,000 and less than \$100,000 ²	3.9	36.5	39.3	36.8
Average per establishment.....		2	\$5,786	\$4,454

¹ Includes the group of "\$1,000,000 and over."

² Includes the group "\$100,000 and less than \$1,000,000."

In some respects, and especially from the standpoint of conditions under which persons engaged in manufactures work, the best classification of establishments to bring out the feature of size is a classification according to the number of wage earners employed.

The following table shows for 1909 such a classification for all industries combined and for seven important industries individually, and gives not only the number of establishments falling in each group but also the average number of wage earners employed:

INDUSTRY.	Total.	ESTABLISHMENTS EMPLOYING—								
		No wage earners.	1 to 5 wage earners.	6 to 20 wage earners.	21 to 50 wage earners.	51 to 100 wage earners.	101 to 250 wage earners.	251 to 500 wage earners.	501 to 1,000 wage earners.	Over 1,000 wage earners.
NUMBER OF ESTABLISHMENTS.										
All industries.....	752	125	537	64	21	3	2			
Bread and other bakery products.....	67	17	46	3	1					
Brick and tile.....	13		5	6	2					
Butter, cheese, and condensed milk.....	68	8	60							
Cars and general shop construction and repairs by steam-railroad companies.....	5				1	2	2			
Flour-mill and gristmill products.....	84	12	51	15	5	1				
Leather goods.....	19		16	1	2					
Printing and publishing.....	330	60	248	17	5					
All other industries.....	166	28	111	22	5					
AVERAGE NUMBER OF WAGE EARNERS.										
All industries.....	2,789		956	654	706	226	247			
Bread and other bakery products.....	146		92	23	31					
Brick and tile.....	188		13	90	85					
Butter, cheese, and condensed milk.....	62		62							
Cars and general shop construction and repairs by steam-railroad companies.....	463				42	174	247			
Flour-mill and gristmill products.....	435		116	140	127	52				
Leather goods.....	98		22	9	67					
Printing and publishing.....	788		431	152	205					
All other industries.....	609		220	240	149					
PER CENT OF AVERAGE NUMBER OF WAGE EARNERS.										
All industries.....	100.0		34.3	23.4	25.3	8.1	8.9			
Bread and other bakery products.....	100.0		63.0	15.8	21.2					
Brick and tile.....	100.0		6.9	47.9	45.2					
Butter, cheese, and condensed milk.....	100.0		100.0							
Cars and general shop construction and repairs by steam-railroad companies.....	100.0				9.1	37.6	53.3			
Flour-mill and gristmill products.....	100.0		26.7	32.2	29.2	12.0				
Leather goods.....	100.0		22.4	9.2	68.4					
Printing and publishing.....	100.0		54.7	19.3	26.0					
All other industries.....	100.0		36.1	39.4	24.5					

The per cent distribution of the number of establishments is not shown in this table; of the 752 establishments reported for all industries, 16.6 per cent employed no wage earners; 71.4 per cent, 1 to 5; 8.5 per cent, 6 to 20; and 2.8 per cent, 21 to 50. The most numerous single group consists of the 537 establishments employing 1 to 5 wage earners, and the next of the 125 establishments employing no wage earners.

Of the total number of wage earners, 34.3 per cent were in establishments employing from 1 to 5 wage earners; 23.4 per cent were in establishments employing from 6 to 20 wage earners; 25.3 per cent were in establishments employing from 21 to 50 wage earners; while 17 per cent were in the 5 establishments employing over 50 wage earners each.

Expenses.—As stated in the Introduction, the census does not purport to furnish figures that can be used for determining the cost of manufacture and profits. Facts of interest can, however, be brought out concerning the relative importance of the different classes of expenses which make up the total.

The following table shows, in percentages, the distribution of expenses among the classes indicated for all industries combined and for certain important industries separately. The figures on which the percentages are based appear in Table II.

