Twelfth Census of the United States.

CENSUS BULLETIN.

POPULATION OF INDIAN TERRITORY BY NATIONS AND RESERVATIONS.

This bulletin, prepared under the direction of Mr. WILLIAM C. HUNT, chief statistician for population, gives the aggregate population of Indian Territory by nations and reservations, according to the official count of the returns of the Twelfth Census, taken as of June 1, 1900.

Table 1 shows the population of Indian Territory at the censuses of 1890 and 1900, together with the increase by number and per cent during the decade.

TABLE 1.—POPULATION OF INDIAN TERRITORY: 1890 AND 1900.

CENSUS YEARS.	Population.	INCREASE.	
		Number.	Per cent.
1900 _____	391,960	211,778	117.5
1890 _____	180,182		

The population of the Territory in 1900 is 391,960 as against 180,182 in 1890, representing an increase during the decade of 211,778, or 117.5 per cent. These totals include the entire population of the Territory, both Indians and others. No general enumeration of the population of Indian Territory was made at any census prior to 1890.

The total land surface of Indian Territory is, approximately, 31,000 square miles, the average number of persons to the square mile at the censuses of 1890 and 1900 being as follows: 1890, 5.8; 1900, 12.6.

Table 2 shows the population of Indian Territory by nations and reservations at the censuses of 1890 and 1900, while table 3, which immediately follows, shows, for each nation and reservation, the increase by number and per cent during the ten years from 1890 to 1900.

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TABLE 2.—POPULATION OF INDIAN TERRITORY BY NATIONS AND RESERVATIONS: 1890 AND 1900.

NATIONS AND RESERVATIONS.	1900	1890	1880	1870	1860	1850
The Territory	391,960	180,182				
Cherokee nation	101,754	56,309				
Chickasaw nation	139,260	57,329				
Choctaw nation	99,681	43,808				
Creek nation	40,674	17,912				
Seminole nation	3,786	2,739				
Modoc reservation	140	84				
Ottawa reservation	2,205	137				
Peoria reservation	1,180	227				
Quapaw reservation	800	154				
Seneca reservation	970	255				
Shawnee reservation	297	79				
Wyandotte reservation	1,213	288				
Not located by nations or reservations		861				

TABLE 3.—INCREASE IN POPULATION OF INDIAN TERRITORY BY NATIONS AND RESERVATIONS: 1890 TO 1900.

NATIONS AND RESERVATIONS.	INCREASE.		NATIONS AND RESERVATIONS.	INCREASE.	
	Number.	Per cent.		Number.	Per cent.
The Territory	211,778	117.5	Ottawa reservation	2,068	1,509.5
			Peoria reservation	953	419.8
Cherokee nation	45,445	80.7	Quapaw reservation	646	419.5
Chickasaw nation	81,931	142.9	Seneca reservation	715	280.4
Choctaw nation	55,873	127.5	Shawnee reservation	218	275.9
Creek nation	22,762	127.1	Wyandotte reservation	925	321.2
Seminole nation	1,047	38.2	Not located by nations or reservations	[1] 861	
Modoc reservation	56	66.7			

[1] Decrease.

There are 5 nations and 7 reservations in Indian Territory, all of which have increased in population during the decade, many of them by large percentages. Over ninety-seven per cent of the entire population is, however, found in the 4 principal nations, and the rates of increase for these are as follows: Chickasaw nation, 142.9 per cent; Choctaw nation, 127.5 per cent; Creek nation, 127.1 per cent; and Cherokee nation, 80.7 per cent.

Table 4 shows the population of Indian Territory by minor civil divisions, so far as it was separately returned at the census of 1900.

TABLE 4.—POPULATION OF INDIAN TERRITORY BY MINOR CIVIL DIVISIONS: 1890 AND 1900.

MINOR CIVIL DIVISIONS.	1900	1890
CHEROKEE NATION	101,754	56,309
Adair town	268	----------
Afton town	606	----------
Bartlesville town	698	----------
Bluejacket town	393	----------
Catoosa town	241	----------
Chelsea town	566	----------
Claremore town	855	----------
Collinsville town	376	----------
Fairland town	499	----------
Fort Gibson town	617	----------
Gans town	136	----------
Grove town	314	----------
Hanson town	182	----------
Lenapah town	154	----------
Muldrow town	465	----------
Nowata town	498	----------
Oologah town	308	----------
Pryor Creek town	495	----------
Sallisaw town	965	----------
Stilwell town	779	----------
Tahlequah town	1,482	----------
Vian town	296	----------
Vinita town	2,339	----------
Webbers Falls town	211	----------
Welch town	334	----------
Westville town	296	----------
CHICKASAW NATION	139,260	57,329
Ardmore town	5,681	----------
Ward 1 ... 1,448		
Ward 2 ... 1,444		
Ward 3 ... 903		
Ward 4 ... 1,886		
Berwyn town	276	----------
Chickasha town	3,209	----------
Comanche town	547	----------
Connerville town	189	----------
Cornish town	397	----------
Cumberland town	343	----------
Davis town	1,346	----------
Dougherty town	437	----------
Duncan town	1,104	----------
Earl town	225	----------
Elmore town	192	----------
Emet town	342	----------
Hickory town	262	----------
Johnson town	204	----------
Kemp town	221	----------
Leon town	221	----------
Long Grove town	215	----------
McGee town	209	----------
Mannsville town	198	----------
Marietta town	842	----------
Marlow town	1,016	----------
Oakland town	701	----------
Orr town	222	----------
Paoli town	234	----------
Pauls Valley town	1,467	----------
Pontotoc town	366	----------
Purcell town	2,277	----------
Ward 1 ... 300		
Ward 2 ... 570		
Ward 3 ... 798		
Ward 4 ... 609		
Purdy town	200	----------
Ravia town	128	----------
Rush Springs town	518	----------
Silo town	246	----------
Sulphur Springs town	1,198	----------

MINOR CIVIL DIVISIONS.	1900	1890
CHICKASAW NATION—Continued.		
Thackerville town	154	----------
Wynnewood town	1,907	----------
CHOCTAW NATION	99,681	43,808
Bokoshe town	153	----------
Caddo town	930	----------
Cameron town	316	----------
Canadian town	522	----------
Coalgate town	2,614	----------
Ward 1 ... 589		
Ward 2 ... 1,023		
Ward 3 ... 1,002		
Cowlington town	272	----------
Durant town	2,969	----------
Hartshorne town	2,352	----------
Heavener town	234	----------
Howe town	626	----------
Lehigh town	1,500	----------
McAlester town	646	----------
Poteau town	1,182	----------
South McAlester town	3,479	----------
Ward 1 ... 1,443		
Ward 2 ... 906		
Ward 3 ... 354		
Ward 4 ... 776		
Spiro town	543	----------
Sterrett town	575	----------
Tamaha town	237	----------
Wister town	313	----------
CREEK NATION	40,674	17,912
Bristow town	626	----------
Checotah town	805	----------
Eufaula town	757	----------
Holdenville town	749	----------
Muscogee town	4,254	----------
Sapulpa town	891	----------
Tulsa town	1,390	----------
Wagoner town	2,372	----------
SEMINOLE NATION	3,786	2,739
MODOC INDIAN RESERVATION	140	84
OTTAWA INDIAN RESERVATION	2,205	137
Miami town	1,527	----------
PEORIA INDIAN RESERVATION	1,180	[1]227
QUAPAW INDIAN RESERVATION	800	154
Peoria town	144	----------
SENECA INDIAN RESERVATION	970	255
SHAWNEE INDIAN RESERVATION	297	79
WYANDOTTE INDIAN RESERVATION	1,213	288
Wyandotte town	224	----------

[1] Includes population (67) of Miami reservation.

There are 90 incorporated towns in Indian Territory, for which the population in 1900 is separately returned, and these incorporated places are presented in table 5 in alphabetical order, being abstracted from table 4, in which they are presented in detail under the nations and reservations in which they are severally situated.

TABLE 5.—POPULATION OF THE INCORPORATED TOWNS OF INDIAN TERRITORY: 1890 AND 1900.

TOWNS.	POPULATION.		TOWNS.	POPULATION.		TOWNS.	POPULATION.	
	1900	1890		1900	1890		1900	1890
Adair town	268		Eufaula town	757		Pauls Valley town	1,467	
Afton town	606		Fairland town	499		Peoria town	144	
Ardmore town	5,681		Fort Gibson town	617		Pontotoc town	366	
Bartlesville town	698		Gans town	136		Poteau town	1,182	
Berwyn town	276		Grove town	314		Pryor Creek town	495	
Bluejacket town	303		Hanson town	182		Purcell town	2,277	
Bokoshe town	153		Hartshorne town	2,352		Purdy town	200	
Bristow town	626		Heavener town	234		Ravia town	128	
Caddo town	930		Hickory town	262		Rush Springs town	518	
Cameron town	316		Holdenville town	749		Sallisaw town	965	
Canadian town	522		Howe town	626		Sapulpa town	891	
Catoosa town	241		Johnson town	204		Silo town	246	
Checotah town	805		Kemp town	221		South McAlester town	3,479	
Chelsea town	566		Lehigh town	1,500		Spiro town	543	
Chickasha town	3,209		Lenapah town	154		Sterrett town	575	
Claremore town	855		Leon town	221		Stilwell town	779	
Coalgate town	2,614		Long Grove town	215		Sulphur Springs town	1,198	
Collinsville town	376		McAlester town	646		Tahlequah town	1,482	
Comanche town	547		McGee town	209		Tamaha town	237	
Connerville town	189		Mannsville town	198		Thackerville town	154	
Cornish town	307		Marietta town	842		Tulsa town	1,390	
Cowlington town	272		Marlow town	1,016		Vian town	296	
Cumberland town	343		Miami town	1,527		Vinita town	2,339	
Davis town	1,346		Muldrow town	465		Wagoner town	2,372	
Dougherty town	437		Muscogee town	4,254		Webbers Falls town	211	
Duncan town	1,164		Nowata town	498		Welch town	334	
Durant town	2,969		Oakland town	701		Westville town	296	
Earl town	225		Oologah town	308		Wister town	313	
Elmore town	192		Orr town	222		Wyandotte town	224	
Emet town	342		Paoli town	234		Wynnewood town	1,907	

Of the above named 90 incorporated places, there are only 10 which have a population of over 2,000 in 1900, and of these 6 have more than 2,500 inhabitants, namely, Ardmore, with 5,681; Muscogee, with 4,254; South McAlester, with 3,479; Chickasha, with 3,209; Durant, with 2,969; and Coalgate, with 2,614 inhabitants.

*William R. Merriam*

Director of the Census.

CENSUS BULLETIN.

AREA IN SQUARE MILES OF STATES, TERRITORIES, AND COUNTIES.

This bulletin, prepared under the direction of Mr. HENRY GANNETT, Geographer, presents in the subsequent pages, tables showing the area in square miles of the United States, by states, territories, and counties. The gross areas of the states and territories are identical with those published by the Eleventh Census, except those of Alaska and Hawaii.

The areas of counties as published by the Eleventh Census have been thoroughly examined and revised. The areas published by the state geological survey of New Jersey for the counties of that state, and those published by the department of agriculture of the state of Kansas for the counties of that state, have been adopted with certain slight modifications. The areas of the islands of the territory of Hawaii are from the latest government surveys.

Director of the Census.

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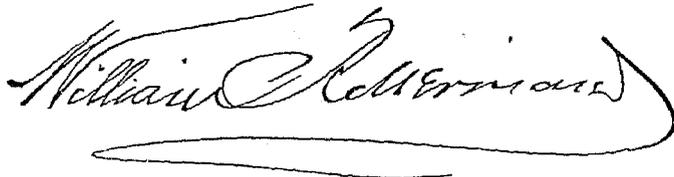
TABLE 1.—AREA OF THE UNITED STATES IN SQUARE MILES, BY STATES AND TERRITORIES.

STATES AND TERRITORIES.	GROSS AREA.	WATER SURFACE.	LAND SURFACE.
Total	3,622,933	¹55,562	¹2,970,038
Alabama	52,250	710	51,540
Alaska	590,884	----	----
Arizona	113,020	100	112,920
Arkansas	53,850	805	53,045
California	158,360	2,380	155,980
Colorado	103,925	280	103,645
Connecticut	4,990	145	4,845
Delaware	2,050	90	1,960
District of Columbia	70	10	60
Florida	58,680	4,440	54,240
Georgia	59,475	495	58,980
Hawaii	6,449	----	----
Idaho	84,800	510	84,290
Illinois	56,650	650	56,000
Indiana	36,350	440	35,910
Indian Territory	31,400	400	31,000
Iowa	56,025	550	55,475
Kansas	82,080	380	81,700
Kentucky	40,400	400	40,000
Louisiana	48,720	3,300	45,420
Maine	33,040	3,145	29,895
Maryland	12,210	2,350	9,860
Massachusetts	8,315	275	8,040
Michigan	58,915	1,485	57,430
Minnesota	83,365	4,160	79,205
Mississippi	46,810	470	46,340
Missouri	69,415	680	68,735
Montana	146,080	770	145,310
Nebraska	77,510	670	76,840
Nevada	110,700	960	109,740
New Hampshire	9,305	300	9,005
New Jersey	7,815	290	7,525
New Mexico	122,580	120	122,460
New York	49,170	1,550	47,620
North Carolina	52,250	3,670	48,580
North Dakota	70,795	600	70,195
Ohio	41,060	300	40,760
Oklahoma	39,030	200	38,830
Oregon	96,030	1,470	94,560
Pennsylvania	45,215	230	44,985
Rhode Island	1,250	197	1,053
South Carolina	30,570	400	30,170
South Dakota	77,650	800	76,850
Tennessee	42,050	300	41,750
Texas	265,780	3,490	262,290
Utah	84,970	2,780	82,190
Vermont	9,565	430	9,135
Virginia	42,450	2,325	40,125
Washington	69,180	2,300	66,880
West Virginia	24,780	135	24,645
Wisconsin	56,040	1,590	54,450
Wyoming	97,890	315	97,575
Delaware bay	620	620	----
Raritan bay and Lower New York bay.	100	100	----

¹ Exclusive of Alaska and Hawaii.