INDUSTRY.	PER CENT OF TOTAL EXPENSES REPORTED.			
	Salaries.	Wages.	Materials.	Miscellaneous expenses.
All industries.....	3.6	10.3	79.1	6.9
Bread and other bakery products.....	3.4	16.9	69.2	10.4
Brick and tile.....	10.6	36.9	30.6	22.0
Butter, cheese, and condensed milk.....	0.8	4.7	91.5	2.9
Cars and general shop construction and repairs by steam-railroad companies.....	4.9	50.1	44.1	1.0
Flour-mill and gristmill products.....	1.8	2.6	91.3	4.4
Leather goods.....	7.2	8.6	75.3	8.9
Printing and publishing.....	11.1	38.5	31.7	18.6
All other industries.....	7.8	19.1	58.8	14.2

This table shows that, for all industries combined, 79.1 per cent of the total expenses was incurred for materials, 13.9 per cent for services—that is, salaries and wages—and but 6.9 per cent for other purposes. As would be expected, these proportions vary greatly in the different industries.

Engines and power.—The following table shows, for all industries combined, the number of engines or other motors, according to their character, employed in generating power (including electric motors operated by purchased current), and their total horsepower at the censuses of 1909, 1904, and 1899. It also shows separately the number and horsepower of electric motors, including those operated by current generated in the manufacturing establishments.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.			PER CENT DISTRIBUTION OF HORSEPOWER.		
	1909	1904	1899 ¹	1909	1904	1899 ¹	1909	1904	1899
Primary power, total	749	290	271	13,196	9,873	7,351	100.0	100.0	100.0
Owned.....	442	290	271	12,004	9,586	7,197	91.0	97.1	97.9
Steam.....	169	147	128	10,170	8,619	5,930	77.1	87.3	80.7
Gas.....	265	130	127	1,304	645	759	9.9	6.5	10.3
Water wheels...	8	6	16	530	318	506	4.0	3.2	6.9
Water motors...		1	(²)		4	(²)		(³)	(²)
Other.....						2			(³)
Rented.....	307	(²)	(²)	1,192	287	154	9.0	2.9	2.1
Electric.....	307	(²)	(²)	1,164	281	127	8.8	2.8	1.7
Other.....				28	6	27	0.2	0.1	0.4
Electric motors	335	14	6	1,698	477	171	100.0	100.0	100.0
Run by current generated by establishment.....	28	14	6	534	196	44	31.4	41.1	25.7
Run by rented power.....	307	(²)	(²)	1,164	281	127	68.6	58.9	74.3

¹ Includes the neighborhood industries and hand trades, omitted in 1904 and 1909.
² Not reported. ³ Less than one-tenth of 1 per cent.

This table indicates that from 1904 to 1909 there was an increase of 3,323 in the total primary horsepower used in the state, almost one-half of which, 1,551 horsepower, was in power generated by steam engines, and more than one-fourth, or 905 horsepower, was in rented electric power. Water power also shows an increase of 208 horsepower. The more general use of gas engines is shown by the fact that

the number of such engines in use in 1909 was 265, as compared with 136 in 1904, while the horsepower during the same period of years more than doubled. The horsepower represented by electric motors operated by rented power increased from 281 in 1904 to 1,164 in 1909. The number of motors run by rented power was not reported in 1904 or 1899, thus rendering impossible a comparison with the figures for 1909. In 1904, 97.1 per cent of the total horsepower was owned by the establishments reporting, compared with 91 per cent in 1909. This loss of 6.1 per cent in owned power was gained by power rented. The horsepower of the electric motors run by current generated in the manufacturing establishments increased from 44 in 1899 to 196 in 1904 and 534 in 1909.

Fuel.—Closely related to the question of kind of power employed is that of the fuel used in generating this power or otherwise as material in the manufacturing processes. The following table shows the quantity of each kind of fuel used in 1909 for all industries combined and for certain selected industries:

INDUSTRY.	Anthracite coal (tons).	Bituminous coal (tons).	Coke (tons).	Wood (cords).	Oil, including gasoline (barrels).	Gas (1,000 feet).
All industries	2,874	105,798	429	11,651	6,879	2,696
Bread and other bakery products	225	872	24	1,709	36	445
Brick and tile.....		22,871		4,804	5	
Butter, cheese, and condensed milk.....	212	3,089		67	20	
Cars, and general shop construction and repairs by steam-railroad companies.....		26,651				
Flour-mill and gristmill products.....	1,632	40,146		4,216	940	14
Gas, illuminating and heating.....	6	8,772	136		3,113	
Leather goods.....	47	63		14	5	80
Printing and publishing.....	564	1,434		59	943	1,768
All other industries	188	1,900	269	782	1,817	389

NOTE.—In addition, there were 3 tons of other varieties of fuel reported.

SUPPLEMENTARY DATA REGARDING IMPORTANT INDUSTRIES.

(With statistics for laundries and custom gristmills.)

For certain industries the Census Bureau collects, by means of special schedules, details regarding the quantity and value of materials and products which do not appear on the general schedule. Certain data of this character for three important industries in North Dakota are here presented.

Flour-mill and gristmill products.—The tabular statement following gives the quantity and value of products for the last two census years.

From 1904 to 1909 there was an increase of 80.8 per cent in the value of products. While every product shared in this increase, the most important change was in the production of grits, which increased from 22,068 to 9,029,862 pounds. The value of wheat flour showed a gain of 63.9 per cent in 1909, compared with 1904, although its proportion of the total value of all products of the industry decreased from 85.3 per cent in 1904 to 77.3 per cent in 1909.

PRODUCT.	QUANTITY.		VALUE.	
	1909	1904	1909	1904
Total value.....			\$11,685,116	\$6,463,228
Wheat flour.....barrels..	1,825,920	1,223,219	9,034,418	5,513,554
White.....barrels..	1,816,738	1,221,416	8,990,038	5,506,935
Graham.....barrels..	9,182	1,803	38,380	6,619
Corn meal.....barrels..	1,026		5,124	
Rye flour.....barrels..	153	50	581	300
Grits.....pounds..	9,029,862	22,068	261,844	417
Feed.....tons..	30,575	11,220	805,888	189,230
Offal.....tons..	76,357	52,904	1,554,283	755,846
All other products.....			22,378	3,881

Butter, cheese, and condensed milk.—There were only four cheese factories in 1904 and only one in 1909, and the value of their products, which was comparatively small at both censuses, is included under "All other products" in the following table:

PRODUCT.	QUANTITY AND VALUE.		
	1909	1904	1899
Total value.....	\$1,029,135	\$562,481	\$122,128
Butter:			
Packed solid—			
Pounds.....	2,873,519	2,657,328	361,224
Value.....	\$756,158	\$485,758	\$74,839
Prints or rolls—			
Pounds.....	810,160	355,823	101,964
Value.....	\$225,197	\$70,650	\$20,393
Cream sold:			
Pounds.....	3,348	120	2,400
Value.....	\$496	\$12	\$120
All other products.....	\$47,284	\$6,061	\$26,776

There was an increase of 83 per cent in the total value of products from 1904 to 1909. This increase is due largely to an advance in the price of butter.

Printing and publishing.—The following shows the number of publications and the aggregate circulation per issue for 1909, 1904, and 1899, distributed according to period of issue.

In 1909 the aggregate circulation per issue of the newspapers and periodicals of the state combined

was 372,642, which represents an increase of 51.7 per cent over the corresponding figure for 1904. Weekly publications had a circulation of 259,675 per issue.

PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1909	1904	1899	1909	1904	1899
Total.....	333	235	143	372,642	245,711	138,890
Daily.....	12	9	9	56,954	21,458	18,021
Sunday.....	4	2	4	23,900	9,550	(1)
Semiweekly.....	1	3	2	613	5,060	7,100
Weekly.....	310	212	126	259,675	175,513	106,219
Monthly.....	5	6	2	26,000	19,630	7,550
All other classes.....	1	3		5,500	14,500	

¹ Included in circulation of dailies.

Of the 333 newspapers and periodicals published in 1909, 310, or 93.1 per cent, were published weekly. There was an increase of three in the number of dailies from 1904 to 1909, and during the same period the combined total circulation of the daily publications increased 165.4 per cent. All of the publications were in the English language, except 10, 5 of which were in German, 2 in German and English, and 3 in Norwegian.

Laundries.—Statistics for steam laundries are not included in the general tables or in the totals for manufacturing industries. There were 34 establishments in the state of North Dakota, 6 of which were in Fargo and 4 in Grand Forks.

The following statement summarizes the statistics:

Number of establishments.....	34
Persons engaged in the industry.....	503
Proprietors and firm members.....	39
Salaried employees.....	30
Wage earners (average number).....	434
Primary horsepower.....	606
Capital.....	\$444,817
Expenses.....	413,161
Services.....	208,492
Materials.....	102,412
Miscellaneous.....	102,257
Amount received for work done.....	548,175

Twenty establishments were operated by individuals, five by corporations, and nine by general partnerships. Six establishments had receipts for the year's business of less than \$5,000; 17, \$5,000 but less than \$20,000; and 11, \$20,000 but less than \$100,000.