TABLE 2.—LAND AREA OF STATES AND TERRITORIES IN SQUARE MILES, BY COUNTIES.

ALABAMA.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	51,540	Clarke	1,213	Escambia	968	Limestone	600	Randolph	579
Autauga	595	Clay	694	Etowah	533	Lowndes	747	Russell	652
Baldwin	1,591	Cleburne	568	Fayette	647	Macon	615	St. Clair	650
Barbour	920	Coffee	677	Franklin	639	Madison	806	Shelby	829
Bibb	622	Colbert	581	Geneva	662	Marengo	978	Sumter	896
Blount	752	Conecuh	831	Greene	681	Marion	744	Talladega	677
Bullock	609	Coosa	671	Hale	726	Marshall	590	Tallapoosa	759
Butler	769	Covington	1,029	Henry	992	Mobile	1,278	Tuscaloosa	1,371
Calhoun	636	Crenshaw	612	Jackson	1,163	Monroe	1,037	Walker	860
Chambers	590	Cullman	595	Jefferson	1,059	Montgomery	809	Washington	1,050
Cherokee	582	Dale	654	Lamar	606	Morgan	589	Wilcox	914
Chilton	703	Dallas	982	Lauderdale	702	Perry	758	Winston	634
Choctaw	912	Dekalb	782	Lawrence	642	Pickens	937		
		Elmore	631	Lee	631	Pike	681		

ARIZONA.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	112,920	Cochise	6,147	Graham	6,500	Navajo	9,826	Santa Cruz	1,212
Apache	10,786	Coconino	19,322	Maricopa	8,816	Pima	9,424	Yavapai	7,863
		Gila	4,542	Mohave	13,421	Pinal	5,324	Yuma	9,787

ARKANSAS.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	53,045	Conway	489	Howard	611	Mississippi	842	Saline	750
Arkansas	1,013	Craighead	683	Independence	779	Monroe	622	Scott	1,030
Ashley	974	Crawford	609	Izard	611	Montgomery	918	Searcy	652
Baxter	564	Crittenden	623	Jackson	643	Nevada	610	Sebastian	542
Benton	892	Cross	629	Jefferson	919	Newton	838	Sevier	548
Boone	831	Dallas	657	Johnson	666	Ouachita	742	Sharp	606
Bradley	658	Desha	725	Lafayette	524	Perry	608	Stone	615
Calhoun	646	Drew	838	Lawrence	589	Phillips	710	Union	1,074
Carroll	645	Faulkner	661	Lee	595	Pike	611	Van Buren	684
Chicot	616	Franklin	637	Lincoln	560	Poinsett	727	Washington	1,005
Clark	875	Fulton	622	Little River	556	Polk	868	White	1,035
Clay	649	Garland	652	Logan	697	Pope	834	Woodruff	593
Cleburne	635	Grant	640	Lonoke	784	Prairie	675	Yell	955
Cleveland	581	Greene	544	Madison	859	Pulaski	788		
Columbia	846	Hempstead	722	Marion	628	Randolph	644		
		Hot Spring	631	Miller	665	St. Francis	646		

CALIFORNIA.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	155,980	Glenn	1,270	Merced	1,932	San Bernardino	19,047	Solano	900
Alameda	764	Humboldt	3,496	Modoc	3,741	San Diego	8,478	Sonoma	1,620
Alpine	710	Inyo	10,294	Mono	3,020	San Francisco	47	Stanislaus	1,456
Amador	632	Kern	8,050	Monterey	3,340	San Joaquin	1,396	Sutter	622
Butte	1,660	Kings	984	Napa	780	San Luis Obispo	3,310	Tehama	3,008
Calaveras	1,080	Lake	1,328	Nevada	972	San Mateo	434	Trinity	3,282
Colusa	1,088	Lassen	4,520	Orange	750	Santa Barbara	2,632	Tulare	4,952
Contra Costa	728	Los Angeles	4,202	Placer	1,365	Santa Clara	1,286	Tuolumne	2,208
Del Norte	992	Madera	2,062	Plumas	2,694	Santa Cruz	424	Ventura	1,721
Eldorado	1,796	Marin	549	Riverside	7,323	Shasta	3,876	Yolo	996
Fresno	6,152	Mariposa	1,510	Sacramento	1,000	Sierra	960	Yuba	636
		Mendocino	3,626	San Benito	1,388	Siskiyou	5,991		

COLORADO.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	103,645	Custer	696	Hinsdale	1,003	Mineral	880	Rio Grande	1,331
Arapahoe	4,728	Delta	1,201	Huerfano	1,537	Montezuma	2,113	Routt	6,980
Archuleta	1,209	Dolores	1,000	Jefferson	858	Montrose	2,290	Saguache	2,760
Baca	2,531	Douglas	889	Kiowa	1,780	Morgan	1,264	San Juan	438
Bent	1,497	Eagle	1,586	Kit Carson	2,168	Otero	2,042	San Miguel	1,310
Boulder	751	Elbert	1,852	Lake	393	Ouray	557	Sedgwick	535
Chaffee	1,224	El Paso	2,134	La Plata	1,848	Park	2,084	Summit	603
Cheyenne	1,787	Fremont	1,478	Larimer	4,337	Phillips	677	Teller	551
Clear Creek	425	Garfield	3,049	Las Animas	4,802	Pitkin	983	Washington	1,074
Conejos	1,407	Gilpin	130	Lincoln	2,553	Prowers	1,602	Weld	3,918
Costilla	1,746	Grand	1,873	Logan	1,733	Pueblo	2,447	Yuma	1,162
		Gunnison	3,277	Mesa	3,309	Rio Blanco	3,249		

CONNECTICUT.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	4,845	Hartford	677	Middlesex	373	New London	681	Windham	515
Fairfield	641	Litchfield	931	New Haven	612	Tolland	415		

DELAWARE.

County	Area	County	Area	County	Area
Total	1,960	Kent	434	Newcastle	615	Sussex	911

TABLE 2.—LAND AREA OF STATES AND TERRITORIES IN SQUARE MILES, BY COUNTIES—Continued.

FLORIDA.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	54,240	Dade	4,424	Jackson	963	Marion	1,640	Sumter	599
		De Soto	3,755	Jefferson	593	Monroe	1,125	Suwanee	689
Alachua	1,283	Duval	822	Lafayette	1,202	Nassau	645	Taylor	1,100
Baker	585	Escambia	688	Lake	1,128	Orange	1,315	Volusia	1,281
Bradford	552	Franklin	731	Lee	4,641	Osceola	1,827	Wakulla	601
Brevard	2,409	Gadsden	500	Leon	730	Pasco	750	Walton	1,384
Calhoun	1,067	Hamilton	508	Levy	1,133	Polk	1,967	Washington	1,425
Citrus	612	Hernando	475	Liberty	725	Putnam	772		
Clay	622	Hillsboro	1,309	Madison	693	St. John	960		
Columbia	792	Holmes	435	Manatee	1,275	Santa Rosa	1,528		

GEORGIA.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	58,980	Cobb	341	Gordon	387	Marion	344	Stewart	440
		Coffee	1,123	Greene	400	Meriwether	544	Sumter	534
Appling	775	Colquitt	565	Gwinnett	510	Miller	275	Talbot	407
Baker	366	Columbia	306	Habersham	372	Milton	147	Taliaferro	198
Baldwin	250	Coweta	443	Hall	449	Mitchell	542	Tattnall	1,102
Banks	216	Crawford	334	Hancock	523	Monroe	480	Taylor	338
Bartow	485	Dade	188	Haralson	282	Montgomery	744	Telfair	412
Berrien	810	Dawson	209	Harris	486	Morgan	346	Terrell	340
Bibb	254	Decatur	1,010	Hart	257	Murray	352	Thomas	713
Brooks	468	Dekalb	271	Heard	313	Muscogee	255	Towns	168
Bryan	427	Dodge	495	Henry	337	Newton	259	Troup	434
Bulloch	980	Dooly	710	Houston	591	Oconee	184	Twiggs	423
Burke	1,043	Dougherty	339	Irwin	686	Oglethorpe	575	Union	325
Butts	179	Douglas	212	Jackson	460	Paulding	329	Upson	310
Calhoun	276	Early	503	Jasper	410	Pickens	219	Walker	433
Camden	718	Echols	365	Jefferson	686	Pierce	518	Walton	366
Campbell	205	Effingham	419	Johnson	258	Pike	294	Ware	676
Carroll	486	Elbert	388	Jones	397	Polk	292	Warren	298
Catoosa	171	Emanuel	936	Laurens	791	Pulaski	477	Washington	680
Charlton	1,063	Fannin	390	Lee	486	Putnam	348	Wayne	766
Chatham	400	Fayette	215	Liberty	976	Quitman	152	Webster	227
Chattahoochee	281	Floyd	506	Lincoln	290	Rabun	344	White	243
Chattooga	328	Forsyth	252	Lowndes	455	Randolph	476	Whitfield	285
Cherokee	434	Franklin	344	Lumpkin	282	Richmond	272	Wilcox	544
Clarke	159	Fulton	174	McDuffie	258	Rockdale	121	Wilkes	501
Clay	216	Gilmer	450	McIntosh	429	Schley	188	Wilkinson	481
Clayton	142	Glascock	95	Macon	392	Screven	734	Worth	778
Clinch	1,077	Glynn	468	Madison	278	Spalding	203		

TERRITORY OF HAWAII, BY ISLANDS.

Island	Area	Island	Area	Island	Area	Island	Area
Total	6,449	Hawaii	4,015	Kauai	544	Maui	728	Niihau	97
		Kahoolawe	69	Lanai	135	Molokai	261	Oahu	600

IDAHO.

County	Area	County	Area	County	Area	County	Area
Total	84,290	Bingham	4,814	Custer	4,670	Latah	1,114	Owyhee	7,907
		Blaine	6,869	Elmore	2,431	Lemhi	4,465	Shoshone	4,677
Ada	1,177	Boise	4,203	Fremont	6,145	Lincoln	3,270	Washington	2,908
Bannock	3,123	Canyon	1,827	Idaho	11,074	Nez Perce	1,421		
Bear Lake	964	Cassia	4,511	Kootenai	5,595	Oneida	2,695		

ILLINOIS.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	56,000	Dewitt	406	Jefferson	590	Marshall	390	Saline	380
		Douglas	420	Jersey	360	Mason	570	Sangamon	860
Adams	888	Dupage	347	Jo Daviess	656	Massac	238	Schuyler	430
Alexander	230	Edgar	648	Johnson	340	Menard	314	Scott	255
Bond	372	Edwards	232	Kane	540	Mercer	558	Shelby	780
Boone	288	Effingham	486	Kankakee	692	Monroe	385	Stark	292
Brown	306	Fayette	692	Kendall	324	Montgomery	702	Stephenson	557
Bureau	877	Ford	480	Knox	720	Morgan	562	Tazewell	650
Calhoun	252	Franklin	436	Lake	463	Moultrie	354	Union	400
Carroll	462	Fulton	828	Lasalle	1,156	Ogle	773	Vermilion	928
Cass	388	Gallatin	325	Lawrence	362	Peoria	615	Wabash	226
Champaign	1,000	Greene	544	Lee	738	Perry	430	Warren	540
Christian	688	Grundy	432	Livingston	1,030	Piatt	440	Washington	555
Clark	515	Hamilton	438	Logan	610	Pike	815	Wayne	725
Clay	468	Hancock	765	McDonough	574	Pope	364	White	512
Clinton	498	Hardin	194	McHenry	609	Pulaski	192	Whiteside	700
Coles	520	Henderson	362	McLean	1,166	Putnam	176	Will	835
Cook	993	Henry	840	Macon	606	Randolph	580	Williamson	442
Crawford	450	Iroquois	1,123	Macoupin	868	Richland	360	Winnebago	540
Cumberland	347	Jackson	558	Madison	748	Rock Island	440	Woodford	536
Dekalb	646	Jasper	503	Marion	570	St. Clair	680		

TABLE 2.—LAND AREA OF STATES AND TERRITORIES IN SQUARE MILES, BY COUNTIES—Continued.

INDIANA.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	35,910	Delaware	395	Jasper	565	Newton	380	Starke	314
		Dubois	425	Jay	370	Noble	417	Steuben	311
Adams	335	Elkhart	465	Jefferson	362	Ohio	87	Sullivan	440
Allen	660	Fayette	215	Jennings	380	Orange	400	Switzerland	225
Bartholomew	400	Floyd	150	Johnson	312	Owen	380	Tippecanoe	488
Benton	410	Fountain	388	Knox	510	Parke	453	Tipton	260
Blackford	167	Franklin	394	Kosciusko	521	Perry	383	Union	162
Boone	427	Fulton	382	Lagrange	393	Pike	336	Vanderburg	236
Brown	317	Gibson	490	Lake	465	Porter	418	Vermilion	255
Carroll	370	Grant	416	Laporte	563	Posey	410	Vigo	402
Cass	420	Greene	482	Lawrence	460	Pulaski	437	Wabash	418
Clark	375	Hamilton	402	Madison	460	Putnam	482	Warren	366
Clay	357	Hancock	290	Marion	400	Randolph	450	Warrick	397
Clinton	402	Harrison	470	Marshall	440	Ripley	447	Washington	523
Crawford	304	Hendricks	408	Martin	340	Rush	406	Wayne	409
Daviess	430	Henry	395	Miami	375	St. Joseph	560	Wells	367
Dearborn	309	Howard	295	Monroe	414	Scott	190	White	500
Decatur	384	Huntington	385	Montgomery	508	Shelby	408	Whitley	336
Dekalb	369	Jackson	520	Morgan	415	Spencer	406		

INDIAN TERRITORY.