The number of wage earners employed each month and the per cent which this number represented of the greatest number employed in any month were as follows:

MONTH.	WAGE EARNERS.		MONTH.	WAGE EARNERS.	
	Number.	Per cent of maximum.		Number.	Per cent of maximum.
January.....	394	85.7	July.....	457	99.3
February.....	400	87.0	August.....	460	100.0
March.....	435	94.6	September.....	445	96.7
April.....	437	95.0	October.....	430	93.5
May.....	417	90.7	November.....	446	97.0
June.....	440	95.7	December.....	451	98.0

The different kinds of primary power, the number of engines or motors, and the horsepower used in 1909 are shown in the following tabular statement:

KIND.	Number of engines or motors.	Horse-power.
Primary power, total		606
Owned.....	32	500
Steam.....	29	485
Gas.....	3	15
Rented—Electric.....	26	106

The kind and amount of fuel used are shown below.

KIND.	Unit.	Quantity.
Anthracite coal.....	Tons.....	161
Bituminous coal.....	Tons.....	5,888
Wood.....	Cords.....	1,767
Oil.....	Barrels.....	130
Gas.....	1,000 feet.....	1,840

Custom gristmills.—Statistics for custom gristmills are not included in the general tables, or in the totals for manufacturing industries, but are presented in the following summary:

Number of establishments.....	58
Persons engaged in the industry.....	79
Proprietors and firm members.....	60
Salaried employees.....	2
Wage earners (average number).....	17
Primary horsepower.....	1,270
Capital.....	\$168,192
Expenses.....	746,119
Services.....	8,860
Materials.....	1 730,458
Miscellaneous.....	6,801
Value of products.....	1 824,782

¹ Includes estimate of all grain ground.

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TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899.

THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.

INDUSTRY AND CITY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaries employed.	Wage earners (average number).							
Expressed in thousands.													
STATE—All industries.....	1909	752	4,148	723	636	2,789	13,196	\$11,585	\$629	\$1,787	\$13,674	\$19,188	\$5,464
	1904	507	2,545	494	296	1,755	9,873	5,704	258	1,031	7,096	10,218	3,122
	1899	337	.....	.....	152	1,358	7,351	3,512	130	671	4,151	6,260	2,109
Bread and other bakery products.....	1909	67	242	74	22	146	88	337	17	84	346	601	255
	1904	39	137	43	8	86	14	107	6	44	184	311	127
	1899	11	49	12	.....	37	.....	21	.....	13	37	81	44
Brick and tile.....	1909	13	214	11	15	188	668	769	25	88	73	287	214
	1904	14	142	10	15	117	407	204	10	60	34	170	136
	1899	12	132	20	4	108	165	174	3	48	30	132	102
Butter, cheese, and condensed milk.....	1909	68	106	32	12	62	854	312	8	46	891	1,029	138
	1904	60	98	18	25	55	618	202	2	38	478	562	84
	1899	21	31	13	5	13	191	52	1	8	96	122	26
Cars and general shop construction and repairs by steam-railroad companies.	1909	5	494	.....	31	463	332	745	33	340	300	680	380
	1904	3	166	.....	20	146	98	137	19	102	81	202	121
	1899	3	133	.....	7	126	197	171	7	68	65	141	76
Flour-mill and gristmill products.....	1909	84	710	79	196	435	8,907	4,427	199	283	10,055	11,685	1,630
	1904	56	454	66	76	312	5,770	2,384	85	200	5,463	6,463	1,008
	1899	58	.....	.....	53	272	.....	1,144	46	149	3,102	3,850	748
Gas, illuminating and heating.....	1909	6	49	1	20	28	52	861	18	13	78	199	121
	1904	4	23	1	12	10	1,825	432	11	6	34	102	68
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Printing and publishing.....	1909	330	1,294	333	173	788	948	1,955	154	593	440	1,910	1,470
	1904	* 229	834	243	76	515	392	1,079	69	313	237	1,110	873
	1899	140	578	148	48	382	.....	626	42	177	170	720	550
Tobacco manufactures.....	1909	28	68	31	3	34	.....	53	1	20	37	98	61
	1904	27	60	30	.....	30	.....	35	.....	16	29	76	47
	1899	26	61	28	.....	33	.....	24	.....	17	26	69	43
All other industries.....	1909	151	971	162	164	645	1,347	2,126	174	380	1,454	2,649	1,195
	1904	75	631	83	64	484	749	1,124	56	252	556	1,222	686
	1899	66	.....	.....	35	387	.....	1,300	31	191	625	1,145	520