	Area			
Total	31,000	Quapaw		
		Peoria		
Cherokee Nation	7,133	Ottawa		
Creek Nation	4,842	Wyandotte	Reservations	210
Chickasaw Nation	7,326	Modoc		
Choctaw Nation	579	Seneca		
Seminole Nation	10,910	Shawnee		

IOWA.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	55,475	Clarke	432	Hancock	576	Mahaska	576	Shelby	576
		Clay	576	Hardin	576	Marion	576	Sioux	768
Adair	576	Clayton	745	Harrison	684	Marshall	576	Story	576
Adams	432	Clinton	680	Henry	432	Mills	445	Tama	720
Allamakee	615	Crawford	720	Howard	460	Mitchell	480	Taylor	540
Appanoose	500	Dallas	576	Humboldt	432	Monona	432	Union	432
Audubon	432	Davis	500	Ida	432	Monroe	432	Van Buren	502
Benton	720	Decatur	534	Iowa	576	Montgomery	432	Wapello	432
Blackhawk	576	Delaware	576	Jackson	619	Muscatine	435	Warren	576
Boone	576	Des Moines	400	Jasper	720	O'Brien	576	Washington	576
Bremer	482	Dickinson	408	Jefferson	432	Osceola	408	Wayne	528
Buchanan	576	Dubuque	604	Johnson	578	Page	528	Webster	720
Buena Vista	576	Emmet	408	Jones	576	Palo Alto	576	Winnebago	408
Butler	576	Fayette	720	Keokuk	576	Plymouth	820	Winneshiek	696
Calhoun	576	Floyd	504	Kossuth	984	Pocahontas	576	Woodbury	864
Carroll	576	Franklin	576	Lee	490	Polk	576	Worth	408
Cass	576	Fremont	514	Linn	720	Pottawattamie	876	Wright	576
Cedar	576	Greene	570	Louisa	396	Poweshiek	576		
Cerro Gordo	576	Grundy	504	Lucas	482	Ringgold	546		
Cherokee	576	Guthrie	576	Lyon	600	Sac	575		
Chickasaw	504	Hamilton	576	Madison	576	Scott	447		

KANSAS.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	81,700	Dickinson	842	Jackson	658	Morton	729	Sedgwick	992
		Doniphan	363	Jefferson	560	Nemaha	720	Seward	648
Allen	504	Douglas	461	Jewell	900	Neosho	576	Shawnee	548
Anderson	576	Edwards	600	Johnson	480	Ness	1,080	Sheridan	900
Atchison	415	Elk	645	Kearny	848	Norton	900	Sherman	1,080
Barber	1,134	Ellis	895	Kingman	864	Osage	720	Smith	900
Barton	890	Ellsworth	720	Kiowa	720	Osborne	895	Stafford	792
Bourbon	637	Finney	1,280	Labette	649	Ottawa	712	Stanton	672
Brown	576	Ford	1,060	Lane	720	Pawnee	744	Stevens	728
Butler	1,428	Franklin	576	Leavenworth	447	Phillips	900	Sumner	1,178
Chase	750	Geary	398	Lincoln	718	Pottawatomie	840	Thomas	1,076
Chautauqua	651	Gove	1,080	Linn	637	Pratt	720	Trego	900
Cherokee	576	Graham	900	Logan	1,072	Rawlins	1,080	Wabaunsee	793
Cheyenne	1,020	Grant	576	Lyon	858	Reno	1,246	Wallace	900
Clark	975	Gray	852	McPherson	900	Republic	710	Washington	900
Clay	651	Greeley	780	Marion	954	Rice	710	Wichita	720
Cloud	711	Greenwood	1,155	Marshall	900	Riley	604	Wilson	576
Coffey	648	Hamilton	983	Meade	975	Rooks	900	Woodson	496
Comanche	795	Harper	810	Miami	588	Rush	720	Wyandotte	158
Cowley	1,108	Harvey	540	Mitchell	715	Russell	890		
Crawford	592	Haskell	576	Montgomery	643	Saline	712		
Decatur	900	Hodgeman	864	Morris	676	Scott	720		

TABLE 2.—LAND AREA OF STATES AND TERRITORIES IN SQUARE MILES, BY COUNTIES—Continued.

KENTUCKY.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	40,000	Christian	694	Harrison	327	McLean	253	Pulaski	754
		Clark	267	Hart	452	Madison	436	Robertson	96
Adair	362	Clay	457	Henderson	414	Magoffin	300	Rockcastle	308
Allen	428	Clinton	224	Henry	303	Marion	390	Rowan	270
Anderson	224	Crittenden	390	Hickman	224	Marshall	332	Russell	351
Ballard	237	Cumberland	411	Hopkins	555	Martin	224	Scott	228
Barren	490	Daviess	455	Jackson	351	Mason	204	Shelby	395
Bath	270	Edmonson	260	Jefferson	371	Meade	304	Simpson	190
Bell	369	Elliott	255	Jessamine	160	Menifee	199	Spencer	204
Boone	242	Estill	255	Johnson	266	Mercer	254	Taylor	219
Bourbon	267	Fayette	269	Kenton	177	Metcalfe	288	Todd	373
Boyd	175	Fleming	319	Knott	341	Monroe	331	Trigg	481
Boyle	160	Floyd	387	Knox	352	Montgomery	201	Trimble	132
Bracken	198	Franklin	284	Larue	299	Morgan	375	Union	387
Breathitt	480	Fulton	178	Laurel	448	Muhlenberg	438	Warren	528
Breckinridge	595	Gallatin	106	Lawrence	433	Nelson	434	Washington	319
Bullitt	301	Garrard	234	Lee	200	Nicholas	224	Wayne	617
Butler	409	Grant	273	Leslie	397	Ohio	572	Webster	355
Caldwell	338	Graves	550	Letcher	348	Oldham	181	Whitley	578
Calloway	402	Grayson	525	Lewis	476	Owen	400	Wolfe	209
Campbell	145	Green	232	Lincoln	326	Owsley	206	Woodford	338
Carlisle	188	Greenup	318	Livingston	382	Pendleton	255		
Carroll	178	Hancock	195	Logan	583	Perry	335		
Carter	515	Hardin	616	Lyon	226	Pike	760		
Casey	371	Harlan	470	McCracken	241	Powell	177		

LOUISIANA.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	45,420	Claiborne	764	Lafourche	981	Sabine	1,029	Union	888
		Concordia	707	Lincoln	465	St. Bernard	721	Vermilion	1,246
Acadia	633	De Soto	864	Livingston	626	St. Charles	300	Vernon	1,321
Ascension	310	East Baton Rouge	451	Madison	666	St. Helena	409	Washington	638
Assumption	485	East Carroll	395	Morehouse	809	St. James	280	Webster	682
Avoyelles	850	East Feliciana	454	Natchitoches	1,275	St. John the Baptist	209	West Baton Rouge	286
Bienville	832	Franklin	616	Orleans	197	St. Landry	1,662	West Carroll	362
Bossier	832	Grant	700	Ouachita	646	St. Martin	493	West Feliciana	386
Caddo	906	Iberia	583	Plaquemines	978	St. Mary	658	Winn	957
Calcasieu	3,629	Iberville	643	Pointe Coupee	576	St. Tammany	874		
Caldwell	557	Jackson	574	Rapides	1,370	Tangipahoa	777		
Cameron	1,445	Jefferson	413	Red River	401	Tensas	665		
Catahoula	1,399	Lafayette	259	Richland	546	Terrebonne	1,790		

MAINE.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	29,895	Cumberland	1,014	Knox	327	Piscataquis	8,626	Washington	2,456
		Franklin	1,764	Lincoln	520	Sagadahoc	259	York	957
Androscoggin	480	Hancock	1,390	Oxford	1,981	Somerset	3,831		
Aroostook	6,408	Kennebec	880	Penobscot	3,254	Waldo	748		

MARYLAND.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	9,860	Calvert	222	Frederick	662	Prince George	482	Wicomico	365
		Caroline	320	Garrett	660	Queen Anne	376	Worcester	487
Allegany	442	Carroll	437	Harford	388	St. Mary	372		
Anne Arundel	425	Cecil	360	Howard	240	Somerset	362		
Baltimore	656	Charles	451	Kent	281	Talbot	286		
Baltimore City	30	Dorchester	608	Montgomery	490	Washington	458		

MASSACHUSETTS.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	8,040	Bristol	579	Franklin	721	Middlesex	804	Plymouth	672
		Dukes	100	Hampden	595	Nantucket	51	Suffolk	51
Barnstable	419	Essex	514	Hampshire	612	Norfolk	408	Worcester	1,585
Berkshire	929								

MICHIGAN.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	57,430	Cheboygan	785	Ingham	547	Macomb	460	Osceola	575
		Chippewa	1,580	Ionia	575	Manistee	547	Oscoda	572
Alcona	690	Clare	575	Iosco	560	Marquette	1,839	Otsego	529
Alger	924	Clinton	570	Iron	1,148	Mason	501	Ottawa	561
Allegan	839	Crawford	575	Isabella	568	Mecosta	567	Presque Isle	660
Alpena	584	Delta	1,127	Jackson	695	Menominee	1,044	Roscommon	535
Antrim	491	Dickinson	758	Kalamazoo	575	Midland	518	Saginaw	832
Arenac	365	Eaton	566	Kalkaska	570	Missaukee	566	St. Clair	690
Baraga	890	Emmet	462	Kent	862	Monroe	572	St. Joseph	506
Barry	572	Genesee	648	Keweenaw	570	Montcalm	720	Sanilac	966
Bay	437	Gladwin	510	Lake	575	Montmorency	561	Schoolcraft	1,151
Benzie	309	Gogebic	1,152	Lapeer	667	Muskegon	522	Shiawassee	542
Berrien	566	Grand Traverse	496	Leelanaw	355	Newaygo	851	Tuscola	814
Branch	504	Gratiot	572	Lenawee	742	Oakland	897	Van Buren	625
Calhoun	697	Hillsdale	605	Livingston	575	Oceana	565	Washtenaw	690
Cass	500	Houghton	1,077	Luce	915	Ogemaw	568	Wayne	626
Charlevoix	423	Huron	841	Mackinac	1,146	Ontonagon	1,355	Wexford	575

TABLE 2.—LAND AREA OF STATES AND TERRITORIES IN SQUARE MILES, BY COUNTIES—Continued.

MINNESOTA.

Total ... 79,205

County	Area	County	Area	County	Area	County	Area	County	Area
Aitkin	1,869	Cottonwood	634	Kandiyohi	814	Norman	1,425	Sibley	588
Anoka	447	Crow Wing	508	Kittson	1,059	Olmsted	644	Stearns	1,310
Becker	1,389	Dakota	604	Lac qui Parle	763	Ottertail	2,127	Steele	426
Beltrami	4,680	Dodge	432	Lake	2,122	Pine	1,425	Stevens	557
Benton	397	Douglas	685	Lesueur	475	Pipestone	460	Swift	740
Bigstone	484	Faribault	720	Lincoln	528	Polk	1,893	Todd	967
Blue Earth	756	Fillmore	825	Lyon	714	Pope	700	Traverse	545
Brown	611	Freeborn	720	McLeod	504	Ramsey	172	Wabasha	531
Carlton	856	Goodhue	744	Marshall	1,784	Red Lake	1,116	Wadena	532
Carver	360	Grant	555	Martin	732	Redwood	870	Waseca	430
Cass	2,977	Hennepin	573	Meeker	613	Renville	989	Washington	402
Chippewa	583	Houston	561	Millelacs	576	Rice	497	Watonwan	432
Chisago	440	Hubbard	547	Morrison	1,126	Rock	490	Wilkin	720
Clay	1,022	Isanti	446	Mower	700	Roseau	1,692	Winona	630
Cook	1,490	Itasca	5,575	Murray	705	St. Louis	5,532	Wright	680
		Jackson	720	Nicollet	452	Scott	360	Yellow Medicine	744
		Kanabec	536	Nobles	720	Sherburne	446		

MISSISSIPPI.

Total ... 46,340

County	Area	County	Area	County	Area	County	Area	County	Area
Adams	428	Copiah	748	Kemper	704	Noxubee	659	Tate	407
Alcorn	402	Covington	577	Lafayette	673	Oktibbeha	435	Tippah	456
Amite	708	De Soto	551	Lauderdale	677	Panola	699	Tishomingo	433
Attala	707	Franklin	555	Lawrence	638	Pearl River	663	Tunica	449
Benton	409	Greene	819	Leake	561	Perry	1,091	Union	418
Bolivar	913	Grenada	435	Lee	449	Pike	697	Warren	601
Calhoun	588	Hancock	611	Leflore	578	Pontotoc	496	Washington	925
Carroll	612	Harrison	982	Lincoln	574	Prentiss	420	Wayne	788
Chickasaw	507	Hinds	847	Lowndes	504	Quitman	409	Webster	409
Choctaw	372	Holmes	825	Madison	714	Rankin	777	Wilkinson	664
Claiborne	505	Issaquena	473	Marion	1,095	Scott	584	Winston	577
Clarke	664	Itawamba	526	Marshall	707	Sharkey	438	Yalobusha	501
Clay	399	Jackson	1,073	Monroe	762	Simpson	578	Yazoo	1,018
Coahoma	592	Jasper	647	Montgomery	391	Smith	610		
		Jefferson	519	Neshoba	543	Sunflower	703		
		Jones	674	Newton	561	Tallahatchie	636		

MISSOURI.

Total ... 68,735

County	Area	County	Area	County	Area	County	Area	County	Area
Adair	561	Clark	504	Iron	555	Morgan	612	St. Francois	460
Andrew	420	Clay	407	Jackson	607	New Madrid	654	St. Louis	483
Atchison	532	Clinton	417	Jasper	682	Newton	629	St. Louis City	61
Audrain	680	Cole	390	Jefferson	687	Nodaway	864	Saline	820
Barry	790	Cooper	562	Johnson	835	Oregon	787	Schuyler	302
Barton	590	Crawford	747	Knox	504	Osage	605	Scotland	453
Bates	874	Dade	493	Laclede	729	Ozark	747	Scott	416
Benton	820	Dallas	530	Lafayette	604	Pemiscot	509	Shannon	993
Bollinger	610	Daviess	531	Lawrence	612	Perry	468	Shelby	509
Boone	680	Dekalb	420	Lewis	500	Pettis	685	Stoddard	833
Buchanan	417	Dent	768	Lincoln	613	Phelps	677	Stone	509
Butler	702	Douglas	809	Linn	620	Pike	620	Sullivan	648
Caldwell	426	Dunklin	531	Livingston	532	Platte	410	Taney	648
Callaway	830	Franklin	880	McDonald	523	Polk	633	Texas	1,157
Camden	702	Gasconade	518	Macon	828	Pulaski	532	Vernon	839
Cape Girardeau	570	Gentry	492	Madison	495	Putnam	518	Warren	410
Carroll	686	Greene	668	Maries	530	Ralls	480	Washington	744
Carter	506	Grundy	432	Marion	432	Randolph	489	Wayne	770
Cass	712	Harrison	730	Mercer	451	Ray	561	Webster	579
Cedar	491	Henry	740	Miller	597	Reynolds	830	Worth	264
Chariton	740	Hickory	408	Mississippi	417	Ripley	623	Wright	673
Christian	551	Holt	460	Moniteau	410	St. Charles	456		
		Howard	450	Monroe	666	St. Clair	705		
		Howell	907	Montgomery	514	Ste. Genevieve	498		

MONTANA.

Total ... 145,310

County	Area	County	Area	County	Area	County	Area	County	Area
Beaverhead	4,494	Choteau	16,049	Gallatin	2,583	Missoula	6,885	Valley	13,368
Broadwater	1,247	Custer	20,490	Granite	1,543	Park	2,788	Yellowstone	8,710
Carbon	2,472	Dawson	13,227	Jefferson	1,585	Ravalli	2,771	Crow Indian reservation.	5,475
Cascade	2,764	Deerlodge	4,252	Lewis and Clarke	2,572	Silverbow	1,017		
		Fergus	8,928	Madison	4,443	Sweet Grass	2,887		
		Flathead	8,419	Meagher	4,253	Teton	7,588		

NEBRASKA.

Total ... 76,840

County	Area	County	Area	County	Area	County	Area	County	Area
Adams	574	Colfax	405	Greeley	580	Loup	574	Saunders	764
Antelope	874	Cuming	580	Hall	562	McPherson	1,685	Scotts Bluff	725
Banner	744	Custer	2,595	Hamilton	550	Madison	576	Seward	588
Blaine	711	Dakota	264	Harlan	562	Merrick	460	Sheridan	2,179
Boone	686	Dawes	1,411	Hayes	725	Nance	456	Sherman	568
Boxbutte	1,078	Dawson	1,002	Hitchcock	723	Nemaha	407	Sioux	2,077
Boyd	555	Deuel	2,097	Holt	2,410	Nuckolls	572	Stanton	431
Brown	1,223	Dixon	450	Hooker	725	Otoe	616	Thayer	572
Buffalo	985	Dodge	529	Howard	574	Pawnee	437	Thomas	720
Burt	476	Douglas	341	Jefferson	566	Perkins	895	Thurston	396
Butler	586	Dundy	921	Johnson	382	Phelps	564	Valley	578
Cass	540	Fillmore	568	Kearney	503	Pierce	568	Washington	392
Cedar	725	Franklin	568	Keith	1,113	Platte	686	Wayne	441
Chase	901	Frontier	980	Keyapaha	772	Polk	432	Webster	578
Cherry	5,891	Furnas	715	Kimball	960	Redwillow	720	Wheeler	582
Cheyenne	2,601	Gage	856	Knox	1,125	Richardson	548	York	588
Clay	586	Garfield	568	Lancaster	868	Rock	1,000		
		Gosper	472	Lincoln	2,570	Saline	576		
		Grant	760	Logan	576	Sarpy	225		

TABLE 2.—LAND AREA OF STATES AND TERRITORIES IN SQUARE MILES, BY COUNTIES—Continued.

NEVADA.

Total	109,740	Elko	16,939	Humboldt	16,126	Lyon	1,267	Storey	263
		Esmeralda	8,776	Lander	5,307	Nye	17,376	Washoe	5,612
Churchill	4,816	Eureka	4,111	Lincoln	19,487	Ormsby	120	White Pine	8,712
Douglas	873						

NEW HAMPSHIRE.

Total	9,005	Carroll	939	Grafton	1,691	Merrimack	921	Strafford	394
		Cheshire	734	Hillsboro	873	Rockingham	693	Sullivan	538
Belknap	410	Coos	1,812				

NEW JERSEY.

Total	7,525	Camden	222	Hudson	43	Morris	475	Sussex	529
		Cape May	256	Hunterdon	437	Ocean	583	Union	103
Atlantic	567	Cumberland	511	Mercer	226	Passaic	198	Warren	362
Bergen	236	Essex	127	Middlesex	312	Salem	359	
Burlington	869	Gloucester	326	Monmouth	479	Somerset	305	

NEW MEXICO.

Total	122,460	Donna Ana	5,001	Mora	2,532	Santa Fe	2,212	Valencia	9,472
		Eddy	6,618	Otero	6,874	Sierra	3,129	
Bernalillo	3,842	Grant	9,327	Rio Arriba	6,655	Socorro	15,386	
Chaves	11,520	Guadalupe	6,987	San Juan	5,742	Taos	2,265	
Colfax	3,784	Lincoln	4,984	San Miguel	4,833	Union	6,802	

NEW YORK.

Total	47,620	Delaware	1,531	Livingston	635	Otsego	978	Suffolk	918
		Dutchess	800	Madison	649	Putnam	239	Sullivan	967
Albany	528	Erie	1,040	Monroe	643	Queens	129	Tioga	518
Allegany	1,018	Essex	1,834	Montgomery	399	Rensselaer	664	Tompkins	477
Broome	696	Franklin	1,717	Nassau	252	Richmond	57	Ulster	1,128
Cattaraugus	1,330	Fulton	486	New York	63	Rockland	180	Warren	895
Cayuga	722	Genesee	484	Niagara	522	St. Lawrence	2,810	Washington	797
Chautauqua	1,062	Greene	644	Oneida	1,180	Saratoga	830	Wayne	624
Chemung	394	Hamilton	1,747	Onondaga	794	Schenectady	210	Westchester	450
Chenango	847	Herkimer	1,426	Ontario	652	Schoharie	648	Wyoming	603
Clinton	1,041	Jefferson	1,252	Orange	849	Schuyler	339	Yates	348
Columbia	647	Kings	77	Orleans	396	Seneca	328	
Cortland	486	Lewis	1,265	Oswego	974	Steuben	1,401	

NORTH CAROLINA.

Total	48,580	Cherokee	451	Greene	258	Montgomery	489	Sampson	921
		Chowan	161	Guilford	674	Moore	798	Scotland	887
Alamance	494	Clay	185	Halifax	681	Nash	584	Stanly	413
Alexander	297	Cleveland	485	Harnett	596	New Hanover	199	Stokes	472
Alleghany	223	Columbus	937	Haywood	541	Northampton	523	Surry	531
Anson	551	Craven	685	Henderson	362	Onslow	645	Swain	560
Ashe	399	Cumberland	1,008	Hertford	339	Orange	386	Transylvania	371
Beaufort	819	Currituck	278	Hyde	596	Pamlico	358	Tyrrell	397
Bertie	712	Dare	405	Iredell	592	Pasquotank	231	Union	561
Bladen	1,013	Davidson	563	Jackson	494	Pender	883	Vance	276
Brunswick	812	Davie	264	Johnston	688	Perquimans	251	Wake	841
Buncombe	624	Duplin	830	Jones	403	Person	386	Warren	432
Burke	534	Durham	284	Lenoir	436	Pitt	644	Washington	334
Cabarrus	387	Edgecombe	515	Lincoln	296	Polk	258	Watauga	330
Caldwell	507	Forsyth	369	McDowell	437	Randolph	795	Wayne	597
Camden	218	Franklin	471	Macon	531	Richmond	466	Wilkes	718
Carteret	538	Gaston	359	Madison	431	Robeson	1,043	Wilson	392
Caswell	396	Gates	356	Martin	438	Rockingham	573	Yadkin	334
Catawba	408	Graham	302	Mecklenburg	590	Rowan	483	Yancey	302
Chatham	785	Granville	504	Mitchell	362	Rutherford	547	

NORTH DAKOTA.

Total	70,195	Dickey	1,146	McHenry	1,468	Ramsey	1,200	Traill	872
		Eddy	648	McIntosh	1,000	Ransom	864	Walsh	1,308
Barnes	1,506	Emmons	1,550	McLean	3,348	Richland	1,445	Ward	6,690
Benson	1,380	Foster	641	Mercer	1,930	Rolette	943	Wells	1,296
Billings	6,150	Grand Forks	1,432	Morton	4,740	Sargent	864	Williams	3,512
Bottineau	1,187	Griggs	780	Nelson	990	Stark	6,002	
Burleigh	1,680	Kidder	1,398	Oliver	727	Steele	720	
Cass	1,752	Lamoure	1,148	Pembina	1,184	Stutsman	2,296	
Cavalier	1,512	Logan	980	Pierce	1,008	Towner	1,048	

TABLE 2.—LAND AREA OF STATES AND TERRITORIES IN SQUARE MILES, BY COUNTIES—Continued.

OHIO.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	40,760	Crawford	397	Henry	415	Meigs	435	Ross	646
Adams	524	Cuyahoga	472	Highland	558	Mercer	466	Sandusky	429
Allen	405	Darke	604	Hocking	425	Miami	417	Scioto	565
Ashland	424	Defiance	412	Holmes	489	Monroe	431	Seneca	556
Ashtabula	691	Delaware	431	Huron	516	Montgomery	489	Shelby	401
Athens	528	Erie	312	Jackson	411	Morgan	396	Stark	546
Auglaize	394	Fairfield	493	Jefferson	390	Morrow	395	Summit	394
Belmont	611	Fayette	444	Knox	514	Muskingum	655	Trumbull	624
Brown	430	Franklin	479	Lake	242	Noble	369	Tuscarawas	533
Butler	498	Fulton	419	Lawrence	469	Ottawa	292	Union	430
Carroll	379	Gallia	408	Licking	665	Paulding	415	Van Wert	411
Champaign	419	Geauga	412	Logan	470	Perry	413	Vinton	414
Clark	403	Greene	453	Lorain	494	Pickaway	474	Warren	439
Clermont	431	Guernsey	484	Lucas	356	Pike	411	Washington	627
Clinton	424	Hamilton	405	Madison	451	Portage	509	Wayne	544
Columbiana	504	Hancock	526	Mahoning	413	Preble	432	Williams	432
Coshocton	552	Hardin	461	Marion	502	Putnam	475	Wood	626
		Harrison	370	Medina	423	Richland	514	Wyandot	403

OKLAHOMA.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	38,830	Custer	1,001	I	1,016	Lincoln	961	Payne	759
		Day	1,044	Kansas Nation	155	Logan	749	Pottawatomie	790
Beaver	5,739	Dewey	1,008	Kay	895	Noble	631	Roger Mills	1,191
Blaine	941	Garfield	1,086	Kingfisher	891	Oklahoma	718	Washita	988
Canadian	803	Grant	1,004	Kiowa and Comanche Nations	4,643	Osage Nation	2,298	Woods	2,749
Cleveland	545	Greer	2,393			Pawnee	542	Woodward	3,295

OREGON.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	94,560	Coos	1,578	Jackson	2,721	Malheur	9,784	Umatilla	3,116
		Crook	7,756	Josephine	1,084	Marion	1,170	Union	3,146
Baker	2,275	Curry	1,454	Klamath	5,854	Morrow	2,021	Wallowa	2,784
Benton	677	Douglas	4,861	Lake	7,834	Multnomah	429	Wasco	2,962
Clackamas	1,861	Gilliam	1,123	Lane	4,380	Polk	701	Washington	715
Clatsop	820	Grant	4,560	Lincoln	1,008	Sherman	736	Wheeler	1,746
Columbia	677	Harney	9,986	Linn	2,311	Tillamook	1,119	Yamhill	711

PENNSYLVANIA.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	44,985	Carbon	400	Forest	420	Lycoming	1,240	Snyder	320
		Center	1,130	Franklin	731	McKean	976	Somerset	1,040
Adams	537	Chester	760	Fulton	416	Mercer	680	Sullivan	470
Allegheny	758	Clarion	566	Greene	588	Mifflin	411	Susquehanna	823
Armstrong	640	Clearfield	1,141	Huntingdon	940	Monroe	630	Tioga	1,180
Beaver	426	Clinton	892	Indiana	820	Montgomery	501	Union	316
Bedford	1,070	Columbia	480	Jefferson	620	Montour	142	Venango	671
Berks	874	Crawford	1,020	Juniata	398	Northampton	370	Warren	860
Blair	530	Cumberland	536	Lackawanna	470	Northumberland	469	Washington	830
Bradford	1,140	Dauphin	514	Lancaster	960	Perry	561	Wayne	834
Bucks	620	Delaware	178	Lawrence	360	Philadelphia	130	Westmoreland	1,060
Butler	765	Elk	760	Lebanon	370	Pike	620	Wyoming	409
Cambria	680	Erie	782	Lehigh	328	Potter	1,049	York	875
Cameron	375	Fayette	824	Luzerne	910	Schuylkill	789		

RHODE ISLAND.