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

Fargo	1909	61	746	43	193	510	789	\$2,077	\$192	\$325	\$1,410	\$2,477	\$1,067
	1904	47	522	47	89	386	.....	884	76	219	555	1,161	606
	1899	36	.....	.....	37	307	.....	846	33	163	783	1,231	448
Grand Forks	1909	38	473	31	92	350	773	1,376	112	218	1,251	1,910	659
	* 1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	† 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

1 Figures can not be shown without disclosing individual operations.
 * Excluding statistics for one establishment, to avoid disclosure of individual operations.
 † Figures not available.

TABLE II.—DETAIL STATEMENT FOR

INDUSTRY.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.										WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY.					Primary horse-power.
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks.		Wage earners.			Total.	16 and over.		Under 16.				
					Male.	Female.	Average number.	Number.			Male.	Female.	Male.	Female.			
								Maximum month.	Minimum month.								
1 All industries.....	752	4,148	723	242	303	91	2,789	No 3,052	Ja 2,356	(1)	(1)	(1)	(1)	(1)	13,196		
2 Artificial stone.....	31	116	34	3	3	76	76	Je ² 138	Ja 10	119	119				101		
3 Bread and other bakery products.....	87	242	74	3	12	7	146	Jy 153	Mh 120	157	122	31	4		88		
4 Brick and tile.....	13	214	11	13	1	1	188	Je ² 385	Ja 40	284	277		7		688		
5 Butter, cheese, and condensed milk.....	68	106	32	10		2	62	Je 72	Ja 49	67	66		1		854		
6 Carriages and wagons and materials.....	3	12	3				9	Mh ² 10	Jy ² 8	10	10				14		
7 Cars and general shop construction and repairs by steam-railroad companies.....	5	494		15	14	2	463	De 517	Ap 424	527	527				332		
8 Confectionery.....	3	127		7	18	4	98	No 134	Ja ² 82	115	45	70			60		
9 Copper, tin, and sheet-iron products.....	8	82	6	5	6	2	63	Oc 78	Ja 41	66	66				36		
10 Flour-mill and gristmill products.....	84	710	79	75	99	22	435	Oc 560	Au 365	561	560	1			8,907		
11 Fur goods.....	4	19	5			1	13	No ² 22	Ap 7	22	5	17			7		
12 Gas, illuminating and heating.....	6	49	1	10	7	3	28	My 32	Fe 23	28	28				52		
13 Leather goods.....	19	157	22	10	23	4	98	De 111	Jy ² 94	111	110		1		93		
14 Lumber and timber products.....	8	80	8	6	3		63	No 77	Ja 40	71	71				249		
15 Marble and stone work.....	7	31	9		6	1	15	Se 19	Ja ² 8	16	16				13		
16 Patent medicines and compounds and druggists' preparations.....	3	8	4	1	1		2	Ja ³ 2	Jy ³ 2	2	2				9		
17 Printing and publishing.....	330	1,294	333	59	81	33	788	De 822	Mh 769	832	644	144	36	8	948		
18 Tobacco manufactures.....	28	68	31	1	2		34	No 43	Je 27	44	37	5	2				
19 All other industries ⁴	65	339	71	24	27	9	208								765		

¹ No figures given for reasons explained in the Introduction.

² Same number reported for one or more months.

³ Same number reported throughout the year.