County	Area	County	Area	County	Area	County	Area
Total	1,053	Bristol	25	Newport	117	Providence	411	Washington	331
		Kent	169						

SOUTH CAROLINA.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	30,170	Charleston	687	Fairfield	776	Laurens	684	Saluda	488
		Cherokee	361	Florence	680	Lexington	885	Spartanburg	762
Abbeville	682	Chester	592	Georgetown	827	Marion	993	Sumter	860
Aiken	1,096	Chesterfield	823	Greenville	745	Marlboro	509	Union	495
Anderson	756	Clarendon	710	Greenwood	495	Newberry	594	Williamsburg	991
Bamberg	363	Colleton	1,351	Hampton	936	Oconee	641	York	669
Barnwell	870	Darlington	649	Horry	1,075	Orangeburg	1,345		
Beaufort	943	Dorchester	564	Kershaw	705	Pickens	531		
Berkeley	1,316	Edgefield	715	Lancaster	501	Richland	695		

SOUTH DAKOTA.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	76,850	Clark	973	Hamlin	548	McPherson	1,146	Stanley	4,882
		Clay	408	Hand	1,418	Marshall	880	Sully	1,052
Armstrong	1,460	Codington	786	Hanson	486	Meade	3,003	Tripp	1,480
Aurora	724	Custer	1,612	Hughes	765	Meyer	1,407	Turner	624
Beadle	1,270	Davison	486	Hutchinson	817	Miner	569	Union	447
Bonhomme	569	Day	1,077	Hyde	875	Minnehaha	802	Walworth	745
Boreman	1,231	Deuel	621	Jerauld	548	Moody	517	Washabaugh	1,228
Brookings	817	Dewey	2,219	Kingsbury	884	Pennington	2,596	Washington	1,540
Brown	1,745	Douglas	445	Lake	549	Potter	900	Yankton	515
Brule	808	Edmunds	1,176	Lawrence	814	Roberts	1,102	Unorganized territory not in any county.	270
Buffalo	483	Fall River	1,757	Lincoln	579	Sanborn	576		
Butte	7,884	Faulk	1,010	Lugenbeel	1,066	Schnasse	1,563		
Campbell	765	Grant	694	Lyman	3,456	Shannon	1,066		
Charles Mix	1,123	Gregory	1,004	McCook	575	Spink	1,518		

TABLE 2.—LAND AREA OF STATES AND TERRITORIES IN SQUARE MILES, BY COUNTIES—Continued.

TENNESSEE.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	41,750	Davidson	520	Henderson	515	Marion	504	Sevier	588
		Decatur	287	Henry	625	Marshall	315	Shelby	769
Anderson	350	Dekalb	322	Hickman	655	Maury	682	Smith	334
Bedford	489	Dickson	600	Houston	200	Meigs	210	Stewart	495
Benton	430	Dyer	500	Humphreys	435	Monroe	668	Sullivan	430
Bledsoe	400	Fayette	618	Jackson	325	Montgomery	548	Sumner	520
Blount	552	Fentress	445	James	160	Moore	145	Tipton	430
Bradley	325	Franklin	610	Jefferson	310	Morgan	540	Trousdale	107
Campbell	477	Gibson	625	Johnson	290	Obion	505	Unicoi	189
Cannon	325	Giles	605	Knox	520	Overton	459	Union	237
Carroll	624	Grainger	309	Lake	128	Perry	520	Van Buren	275
Carter	345	Greene	615	Lauderdale	460	Pickett	165	Warren	444
Cheatham	347	Grundy	375	Lawrence	590	Polk	437	Washington	325
Chester	300	Hamblen	165	Lewis	295	Putnam	430	Wayne	757
Claiborne	464	Hamilton	427	Lincoln	597	Rhea	365	Weakley	565
Clay	260	Hancock	208	Loudon	230	Roane	442	White	370
Cocke	420	Hardeman	655	McMinn	437	Robertson	500	Williamson	500
Coffee	442	Hardin	587	McNairy	570	Rutherford	605	Wilson	552
Crockett	267	Hawkins	490	Macon	280	Scott	595		
Cumberland	548	Haywood	520	Madison	545	Sequatchie	263		

TEXAS.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	262,290	Cooke	1,000	Hardeman	532	Lynn	821	San Jacinto	636
		Coryell	1,115	Hardin	844	McCulloch	1,110	San Patricio	700
Anderson	1,060	Cottle	956	Harris	1,761	McLennan	1,080	San Saba	1,150
Andrews	1,591	Crane	850	Harrison	873	McMullen	1,180	Schleicher	1,355
Angelina	880	Crockett	3,004	Hartley	1,460	Madison	488	Scurry	821
Aransas	295	Crosby	984	Haskell	843	Marion	384	Shackelford	926
Archer	960	Dallam	1,463	Hays	647	Martin	900	Shelby	814
Armstrong	870	Dallas	900	Hemphill	860	Mason	968	Sherman	850
Atascosa	1,182	Dawson	900	Henderson	940	Matagorda	1,135	Smith	984
Austin	712	Deaf Smith	1,477	Hidalgo	2,328	Maverick	1,332	Somervell	200
Bailey	1,000	Delta	266	Hill	1,006	Medina	1,284	Starr	2,510
Bandera	1,007	Denton	865	Hockley	977	Menard	888	Stephens	926
Bastrop	881	Dewitt	880	Hood	436	Midland	972	Sterling	821
Baylor	957	Dickens	918	Hopkins	666	Milam	1,044	Stonewall	777
Bee	875	Dimmit	1,164	Houston	1,192	Mills	604	Sutton	1,517
Bell	1,091	Donley	878	Howard	888	Mitchell	807	Swisher	850
Bexar	1,268	Duval	1,887	Hunt	888	Montague	976	Tarrant	900
Blanco	762	Eastland	947	Hutchinson	850	Montgomery	1,066	Taylor	900
Borden	892	Ector	976	Irion	800	Moore	885	Terry	828
Bosque	972	Edwards	2,408	Jack	858	Morris	278	Throckmorton	821
Bowie	907	Ellis	1,066	Jackson	888	Motley	984	Titus	421
Brazoria	1,488	El Paso	9,353	Jasper	977	Nacogdoches	962	Tom Green	2,553
Brazos	510	Erath	1,110	Jeff Davis	1,922	Navarro	1,136	Travis	1,036
Brewster	5,006	Falls	844	Jefferson	1,109	Newton	903	Trinity	704
Briscoe	850	Fannin	940	Johnson	740	Nolan	828	Tyler	925
Brown	911	Fayette	992	Jones	900	Nueces	2,460	Upshur	587
Burleson	677	Fisher	836	Karnes	740	Ochiltree	864	Upton	1,190
Burnet	1,010	Floyd	1,036	Kaufman	932	Oldham	1,470	Uvalde	1,579
Caldwell	530	Foard	636	Kendall	613	Orange	392	Valverde	3,034
Calhoun	592	Fort Bend	897	Kent	777	Palo Pinto	971	Van Zandt	877
Callahan	882	Franklin	325	Kerr	1,210	Panola	814	Victoria	883
Cameron	2,203	Freestone	947	Kimble	1,302	Parker	888	Walker	754
Camp	217	Frio	1,064	King	928	Parmer	873	Waller	510
Carson	860	Gaines	1,590	Kinney	1,269	Pecos	8,312	Ward	858
Cass	945	Galveston	438	Knox	947	Polk	1,110	Washington	668
Castro	870	Garza	821	Lamar	903	Potter	874	Webb	3,421
Chambers	648	Gillespie	1,140	Lamb	1,021	Presidio	3,970	Wharton	1,137
Cherokee	990	Glasscock	952	Lampasas	755	Rains	252	Wheeler	851
Childress	660	Goliad	817	Lasalle	1,707	Randall	872	Wichita	606
Clay	1,250	Gonzales	1,079	Lavaca	992	Red River	1,061	Wilbarger	932
Cochran	959	Gray	860	Lee	666	Reeves	2,610	Williamson	1,169
Coke	850	Grayson	1,012	Leon	1,066	Refugio	802	Wilson	784
Coleman	1,302	Gregg	287	Liberty	1,162	Roberts	860	Winkler	888
Collin	828	Grimes	770	Limestone	987	Robertson	913	Wise	843
Collingsworth	867	Guadalupe	717	Lipscomb	850	Rockwall	171	Wood	688
Colorado	948	Hale	1,036	Live Oak	1,123	Runnels	1,073	Yoakum	840
Comal	569	Hall	868	Llano	977	Rusk	915	Young	821
Comanche	828	Hamilton	858	Loving	873	Sabine	577	Zapata	1,269
Concho	941	Hansford	860	Lubbock	982	San Augustine	570	Zavalla	1,328

UTAH.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	82,190	Davis	285	Kane	4,368	San Juan	8,025	Utah	2,128
		Emery	4,336	Millard	6,664	Sanpete	1,561	Wasatch	4,147
Beaver	2,580	Garfield	5,103	Morgan	599	Sevier	1,880	Washington	2,457
Boxelder	5,436	Grand	3,759	Piute	744	Summit	1,937	Wayne	2,372
Cache	1,181	Iron	3,284	Rich	1,050	Tooele	6,901	Weber	544
Carbon	1,596	Juab	3,300	Salt Lake	768	Uinta	5,190		

VERMONT.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	9,135	Caledonia	652	Franklin	645	Orange	686	Washington	688
		Chittenden	515	Grand Isle	83	Orleans	729	Windham	788
Addison	722	Essex	692	Lamoille	436	Rutland	911	Windsor	930
Bennington	658								

Table 2.—LAND AREA OF STATES AND TERRITORIES IN SQUARE MILES, BY COUNTIES—Continued.

VIRGINIA.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	40,125	Charlotte	479	Greenesville	288	Nansemond	398	Rockingham	870
		Chesterfield	484	Halifax	806	Nelson	472	Russell	503
Accomac	478	Clarke	189	Hanover	478	New Kent	233	Scott	535
Albemarle	755	Craig	351	Henrico	273	Norfolk	425	Shenandoah	486
Alexandria	32	Culpeper	399	Henry	425	Northampton	282	Smyth	444
Alleghany	452	Cumberland	297	Highland	407	Northumberland	235	Southampton	609
Amelia	355	Dickenson	324	Isle of Wight	352	Nottoway	304	Spottsylvania	401
Amherst	464	Dinwiddie	521	James City	159	Orange	349	Stafford	285
Appomattox	342	Elizabeth City	50	King and Queen	336	Page	317	Surry	292
Augusta	1,012	Essex	277	King George	183	Patrick	489	Sussex	490
Bath	548	Fairfax	433	King William	246	Pittsylvania	986	Tazewell	557
Bedford	729	Fauquier	676	Lancaster	137	Powhatan	284	Warren	226
Bland	352	Floyd	383	Lee	433	Prince Edward	345	Warwick	85
Botetourt	548	Fluvanna	289	Loudoun	519	Prince George	302	Washington	605
Brunswick	529	Franklin	690	Louisa	529	Princess Anne	285	Westmoreland	245
Buchanan	492	Frederick	425	Lunenburg	471	Prince William	353	Wise	413
Buckingham	552	Giles	349	Madison	336	Pulaski	338	Wythe	474
Campbell	554	Gloucester	253	Mathews	92	Rappahannock	264	York	124
Caroline	562	Goochland	296	Mecklenburg	640	Richmond	188		
Carroll	445	Grayson	488	Middlesex	156	Roanoke	297		
Charles City	183	Greene	150	Montgomery	394	Rockbridge	593		

WASHINGTON.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	66,880	Columbia	876	King	2,051	Pacific	925	Thurston	763
		Cowlitz	1,145	Kitsap	407	Pierce	1,554	Wahkiakum	273
Adams	1,696	Douglas	4,768	Kittitas	2,414	San Juan	187	Walla walla	1,277
Asotin	631	Ferry	2,313	Klickitat	2,079	Skagit	1,874	Whatcom	2,226
Chehalis	1,968	Franklin	1,251	Lewis	2,386	Skamania	1,743	Whitman	2,105
Chelan	3,070	Garfield	725	Lincoln	2,299	Snohomish	1,651	Yakima	5,784
Clallam	1,807	Island	238	Mason	993	Spokane	1,777		
Clarke	646	Jefferson	1,765	Okanogan	5,318	Stevens	8,945		

WEST VIRGINIA.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	24,645	Gilmer	367	Logan	494	Ohio	111	Tucker	440
		Grant	483	McDowell	538	Pendleton	707	Tyler	269
Barbour	393	Greenbrier	1,051	Marion	357	Pleasants	142	Upshur	326
Berkeley	257	Hampshire	662	Marshall	311	Pocahontas	858	Wayne	545
Boone	512	Hancock	86	Mason	457	Preston	671	Webster	590
Braxton	541	Hardy	594	Mercer	437	Putnam	353	Wetzel	365
Brooke	97	Harrison	431	Mineral	332	Raleigh	560	Wirt	254
Cabell	261	Jackson	455	Mingo	424	Randolph	1,086	Wood	357
Calhoun	276	Jefferson	213	Monongalia	368	Ritchie	457	Wyoming	526
Clay	348	Lewis	414	Monroe	464	Roane	547		
Doddridge	344	Lincoln	441	Morgan	235	Summers	368		
Fayette	775			Nicholas	691	Taylor	182		

WISCONSIN.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	54,450	Dodge	884	Juneau	790	Outagamie	684	Taylor	965
		Door	454	Kenosha	274	Ozaukee	226	Trempealeau	734
Adams	682	Douglas	1,319	Kewaunee	327	Pepin	238	Vernon	792
Ashland	930	Dunn	844	La Crosse	475	Pierce	543	Vilas	907
Barron	878	Eau Claire	620	Lafayette	634	Polk	933	Walworth	562
Bayfield	1,497	Florence	498	Langlade	855	Portage	800	Washburn	834
Brown	518	Fond du Lac	720	Lincoln	885	Price	1,241	Washington	425
Buffalo	662	Forest	1,421	Manitowoc	590	Racine	323	Waukesha	562
Burnett	881	Grant	1,157	Marathon	1,532	Richland	576	Waupaca	749
Calumet	317	Green	576	Marinette	1,396	Rock	706	Waushara	689
Chippewa	1,938	Green Lake	364	Marquette	451	St. Croix	711	Winnebago	472
Clark	1,200	Iowa	763	Milwaukee	228	Sauk	820	Wood	785
Columbia	776	Iron	786	Monroe	915	Sawyer	1,342		
Crawford	557	Jackson	978	Oconto	1,080	Shawano	1,135		
Dane	1,188	Jefferson	548	Oneida	900	Sheboygan	510		

WYOMING.

County	Area	County	Area	County	Area	County	Area	County	Area
Total	97,575	Bighorn	12,216	Crook	5,435	Laramie	6,980	Sweetwater	10,510
		Carbon	8,018	Fremont	12,653	Natrona	5,388	Uinta	13,980
Albany	4,300	Converse	6,758	Johnson	4,168	Sheridan	2,569	Weston	4,594

CENSUS BULLETIN.

COTTON GINNING.