⁴ All other industries embrace—

Agricultural implements.....	2	Canning and preserving.....	1	Coffee and spice, roasting and grinding.....	1
Awnings, tents, and sails.....	1	Carpets, rag.....	1	Flax and hemp, dressed.....	6
Bluing.....	1	Cars and general shop construction and repairs by street-railroad companies.....	2		
Brooms.....	2				

TABLE III.—DETAIL STATEMENT FOR CITIES OF 50,000 INHABITANTS OR MORE, BY INDUSTRIES, CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

CITY.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.										WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY.					Primary horse-power.
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks.		Wage earners (average number).			Total.	16 and over.		Under 16.				
					Male.	Female.	Total.	16 and over.			Under 16.	Male.	Female.	Male.	Female.		
								Male.	Female.								
1 FARGO.....	61	746	43	58	110	25	510	434	72	4	548	466	78	4	789		
2 GRAND FORKS.....	38	473	31	32	46	14	350	275	61	14	416	326	73	17	773		

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THE STATE, BY INDUSTRIES: 1909.

	Capital	EXPENSES.									Value of products.	Value added by manufacture.	
		Total.	Services.			Materials.		Miscellaneous.					
			Officials.	Clerks.	Wage earners.	Fuel and rent of power.	Other.	Rent of factory.	Taxes, including internal revenue.	Contract work.			Other.
1	\$11,584,747	\$17,290,331	\$320,815	\$307,915	\$1,787,405	\$453,420	\$13,220,170	\$84,175	\$75,612	\$21,323	\$1,019,496	\$19,137,506	\$5,463,916
2	165,701	140,918	2,620	1,839	45,607	2,439	72,427	520	689	.....	11,777	183,769	109,903
3	337,417	499,541	4,940	12,248	84,491	18,350	327,565	11,060	3,891	.....	36,966	600,021	254,706
4	789,367	238,175	17,714	7,504	87,795	46,798	25,990	1,100	2,420	.....	48,854	286,921	214,133
5	312,246	973,917	7,502	450	45,943	13,890	877,439	1,530	2,087	77	24,999	1,029,135	137,806
6	23,685	15,165	.....	.....	6,940	787	6,700	.....	168	.....	570	18,885	11,398
7	744,651	679,613	20,085	13,070	340,186	58,925	240,620	.....	.....	.....	6,727	679,612	380,067
8	206,009	424,183	13,864	24,986	38,423	4,397	293,763	1,856	1,372	.....	45,522	454,516	156,356
9	204,719	238,723	6,408	8,327	40,502	1,304	126,140	1,500	1,026	.....	53,516	258,283	130,839
10	4,427,320	11,017,142	102,759	96,418	283,063	185,591	9,868,323	1,203	26,487	.....	452,298	11,085,116	1,630,202
11	51,827	37,679	.....	384	7,390	348	22,844	2,520	377	.....	3,916	48,011	24,819
12	860,894	132,823	11,747	5,919	13,162	56,983	20,849	500	6,156	2,767	14,740	198,633	120,801
13	526,881	613,507	18,160	26,069	52,947	3,537	453,410	5,380	3,373	.....	45,691	683,273	221,326
14	177,587	161,074	8,700	3,250	50,162	5,108	83,478	8	1,987	.....	8,331	186,945	98,069
15	96,402	76,648	.....	4,650	11,429	650	42,026	591	637	.....	16,965	96,150	53,474
16	6,673	9,442	600	1,012	1,312	96	5,496	60	42	140	714	11,451	5,889
17	1,955,261	1,386,077	76,345	78,036	533,432	42,888	396,893	45,378	15,147	17,856	180,102	1,909,514	1,469,733
18	52,565	69,970	300	1,090	20,102	365	37,070	2,021	6,165	.....	2,857	98,178	60,743
19	665,542	575,734	29,131	22,663	121,619	10,964	313,167	8,918	3,588	483	65,201	708,793	384,662

⁴ All other industries embrace—Continued.

Food preparations.....	1	Leather, tanned, curried, and finished.....	2	Upholstering materials.....	2
Foundry and machine-shop products.....	12	Mattresses and spring beds.....	1	Wirework, including wire rope and cable.....	1
Hair work.....	1	Mineral and soda waters.....	26		
Hand stamps and stencils and brands.....	1	Show cases.....	1		

AND TOTALS FOR ALL INDUSTRIES IN CITIES OF 10,000 BUT LESS THAN 50,000 INHABITANTS: 1909.