Hon. WILLIAM R. MERRIAM,

Director of the Census.

SIR:

I transmit herewith a report on the quantity of cotton ginned in the United States during the census year (crop of 1899), prepared under my direction by Mr. Daniel C. Roper, of South Carolina.

This is the first report of its kind ever made by a United States census. The statistics have been taken upon a special schedule, collected both by correspondence and through the enumerators, from 29,620 establishments, public and private, engaged in ginning cotton in 14 states and 2 territories. Much important information has been elicited in this manner which is new to the public and will be of value to those engaged in the production and consumption of the cotton fiber.

The report locates the cotton crop by states and territories and distributes the same by counties. The American crop of 1899 is found to be 9,645,974 commercial bales (bales as marketed), amounting to 4,672,695,500 pounds, equivalent to 9,345,891 bales of an average weight of 500 pounds.

The aggregate of commercial bales is divided into the upland and the sea-island crops as follows: Square bales, 9,043,231, of an average weight of 498 pounds, with an average cost per bale for ginning and baling of $2.03; round bales, 505,464, of an average weight of 259 pounds, with an average cost per bale for ginning and baling of $1.15; sea-island bales, 97,279, of an average weight of 388 pounds, with an average cost per bale for ginning and baling of $4.90.

The report further shows the actual number of pounds of cotton put up in each of the three forms given, and classifies the 29,620 ginning establishments reporting, as follows: Those operated for the public, 6,468; those operated for the plantation only, 2,863; those operated for the public and plantation, 20,289. It shows, also, the average time the ginneries were operated for the crop given, to be three months.

The above data are distributed among the states and their respective counties, crediting each with the quantity of cotton produced, the size of bale handled, the cost of ginning and baling, and the number of ginning establish-

(C P 50 M)

ments. For the first time in census results, the sea-island cotton production is located by counties, and the average weight of bale and the cost of baling are obtained.

The estimates of the cotton crop, made annually by the United States Department of Agriculture, are based upon statistical information furnished by the officials of transportation lines; the cotton mills located in the cotton states, and the reports of special agents of the Department at southern ports and important receiving points in the interior. However carefully conducted, results from these methods are estimates, and not statistics compiled from an actual canvass. The difficulties attending the making of these estimates have been further augmented of late years by new systems of baling cotton, which have tended to decrease the size of the commercial bale. Details of these changes in the size of bales, and, hence, in the actual number of pounds of cotton produced are obtainable only by an actual annual canvass. The Department of Agriculture does not present a statement of the actual number of pounds of cotton grown in any year, as its returns have been made on the basis of commercial bales, which are continually varying in size.

In view of the importance, both to growers and manufacturers, of annual and exact statistics regarding the cotton crop in the United States, and in view of the success which has attended this first attempt to collect these statistics from the ginners, I respectfully recommend that steps be taken for the annual collection of these data through the agencies and with the facilities of the Census office. Once it is understood that this work will be annually performed by the Census office in the manner indicated, and with the celerity that would be possible, all other methods of obtaining the statistics of the annual cotton crop would be superseded.

The Census office can do no better service for the improvement of commercial statistics than by adopting the suggestion for an annual census of the cotton ginneries.

Very respectfully,

Chief Statistician for Manufactures.

REPORT ON THE QUANTITY OF COTTON GINNED IN THE UNITED STATES (CROP OF 1899).

By Daniel C. Roper.

Since the introduction of cotton into the commercial world as a product of importance, the ascertainment of the yearly crop of the United States has not been considered, until recently, a difficult undertaking. This is due to the fact that the manufacture of cotton has been conducted so largely at points foreign to the cotton fields, as easily to permit of a separation between the raw cotton and the manufactured products, such as would afford a trustworthy basis for estimates. Practically the entire cotton crop reached its market through the transportation lines, and when the returns of these carriers were secured a close approximation to the actual commercial crop was obtained.

The recent rapid development of cotton manufacture by mills located near the cotton fields, becomes an important factor in the demand for a change of the method heretofore employed in estimating the American annual production of cotton. Thousands of bales which never touch a transportation line are consumed by these mills, and the annual consumption through this source is rapidly increasing. In this connection the following extract from a table compiled by Mr. Alfred B. Shepperson, of New York, is of value:

COTTON PRODUCTION OF THE UNITED STATES AND ANNUAL TAKINGS OF UNITED STATES SPINNERS FROM 1889 TO 1899, INCLUSIVE.

CROP OF—	TOTAL COMMERCIAL CROP.	TAKEN FOR HOME CONSUMPTION.			PER CENT CONSUMED IN SOUTHERN MILLS.	
		By northern mills.	By southern mills.	Total.	Of total commercial crop.	Of total American consumption.
		In thousands of bales.				
1889	6,939	1,790	480	2,270	6.9	21.1
1890	7,297	1,780	545	2,325	7.5	23.4
1891	8,674	2,027	613	2,640	7.1	23.2
1892	9,018	2,172	684	2,856	7.6	24.0
1893	6,664	1,652	723	2,375	10.8	30.4
1894	7,532	1,580	711	2,291	9.4	31.0
1895	9,887	2,019	852	2,871	8.7	29.7
1896	7,147	1,605	900	2,505	12.6	35.9
1897	8,706	1,798	999	2,792	11.5	35.8
1898	11,216	2,211	1,254	3,465	11.2	36.2
1899	11,256	2,217	1,415	3,632	12.6	39.0

In 1889 the consumption of cotton by southern mills was 480,000 bales, or 21 per cent of the American consumption, and nearly 7 per cent of the American production. In 1899 the consumption by these mills, as shown by the above table, was 1,415,000 bales, or 39 per cent of the total American consumption, and one-eighth of the total American crop.

Further, the increasing use of the round bale, which weighs on an average only 259 pounds, tends to impair the value of all statistics taking as their unit the commercial bale, which may be either square or round, according to the practice of the region.

These, with other conditions, call for a statistical method that will enable the country to know, and know quickly, the actual quantity of cotton grown every year. Nothing

short of an annual census, taken sufficiently early to form the basis for prices, will entirely satisfy the cotton grower or the manufacturer. In the absence of any provision for securing this information annually, it becomes more important that the statistics gathered each tenth year, to be made a factor in estimates of subsequent crops, should be collected by the most perfect methods. The manner of attaining this end has received careful consideration in the taking of the Twelfth Census.

Believing that reports of cotton ginners, showing the number and average weight of the bales passing through their hands during a given year, would afford trustworthy statistics of the crop of that year and constitute a desirable basis for future estimates, the Census office had its special agents and enumerators visit every cotton ginning establishment in the country and obtain a report from each of the cotton ginned from the crop of 1899. To insure accuracy, returns were also secured by mail from the establishments direct. These reports form the basis of the information contained in this bulletin.

Statistics of the cotton crop gathered through other sources than the census, have to do with the crop marketed during each year, ending August 31, thus touching portions of two actual crops. But the proportion of cotton carried over by the grower from one year to the next, as contained therein, will not necessarily be the same, owing to the different prices in the respective years, as well as to other disturbing conditions. Herein is again illustrated the necessity of a method for securing information that will show the exact size of the crop as grown.

As the statistics of this bulletin are based exclusively upon the reports secured from cotton ginners, it may be that in some counties the amount of cotton reported as ginned will vary slightly from the amount of cotton reported as grown, and tabulated by the Agricultural Division of this office. This condition will certainly occur where large and important ginneries, located near state or county lines, attract cotton from an adjoining county, or where cotton is grown only to a limited extent in one county, and its entire production is ginned and reported in a neighboring county.

TABLE 1.—QUANTITY OF COTTON GROWN IN THE UNITED STATES IN THE YEARS GIVEN, BETWEEN 1790 AND 1900.

Crop of—	Production.	Average weight of bale.	Total gross weight.	Increase in gross weight over preceding year given.
	Bales.	Pounds.	Pounds.	Pounds.
1790	8,889	225	2,000,025	
1800	177,778	225	40,000,050	38,000,025
1810	320,000	250	80,000,000	39,999,950
1820	681,819	264	180,000,216	100,000,216
1833	1,312,685	339	445,000,215	264,999,799
1839	2,053,193	385	790,479,805	345,479,090
1849	2,469,093	400	987,637,200	197,157,895
1859	5,387,052	445	2,397,238,140	1,409,600,940
1869	3,011,996	440	1,325,278,240	[1]1,071,959,900
1879	5,755,359	453	2,607,177,627	1,281,899,387
1889	7,472,511	477	3,564,887,747	957,210,120
1899	9,345,391	500	4,672,695,500	1,108,307,753

[1] Decrease.

The preceding table is interesting as showing the rapid increase in the cotton production of the United States during the past century, and the gradual growth of the cotton bale. While the figures given in this table for 1899 are based upon the 500-pound standard bale, yet the general average bale weight for the cotton belt, as hereafter stated, is 485 pounds.

The census of 1840, collecting statistics of the crop of 1839, marked the beginning of the inclusion of agricultural products in census inquiries. The statistics given in table 1 for 1839 and for the years subsequent thereto, are the results of special census investigations. The cotton production of the United States from 1790 to 1829, inclusive, as shown in this table, is based upon a report to the Speaker of the House of Representatives in 1836, by the Hon. Levi Woodbury, Secretary of the Treasury.

Prior to the invention of the cotton gin by Eli Whitney, in 1794, the separation of the seed from the lint cotton was so difficult as to limit the cultivation of cotton. This separation of the seed from the lint had to be done by hand, a task being 4 pounds of lint cotton per week for each head of a family, working at night, in addition to the usual field work. Thus it would take one person two years to turn out the quantity of cotton contained in one average standard bale. One machine will gin from three to fifteen 500-pound bales per day, dependent upon its power and saw capacity.

Possibly no invention has ever caused so rapid development of the industry with which it was associated as that brought through this saw-cotton gin. In 1793, the exportation of cotton from the United States was 487,500 pounds, or 975 bales of an average weight of 500 pounds. In 1794, the year in which the Whitney gin was patented, the number of pounds of cotton exported from the United States was 1,600,000, equivalent to 3,200 bales of a 500-pound standard. This large production so frightened the cotton farmers, in anticipation of an over-production of the crop, as to cause them to pledge themselves to desist from its production. One of these farmers, looking upon his crop gathered for that year, exclaimed, "I have done with the cultivation of cotton; there is enough in that ginhouse to make stockings for all the people in America." And yet within one hundred years, 1800 to 1900, the production of cotton in the United States has increased from 80,000, approximately, to 9,345,391 bales, 500-pound standard, and the crop of 1899 is generally admitted by the ginners, in their reports to this office, to have been small compared with that of 1898.

TABLE 2.—QUANTITY OF COTTON GROWN IN THE UNITED STATES, BY STATES AND TERRITORIES, ACCORDING TO THE CENSUSES OF 1900, 1890, 1880, AND 1870, WITH PERCENTAGE OF THE TOTAL CROP PRODUCED BY EACH STATE AND TERRITORY IN 1899 AND 1869.

STATE.	CENSUS OF 1900, FOR CROP GROWN IN 1899.		Census of 1890, for crop grown in 1889.	Census of 1880, for crop grown in 1879.	Census of 1870, for crop grown in 1869.	PER CENT OF TOTAL.	
	Commercial bales.	Equivalent 500-pound bales.				[1] In 1899.	In 1869.
	Bales.	*Bales.*	*Bales.*	*Bales.*	*Bales.*		
Total	9,645,974	9,345,391	7,472,511	5,755,359	3,011,996	100.0	100.0
Alabama	1,103,690	1,078,519	915,210	699,654	429,482	11.5	14.2
Arkansas	719,453	705,583	691,494	608,256	247,968	7.6	8.2
California					34		
Florida	56,821	49,359	57,928	54,997	39,789	.5	1.3
Georgia	1,296,844	1,231,060	1,191,846	814,441	473,934	13.2	15.8
Illinois					465		
Indiana					3		
Indian Territory	160,324	143,608	34,115	17,000		1.5	
Kansas	121	121	212		7		
Kentucky	84	79	873	1,367	1,080		
Louisiana	708,508	700,352	659,180	508,569	350,832	7.5	11.7
Mississippi	1,264,048	1,237,666	1,154,725	963,111	564,938	13.2	18.8
Missouri	19,377	20,275	15,856	20,318	1,246	.2	.1
Nevada					106		
North Carolina	473,155	440,400	336,261	389,598	144,935	4.7	4.8
Oklahoma	84,035	71,983	425			.8	
South Carolina	876,545	837,105	747,190	522,548	224,500	9.0	7.5
Tennessee	215,175	211,641	190,579	330,621	181,842	2.3	6.0
Texas	2,658,555	2,609,018	1,471,242	805,284	350,628	27.9	11.6
Utah					22		
Virginia	9,239	8,622	5,375	19,595	183	.1	
West Virginia					2		

[1] Percentages calculated on the basis of 500-pound bales.

The bale measurement of 1890 was 477 pounds; in 1880 it was 453; in 1870 it was 440 pounds. The statistics for 1900, given in table 2, were obtained from the cotton ginners; those for the censuses of 1890, 1880, and 1870 were secured from cotton growers, and tabulated by the Agricultural Division of the census.

Early settlers north of the Ohio river planted cotton for domestic uses between 1849 and 1880. The census of 1860 found in Illinois 1,482 bales, or 659,490 pounds, of cotton. Stimulated by the high prices following the Civil War, the cultivation of cotton was conducted, to a limited extent, in California, Illinois, Indiana, Nevada, Utah, and West Virginia, as shown in table 2—census of 1870. With the coming of low prices cotton culture gradually disappeared from those sections not peculiarly adapted to it, and censuses after 1870 credited none to California, Illinois, Indiana, Nevada, Utah, or West Virginia. Natural selection continues to eliminate the industry from sections less favored by climatic conditions. To illustrate: Kentucky is credited by the censuses of 1880 and 1890

with 1,367 and 873 bales, respectively, but the census of 1900 finds in this state only 84 commercial bales.