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

	Capital.	EXPENSES.									Value of products.	Value added by manufacture.	
		Total.	Services.			Materials.		Miscellaneous.					
			Officials.	Clerks.	Wage earners.	Fuel and rent of power.	Other.	Rent of factory.	Taxes, including internal revenue.	Contract work.			Other.
1	\$2,077,135	\$2,232,000	\$86,052	\$105,565	\$325,052	\$57,371	\$1,352,902	\$17,075	\$13,011	\$17,301	\$257,671	\$2,476,845	\$1,066,572
2	1,376,625	1,742,238	53,418	58,729	213,084	59,188	1,191,385	11,186	12,062	1,650	136,536	1,910,062	659,489

CHAPTER 6.

MINES AND QUARRIES.

Introduction.—The present chapter contains a complete statement of the statistics of all mining industries, which include all mines, quarries, and wells in the state of North Dakota for the year 1909, as shown by the Thirteenth Census.

A brief explanation of the scope of the census of mining industries and of the terms used, in so far as the usage differs from that followed in the census of manufactures, is presented below in order to prevent any misinterpretation of the statistics.

The explanations here given show the usage of the mining census generally, though some of the special rules have obviously no relation to particular states in which the industries referred to do not exist.

Scope of census.—The Thirteenth Census covered all classes of mines, quarries, and petroleum and gas wells that were in operation during any portion of the year 1909, both those which were producing and those whose operations were confined to development work. Mines, quarries, or wells that were idle during the entire year 1909 were omitted from the canvass. The following operations were likewise omitted from the canvass: Prospecting; the digging or dredging of sand and gravel for the construction of roads and for building operations; the production of mineral waters; and the operation of small bituminous coal banks producing less than 1,000 tons annually.

Where the mineral products are not marketed in their crude condition, but are dressed or washed at the mine or quarry, the statistics of mining cover the entire work of obtaining the crude material and its preparation for the market.

Period covered.—The returns cover the calendar year 1909, or the business year which corresponds most nearly to that calendar year. The statistics cover a year's operations, except for enterprises which began or discontinued business during the year.

Number of operators.—As a rule, the unit of enumeration was the "operator." Every individual, firm, or corporation was required to furnish one report for all mines, quarries, or wells which were operated under the same management or for which one set of books of account was kept. Separate reports were obtained for all properties operated in different states, even where they were owned by the same operator. Likewise, where the operations of one individual, firm, or corporation covered more than one class of mines and quarries, such as coal, iron, limestone, etc., a separate report was received for each industry.

Number of mines, quarries, and wells.—This figure represents the total number of mines and quarries in operation or in the course of development at any time during the calendar year 1909, or the business year that corresponds most nearly to that calendar year, and the number of completed petroleum and natural gas wells in operation on December 31, 1909.

In most mining and quarrying industries the number of mines or quarries varies but little from the number of operators.

Expenses of operation and development.—A certain amount of development work is incidental to the operation of every mine. The expenses reported for producing mines include the cost both of operation and of development work which was done in connection with operation.

Wages.—The amount shown as wages includes only the compensation of regular wage earners hired by the day, week, or month, or under the piecework system.

Supplies and materials.—This item includes the cost of lumber and timber used for repairs, mine supports, track ties, etc.; iron and steel for blacksmithing; rails, frogs, sleepers, etc., for tracks and repairs; renewals of tools and machinery and materials for repairs; and supplies, explosives, oil, etc., as well as the cost of fuel and the rent of power. The schedule called only for the cost of such supplies and materials as had been used during the year covered by the report. Accurate figures, however, could be furnished only in those cases where the operators kept an account of supplies and materials used, or had an inventory made of all in stock at the beginning and at the end of the year. Such a system of accounting is far from general among mine operators, and there is reason to believe that in many cases the reported cost of supplies and materials covered all purchased during the year rather than those used during the year. The crude product of some operators was purchased by others for further dressing or refining; the cost of such materials is shown separately in the general table.

Capital.—The census schedule required every operator to state the total amount of capital invested in the enterprise on the last day of the business year reported, as shown by his books. There is, however, a great diversity in the methods of bookkeeping in use by different operators. As a result, the statistics for capital lack uniformity. Some of the figures reported apparently represent capital stock at face value; others include large investments in mineral lands which are not at present being actively mined, but are held in reserve; still others may include expenditures for unproductive mining ventures in no way related to the operations carried on during the census year.