The loss in those states lying along the northern border of the cotton belt is more than offset by the increase found in the territory west and southwest of the Mississippi river. According to the Eleventh Census, 2,872,524 bales, or 38 per cent of the entire American crop of 1889, was grown in that region, while in the census of 1900, in the same territory, the production reaches 4,250,940 bales, or 45 per cent of the whole crop. This increase is practically confined to Texas and the two territories; Texas, alone, producing 28 per cent of the entire cotton crop. The census of 1890 credits the Indian Territory with 34,115 bales and Oklahoma with 425 bales. The census of 1900 credits these territories respectively with 143,608 and 71,983 bales (500-pound standard).

TABLE 3.—QUANTITY OF COTTON GINNED, AVERAGE WEIGHT OF BALE, AVERAGE COST PER BALE FOR GINNING AND BALING (CROP OF 1899): BY STATES AND TERRITORIES.

STATES AND TERRITORIES.	Grand total gross weight.[1]	Commercial bales.	Equivalent 500 pound bales.	UPLAND CROP.								SEA-ISLAND CROP.			
				Square bales.				Round bales.							
				Production.	Average gross weight per bale.[1]	Total gross weight.[1]	Average cost per bale for ginning and baling.	Production.	Average gross weight per bale.[1]	Total gross weight.[1]	Average cost per bale for ginning and baling.	Production.	Average gross weight per bale.[1]	Total gross weight.[1]	Average cost per bale for ginning and baling.
	Pounds.	Bales.	Bales.	Bales.	Lbs.	Pounds.		Bales.	Lbs.	Pounds.		Bales.	Lbs.	Pounds.	
Total	4,672,695,500	9,645,974	9,345,391	9,043,231	498	4,503,813,068	$2.03	505,464	259	131,159,124	$1.15	97,279	388	37,723,308	$4.90
Alabama	539,259,644	1,103,690	1,078,519	1,069,644	495	529,850,812	1.47	34,046	276	9,408,832	.90				
Arkansas	352,791,736	719,453	705,583	685,570	502	343,874,096	1.98	33,883	263	8,917,640	1.24				
Florida	24,679,337	56,821	49,359	25,583	492	12,595,490	1.62					31,238	387	12,083,847	8.78
Georgia	615,529,844	1,296,844	1,231,060	1,220,117	482	587,913,386	1.26	18,915	256	4,839,606	.90	57,812	394	22,776,852	8.59
Indian Territory	71,803,832	160,324	143,608	121,785	508	61,846,886	2.61	38,589	259	9,956,946	1.15				
Kansas	60,500	121	121	121	500	60,500	3.00								
Kentucky	39,600	84	79	84	471	39,600	2.25								
Louisiana	350,176,196	708,508	700,352	694,816	499	346,568,872	1.75	13,692	263	3,607,324	1.32				
Mississippi	618,833,461	1,264,048	1,237,666	1,214,699	499	606,080,539	1.78	49,349	258	12,752,922	1.14				
Missouri	10,137,502	19,377	20,275	19,377	523	10,137,502	2.66								
North Carolina	220,199,727	473,155	440,400	472,385	466	220,004,979	1.58	770	253	194,748	.83				
Oklahoma	35,991,448	84,035	71,983	53,077	518	27,501,006	2.09	30,958	274	8,490,442	1.52				
South Carolina	418,552,594	876,545	837,105	864,714	491	414,765,815	1.29	3,602	257	924,170	1.00	8,229	347	2,862,609	7.34
Tennessee	105,820,457	215,175	211,641	199,926	510	101,946,897	2.63	15,249	254	3,873,560	1.41				
Texas	1,304,508,782	2,658,555	2,609,018	2,392,094	517	1,236,315,848	2.19	266,461	256	68,192,934	1.19				
Virginia	4,310,840	9,239	8,622	9,239	467	4,310,840	2.30								

[1] Including weight of bagging and ties.

While the operators of ginneries do not, as a rule, keep such records of their business as will enable them to report the total number of pounds of cotton passing through their hands during a given year, they do know the capacity of their cotton presses,—that is, the average amount of cotton that is baled at one time,—which information has been obtained through an inquiry covering the average weight of the bale handled by them. This is believed to be the most accurate method available for securing a safe basis for computing the total number of pounds of cotton handled.

The average bale weights given in the tables of this bulletin are obtained by dividing the total number of pounds of cotton by the number of bales. For example, the number of pounds put up in square bales in a county, divided by the number of square bales, gives the average square bale weight for the county. In the same way the average square bale weight for the state is obtained. So, also, of the round and sea-island bales. The general average bale weight of the United States is obtained by dividing the sum of the totals, in pounds, of square, round, and sea-island cotton, by the sum of the bales of the three classes given. Thus the average weight of the square bale for the United States is found to be 498 pounds; of the sea-island bale, 388 pounds; of the round bale, 259 pounds; and the general weight of an average bale for the cotton belt, 485 pounds. While the tendency has been to increase the general average weight of the cotton bale, this increase during the past decade has not been so marked, owing to the effect of the large quantity of cotton which is being put up in round packages averaging but little more than one-half the weight of the square bale.

In the reports of previous censuses no account is given of upland cotton put up in round packages. In the census of 1900 there are reported 505,464 round bales, exclusive of the sea-island crop of 97,279 bales. Because of the introduction of the round-bale systems in some states and the retention of the light square bale in others, the number of commercial bales (bales as reported by the ginners) does not credit the several states with their proper quota of the cotton crop. To illustrate: The state of North Carolina reports 473,155 commercial bales, while, owing to its low average bale weight, its quota in 500-pound bales is only 440,400. Texas reports 2,658,555 commercial bales, whereas, through the influence of 266,461 round bales, averaging 256 pounds, it has only 2,609,018 bales of 500-pound weight. In view of this condition, while the number of commercial bales is given in each instance, the crop for every county, for each state, and for the United States, is also given in equivalent bales of a 500-pound standard.

TABLE 4.—NUMBER AND CHARACTER OF GINNERIES, AND NUMBER OF MONTHS OPERATED FOR CROP OF 1899, BY STATES AND TERRITORIES.

STATES AND TERRITORIES.	NUMBER OF GINNERIES.				Average number of months in operation for crop of 1899.
	Total.	Operated for—			
		The public only.	The plantation only.	Both.	
Total _____	29,620	6,468	2,863	20,289	3
Alabama_____	4,034	792	391	2,851	3
Arkansas _____	2,630	668	133	1,829	3
Florida _____	236	73	10	153	3
Georgia_____	4,729	696	572	3,461	4
Indian Territory_____	297	215	6	76	4
Kansas_____	2	1	----------	1	2
Kentucky_____	2	1	----------	1	1
Louisiana_____	2,148	190	361	1,597	3
Mississippi_____	3,976	519	580	2,877	4
Missouri _____	56	40	----------	16	3
North Carolina_____	2,573	431	278	1,864	3
Oklahoma _____	133	109	----------	24	3
South Carolina_____	3,368	298	381	2,689	3
Tennessee _____	834	255	45	534	3
Texas_____	4,514	2,165	100	2,249	4
Virginia_____	88	15	6	67	3

Cotton ginneries are divisible into 3 general classes, namely, those conducted exclusively for the public; those conducted exclusively for the plantation; and those conducted for both the public and the plantation. From Arkansas, Indian Territory, Missouri, Oklahoma, Tennessee, and Texas, 91 establishments report merchant ginning; these have been classed as public ginneries, inasmuch as their owners do not grow cotton, but purchase it as it comes from the fields, and gin the same for their own accounts.

The rapidity with which the private or plantation ginneries have been supplanted by public and more modern equipments is noteworthy. Through inquiries of the census of 1880, covering the power and machinery of cotton ginning establishments, it was ascertained that a large percentage of the crop of 1879 was handled by ginneries of a private character. The motive power of these ginning and baling plants consisted of horses or mules, and such had a daily capacity of from 3 to 5 bales. They were simple and inexpensive in their construction, suited only for limited purposes. The general introduction of steam power brought economic methods that have crowded out primitive horse ginneries to such an extent that they are now curiosities. As shown in table 4, there are in the United States 29,620 cotton ginneries, of which 2,863, or less than 10 per cent, are reported as ginning exclusively for the plantation. A very small percentage of these plantation establishments are of the old-fashioned horse-power variety.

TABLE 5.—QUANTITY OF SEA-ISLAND COTTON GROWN IN THE UNITED STATES, BY STATES, ACCORDING TO THE CENSUSES OF 1900, 1890, AND 1880.

STATE.	Census of 1900, for crop grown in 1899.	Census of 1890, for crop grown in 1889.	Census of 1880, for crop grown in 1879.
	Bales.	Bales.	Bales.
Total_____	97,279	46,803	30,512
Florida _____	31,238	23,918	16,950
Georgia_____	57,812	13,629	3,420
South Carolina_____	8,229	9,256	10,142

Statistics given in table 5 for 1900 were secured through reports of the ginners; those for 1890 and 1880 were obtained from the growers and tabulated by the Agricultural Division of the census.

While the increase in the culture of sea-island cotton has not been so rapid as that of upland cotton, the recent progress in the culture of this long staple is quite noteworthy. The sea-island crop of 1825 amounted to 26,029 bales, of which 7,779 were grown in Georgia and 18,250 in South Carolina. In 1859 the crop reached 44,096 bales, distributed as follows: Florida, 20,353; Georgia, 10,852; and South Carolina, 13,391.

It was believed, for a long time, that the islands off the coast of South Carolina possessed a natural monopoly of the production of the finest staple of this cotton, yet it has been found that a good grade can be grown in certain Georgia counties considerably removed from the coast. The discovery of this fact accounts largely for the increase in the crop between 1880 and 1900, as shown in the above table. In these interior Georgia counties, it is necessary that the seed be obtained from the coast or islands each alternate year, as this variety of seed, when planted in the uplands loses its identity after the second year. Ginners report sea-island cotton from 29 counties of Georgia, 17 of Florida, and 3 of South Carolina.

TABLE 6.—QUANTITY OF COTTON GINNED, AVERAGE WEIGHT OF BALE, AVERAGE COST PER BALE FOR GINNING AND BALING (CROP OF 1899): BY STATES AND COUNTIES.

ALABAMA.

COUNTIES.	Total gross weight in pounds.	Commercial bales.	Equivalent 500-pound bales.	SQUARE BALES.			ROUND BALES.		
				Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.	Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.
The State_____	539,259,644	1,103,690	1,078,519	1,069,644	495	$1.47	34,046	276	$0.90
Autauga_____	6,604,890	13,555	13,210	12,521	507	1.33	1,034	250	$1.25
Baldwin_____	255,638	509	511	509	502	1.79	------	------	------
Barbour_____	16,251,589	32,622	32,503	32,622	499	1.20	------	------	------
Bibb_____	2,757,275	5,418	5,515	5,418	506	1.60	------	------	------
Blount_____	5,647,510	11,443	11,295	11,443	494	1.71	------	------	------
Bullock _____	16,580,480	33,126	33,161	33,126	500	1.51	------	------	------
Butler _____	9,136,264	20,793	18,273	14,979	505	1.45	5,814	256	.65
Calhoun_____	6,792,560	13,870	13,585	13,870	489	1.61	------	------	------
Chambers _____	17,007,650	34,127	34,015	34,127	498	1.07	------	------	------
Cherokee_____	7,085,920	14,492	14,072	14,492	485	1.56	------	------	------

TABLE 6.—QUANTITY OF COTTON GINNED, AVERAGE WEIGHT OF BALE, AVERAGE COST PER BALE FOR GINNING AND BALING (CROP OF 1899): BY STATES AND COUNTIES—Continued.

ALABAMA—Continued.

COUNTIES.	Total gross weight in pounds.	Commercial bales.	Equivalent 500-pound bales.	SQUARE BALES.			ROUND BALES.		
				Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.	Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.
Chilton	5,042,425	10,036	10,085	10,036	503	1.35			
Choctaw	6,096,350	12,181	12,193	12,181	500	1.37			
Clarke	8,561,660	18,112	18,123	18,112	500	1.38			
Clay	5,150,650	10,819	10,301	10,819	478	1.47			
Cleburne	2,473,900	5,513	4,948	5,513	449	1.39			
Coffee	9,204,445	18,646	18,409	18,646	494	1.32			
Colbert	4,642,192	10,272	9,284	7,732	506	1.53	2,540	250	1.00
Conecuh	4,542,263	9,070	9,085	9,070	501	1.44			
Coosa	5,933,950	12,385	11,868	12,385	484	1.42			
Covington	3,059,415	6,310	6,119	6,310	485	1.41			
Crenshaw	8,976,450	17,963	17,953	17,963	500	1.29			
Cullman	4,067,450	9,248	8,135	7,247	489	1.40	2,001	250	1.00
Dale	8,035,020	17,002	16,070	17,002	473	1.37			
Dallas	21,751,420	48,850	48,503	48,850	496	1.25			
Dekalb	4,957,495	10,358	9,915	10,358	479	1.67			
Elmore	8,431,185	17,142	16,862	17,142	492	1.42			
Escambia	273,475	540	547	540	506	1.40			
Etowah	5,388,360	11,058	10,667	11,058	482	1.52			
Fayette	3,841,787	7,888	7,684	7,888	487	1.89			
Franklin	3,276,400	6,506	6,553	6,506	504	1.71			
Geneva	4,648,305	9,587	9,287	9,587	484	1.34			
Greene	10,331,940	21,061	20,664	20,161	492	1.38	1,500	270	1.00
Hale	13,715,249	27,601	27,430	27,601	497	1.27			
Henry	13,084,170	26,287	26,068	26,287	496	1.17			
Jackson	2,588,240	5,202	5,166	5,202	497	2.11			
Jefferson	8,662,050	7,808	7,824	7,808	501	1.94			
Lamar	5,750,820	11,722	11,502	11,722	491	1.64			
Lauderdale	4,716,055	9,567	9,432	9,567	493	1.71			
Lawrence	6,657,180	14,358	13,314	11,903	504	1.59	2,455	270	1.00
Lee	11,541,935	28,458	23,084	23,458	492	1.24			
Limestone	6,768,771	13,799	13,598	12,798	509	1.47	1,001	250	.50
Lowndes	18,239,210	37,556	36,478	35,106	501	1.21	2,450	260	.88
Macon	10,622,780	21,565	21,245	21,185	497	1.27	380	240	1.00
Madison	7,911,662	16,692	15,824	13,790	505	1.48	2,902	324	1.00
Marengo	16,455,547	34,487	32,911	32,254	492	1.28	2,183	270	.65
Marion	2,915,850	5,805	5,832	5,805	502	1.76			
Marshall	6,641,748	15,795	13,284	13,795	481	1.66			
Mobile	180,000	360	360	360	500	1.75			
Monroe	9,237,750	17,214	18,475	17,214	537	1.37			
Montgomery	20,591,606	43,158	41,183	38,408	505	1.26	4,750	250	1.00
Morgan	5,185,098	10,578	10,370	8,342	503	1.63	2,236	443	1.00
Perry	15,783,120	30,990	31,566	30,990	509	1.40			
Pickens	9,613,298	19,230	19,227	19,230	500	1.58			
Pike	17,463,475	34,768	34,927	34,768	502	1.18			
Randolph	8,432,978	18,038	16,866	18,038	467	1.89			
Russell	11,667,340	23,725	23,335	23,725	492	1.31			
St. Clair	4,703,995	9,605	9,408	9,605	490	1.58			
Shelby	5,802,012	11,628	11,604	11,628	499	1.42			
Sumter	16,446,163	32,994	32,892	32,994	498	1.30			
Talladega	12,239,000	26,746	24,478	26,746	458	1.56			
Tallapoosa	13,594,041	28,323	27,188	28,323	480	1.16			
Tuscaloosa	9,144,045	19,572	18,288	16,773	500	1.55	2,800	268	.65
Walker	2,600,235	5,207	5,200	5,207	499	2.11			
Washington	910,156	1,793	1,820	1,793	508	1.54			
Wilcox	17,362,342	34,690	34,725	34,690	500	1.32			
Winston	2,390,510	4,826	4,781	4,826	495	1.46			

ARKANSAS.