Persons engaged in mining industries.—The statistics of the number of operators and officials, clerks, and wage earners are based on the returns for December 15, or the nearest representative day. The reported number of wage earners includes overseers and foremen performing work similar to that of the men over whom they have charge; those whose duties are wholly supervisory are classed as superintendents and managers. Because of the common practice of shutting down mines at frequent intervals, it is impossible to ascertain with any satisfactory degree of accuracy the average number of employees—that is, the number who, if continuously employed, would be required to produce the actual output of the year.

Value of products.—Statistics of the value of mineral products were obtained by the Bureau of the Census in cooperation with the United States Geological Survey, but the two bureaus follow different methods in presenting these statistics. The Geological Survey shows separately the value of each mineral product, whereas the Bureau of the Census presents the value of products of each mining industry. The value of products given for a mining industry often includes the value of some products not covered by the industry designation. The crude product of metalliferous mines may include varying combinations of metals, such as gold, silver, copper, lead, zinc, and iron. Similarly, the total value of all products of the granite quarries is not identical with the value of the total output of granite, but may include the value of some marble or other stone quarried in connection with the principal product.

The value of products for 1909 in most cases represents the value of the products marketed during that year, not the value of those mined during that year.

Summary.—Only 53 operators of mining enterprises were reported from North Dakota in 1909. Of these, 52 were engaged in the production of bitumi-

nous coal and 1 in the production of petroleum and natural gas. Detailed statistics for these enterprises are presented in Table 1.

DETAILED STATISTICS FOR MINING INDUSTRIES: 1909.

Table 1	All industries. ¹	All industries. ¹
Number of operators.....	53	Number of wage earners employed on the 15th day of each month:
Number of mines, quarries, and wells.....	59		January..... 742
Capital.....	\$1,058,649	February..... 727
		March..... 627
		April..... 414
		May..... 351
		June..... 324
		July..... 387
		August..... 364
		September..... 454
		October..... 719
		November..... 756
		December..... 851
Expenses of operation and development.....	\$570,140	Land controlled, acres.....
Services—		Owned..... 34,695
Salaried officers of corporations, superintendents, and managers.....	\$34,372	Held under lease..... 12,300
Clerks and other salaried employees.....	\$28,217	Mineral and oil land..... 22,395
Wage earners.....	\$364,321	Owned..... 30,356
Miscellaneous—		Held under lease..... 7,971
Supplies.....	\$95,352	Other land..... 4,339
Fuel and rent of power.....	\$12,835	Primary horsepower.....
Royalties and rent of mines.....	\$10,647	Steam engines—
Taxes.....	\$4,500	Number..... 37
Contract work.....	\$1,325	Horsepower..... 2,014
Rent of offices and other sundry expenses.....	\$18,771	Gas or gasoline engines—
		Number..... 2
		Horsepower..... 11
Value of products.....	\$564,812	Electric motors run by current generated by enterprise using:
Persons engaged in industry.....	960	Number..... 26
Proprietors and officials.....	79	Horsepower..... 565
Proprietors and firm members.....	51	
Number performing manual labor.....	19	
Salaried officers of corporations.....	6	
Superintendents and managers.....	22	
Clerks and other salaried employees.....	21	
Wage earners, Dec. 15, 1909, or nearest representative day.....	860	
Above ground.....	202	
Below ground ²	658	
Engineers, firemen, mechanics, etc.....	51	
Above ground.....	45	
Below ground.....	6	
Miners and miners' helpers.....	581	
Below ground.....	581	
All other employees ²	228	
Above ground.....	157	
Below ground ²	71	

¹ Includes operators as follows: Bituminous coal, 52; petroleum and natural gas, 1.

² Includes 1 boy under 16 years of age.

Comparison of mining industries: 1902-1909.—In order to make comparisons between 1909 and 1902 it is necessary to omit from the 1902 figures, as given in the mines and quarries report for that year, statistics for the production of cement. Such items as are comparable for the two years are presented in Table 2.

The value of products increased 73.3 per cent, and the amount paid for wages and salaries, 84.8 per cent.

Table 2	1909	1902	Per cent of increase. ¹
Wages and salaries.....	\$426,910	\$231,014	84.8
Supplies and materials.....	\$108,187	\$86,467	25.1
Royalties and rent of mines.....	\$10,647	\$1,407	656.7
Contract work.....	\$1,325	\$2,795	-52.6
Value of products.....	\$564,812	\$325,967	73.3
Primary horsepower.....	2,025	839	141.4

¹ A minus sign (-) denotes decrease.