COUNTIES.	Total gross weight in pounds.	Commercial bales.	Equivalent 500-pound bales.	Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.	Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.
The State	352,791,786	719,453	705,588	685,570	502	$1.98	33,883	263	$1.24
Arkansas	4,028,572	8,014	8,057	8,014	503	1.78			
Ashley	12,518,456	26,790	25,037	23,207	501	1.74	3,583	251	1.32
Baxter	961,070	1,891	1,922	1,891	508	2.68			
Boone	293,540	585	587	585	502	2.32			
Bradley	2,168,275	4,360	4,336	4,360	497	1.86			
Calhoun	1,907,300	3,853	3,815	3,853	495	1.92			
Chicot	11,929,268	25,832	23,859	25,832	462	1.78			
Clark	5,187,470	10,330	10,375	10,330	502	1.75			
Clay	2,869,863	5,680	4,739	3,681	504	2.10	1,899	270	1.50
Cleburne	1,915,100	3,846	3,830	3,846	498	1.73			
Cleveland	2,318,715	4,754	4,637	4,754	488	1.85			
Columbia	9,108,070	18,370	18,216	18,370	496	1.86			
Conway	7,385,779	16,790	14,671	12,117	505	1.80	4,673	261	1.44
Craighead	2,465,260	4,889	4,931	4,889	504	2.10			
Crawford	4,719,558	9,326	9,489	9,326	506	2.35			
Crittenden	11,386,497	22,943	22,773	22,943	496	1.95			
Cross	2,215,000	4,407	4,430	4,407	503	1.80			
Dallas	2,255,977	4,586	4,512	4,586	492	1.88			
Desha	9,598,210	18,857	19,196	18,857	509	1.93			
Drew	7,477,588	15,252	14,955	15,252	490	1.70			

TABLE 6.—QUANTITY OF COTTON GINNED, AVERAGE WEIGHT OF BALE, AVERAGE COST PER BALE FOR GINNING AND BALING (CROP OF 1899): BY STATES AND COUNTIES—Continued.

ARKANSAS—Continued.

COUNTIES.	Total gross weight in pounds.	Commercial bales.	Equivalent 500-pound bales.	SQUARE BALES.			ROUND BALES.		
				Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.	Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.
Faulkner	7,954,893	16,220	15,909	15,024	509	1.83	1,196	260	1.38
Franklin	4,048,299	8,009	8,097	8,009	505	1.81			
Fulton	931,430	1,860	1,863	1,860	501	2.31			
Garland	340,500	700	681	700	486	2.25			
Grant	1,247,325	2,590	2,495	2,590	482	2.06			
Greene	1,508,475	2,961	3,017	2,961	509	2.29			
Hempstead	8,229,735	16,431	16,459	16,431	501	1.73			
Hot Spring	1,807,425	3,678	3,615	3,678	491	2.10			
Howard	4,348,059	8,659	8,696	8,659	502	1.89			
Independence	6,957,538	13,873	13,915	13,688	505	2.06	190	250	.60
Izard	2,429,790	4,848	4,859	4,848	501	2.41			
Jackson	9,173,272	18,301	18,346	18,051	504	2.10	250	300	1.00
Jefferson	21,909,899	43,392	43,820	43,072	507	1.91	320	294	1.13
Johnson	3,500,362	7,021	7,001	7,021	499	2.12			
Lafayette	4,092,289	8,153	8,185	8,153	502	1.94			
Lawrence	3,387,981	7,576	6,775	5,574	505	2.03	2,002	285	
Lee	11,008,688	21,635	22,017	21,249	518	1.78	386	262	1.25
Lincoln	8,014,485	16,076	16,029	16,076	499	1.76			
Little River	5,401,935	10,627	10,804	10,627	508	1.58			
Logan	4,685,827	9,168	9,272	9,168	506	1.95			
Lonoke	11,585,914	25,830	23,172	19,303	509	1.83	6,527	271	1.17
Marion	1,045,305	2,049	2,091	2,049	510	1.74			
Miller	4,578,910	9,163	9,158	9,163	500	2.14			
Mississippi	10,283,119	20,506	20,566	19,406	516	2.25	1,100	250	1.25
Monroe	7,585,350	16,244	15,171	13,823	503	1.92	2,421	263	1.38
Montgomery	1,178,270	2,391	2,357	2,391	493	2.09			
Nevada	5,051,225	10,232	10,102	10,232	494	2.02			
Newton	288,975	577	578	577	501	2.07			
Ouachita	3,825,525	7,776	7,651	7,776	492	1.97			
Perry	2,774,845	5,473	5,549	5,473	507	1.85			
Phillips	16,779,841	33,554	33,560	33,502	500	1.83	52	240	1.50
Pike	2,524,475	5,013	5,049	5,013	504	2.12			
Poinsett	1,172,150	2,303	2,844	2,303	509	1.78			
Polk	577,430	1,163	1,155	1,163	497	2.29			
Pope	5,645,090	11,000	11,290	11,000	513	1.74			
Prairie	3,480,760	6,791	6,962	6,791	513	2.00			
Pulaski	10,368,426	20,684	20,737	20,684	501	2.14			
Randolph	1,517,700	2,963	3,035	2,963	512	2.06			
St. Francis	7,600,891	15,028	15,202	15,028	506	1.78			
Saline	1,822,900	3,634	3,646	3,634	502	2.16			
Scott	1,745,650	3,492	3,491	3,492	500	2.04			
Searcy	758,340	1,519	1,517	1,519	499	1.73			
Sebastian	3,468,175	6,828	6,936	6,828	508	2.13			
Sevier	3,520,900	7,024	7,042	7,024	501	2.09			
Sharp	1,786,537	3,579	3,573	3,579	499	2.22			
Stone	1,018,468	2,034	2,027	2,029	499	1.95	5	270	1.00
Union	6,150,095	12,420	12,300	12,420	495	1.85			
Van Buren	1,600,497	3,122	3,201	3,122	513	2.25			
White	5,747,540	11,714	11,495	11,369	498	1.93	345	250	1.25
Woodruff	8,077,603	19,741	16,155	11,404	515	1.74	8,337	264	1.46
Yell	6,149,615	12,573	12,299	11,976	504	1.81	597	200	1.20

FLORIDA.

COUNTIES.	Total gross weight in pounds.	Commercial bales.	Equivalent 500-pound bales.	SQUARE BALES.			SEA-ISLAND CROP.		
				Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.	Number of bales.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.
The State	24,679,387	56,821	49,359	25,583	492	$1.62	31,238	387	$3.78
Alachua	2,250,615	5,643	4,501	775	450	1.50	4,868	391	3.81
Baker	370,700	985	741				985	376	3.88
Bradford	1,866,700	3,793	2,733				3,793	360	3.85
Calhoun	95,500	199	191	159	500	2.00	40	400	3.60
Columbia	1,754,528	4,490	3,509				4,490	391	4.00
Escambia	62,500	125	125	125	500	2.00			
Gadsden	274,500	686	549	404	455	1.50	232	393	3.75
Hamilton	1,138,717	2,978	2,278				2,978	382	3.67
Holmes	208,560	411	407	373	505	1.92	38	400	4.00
Jackson	4,693,600	9,366	9,387	8,862	508	1.41	504	384	3.90
Jefferson	2,818,475	5,844	5,637	5,424	489	1.39	420	400	4.00
Lafayette	160,360	421	321				421	381	3.80
Leon	2,991,450	6,184	5,933	6,184	483	1.41			
Levy	39,200	112	78				112	350	3.50
Madison	4,522,585	11,077	9,046	2,094	476	1.71	8,983	393	3.91

TABLE 6.—QUANTITY OF COTTON GINNED, AVERAGE WEIGHT OF BALE, AVERAGE COST PER BALE FOR GINNING AND BALING (CROP OF 1899): BY STATES AND COUNTIES—Continued.

FLORIDA—Continued.

COUNTIES.	Total gross weight in pounds.	Commercial bales.	Equivalent 500-pound bales.	SQUARE BALES.			SEA-ISLAND CROP.		
				Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.	Number of bales.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.
Marion	125,500	339	251	3	500	2.50	336	369	3.58
Nassau	4,000	10	8				10	400	4.00
Santa Rosa	11,125	24	22	24	464	1.42			
Suwannee	1,146,772	2,860	2,294				2,860	401	4.01
Taylor	67,200	168	135				168	400	3.00
Wakulla	9,000	20	18	20	450	1.50			
Walton	248,200	497	496	497	499	1.51			
Washington	324,575	639	649	639	508	1.50			

GEORGIA.

COUNTIES.	Total gross weight in pounds.	Commercial bales.	Equivalent 500-pound bales.	UPLAND CROP.						SEA-ISLAND CROP.		
				Square bales.			Round bales.			Number of bales.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.
				Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.	Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.			
The State	615,529,844	1,290,844	1,231,060	1,220,117	482	$1.26	18,915	256	$0.90	57,812	394	$3.59
Appling	1,580,225	4,046	3,160	268	480	1.17				3,778	384	4.20
Baker	1,968,910	4,039	3,938	4,039	487	1.06						
Baldwin	4,833,292	10,119	9,666	10,119	478	1.16						
Banks	3,957,520	8,791	7,915	8,791	450	1.35						
Bartow	6,270,025	12,802	12,540	12,802	490	1.47						
Berrien	2,467,652	6,086	4,935	1,142	462	1.29				4,944	392	3.07
Bibb	3,237,655	6,568	6,475	6,568	493	1.22						
Brooks	4,120,260	8,731	8,241	6,396	499	1.32				2,335	404	3.38
Bryan	196,375	479	393	227	421	1.67				252	400	3.50
Bulloch	4,085,785	9,792	8,132	1,924	455	1.44				7,868	406	3.10
Burke	22,184,595	46,152	44,269	43,327	493	1.80	2,650	270	.75	175	400	3.75
Butts	7,184,260	14,415	14,869	14,415	493	1.10						
Calhoun	4,656,000	9,472	9,312	9,472	492	.98						
Campbell	4,595,825	9,614	9,192	9,614	478	1.36						
Carroll	12,873,411	28,504	25,747	26,715	463	1.20	1,789	278	1.12			
Catoosa	340,170	810	680	810	420	1.46						
Charlton	120,800	302	242							302	400	4.40
Chattahoochee	2,484,910	5,039	4,970	5,039	493	1.11						
Chattooga	3,225,635	7,079	6,451	7,079	456	1.45						
Cherokee	2,960,940	6,760	5,922	6,760	438	1.45						
Clarke	1,559,675	3,532	3,119	3,532	441	1.07						
Clay	4,680,000	9,345	9,360	9,345	501	1.04						
Clayton	3,925,550	8,079	7,851	8,079	486	1.36						
Clinch	231,125	592	462							592	390	4.00
Cobb	6,689,474	14,979	13,379	14,979	447	1.31						
Coffee	1,400,725	3,369	2,801	19	500	1.75				3,350	392	4.12
Colquitt	1,812,275	4,347	3,625	1,785	443	1.25				2,562	398	2.94
Columbia	4,566,998	9,354	9,134	9,354	488	1.11						
Coweta	11,849,765	24,680	23,700	23,480	492	1.12	1,200	250	1.00			
Crawford	3,588,510	7,158	7,177	7,158	501	1.43						
Dawson	561,775	1,297	1,123	1,297	433	1.42						
Decatur	2,345,511	4,891	4,691	4,551	490	1.37				340	334	3.31
Dekalb	3,184,985	6,981	6,370	6,981	456	1.34						
Dodge	5,352,400	10,729	10,705	10,729	499	1.25						
Dooly	9,232,425	18,573	18,465	18,573	497	1.09						
Dougherty	6,697,485	12,835	13,395	12,493	459	1.03				342	400	3.38
Douglas	3,691,962	8,091	7,384	8,091	456	1.53						
Early	3,176,050	6,302	6,352	6,302	504	1.33						
Echols	309,150	795	618							795	389	3.44
Effingham	211,100	429	422	429	492	1.50						
Elbert	6,344,110	14,945	12,688	14,580	429	1.26	365	234	.79			
Emanuel	5,922,700	13,587	11,845	9,525	463	1.17				4,062	374	3.14
Fayette	4,787,983	9,449	9,476	9,449	501	1.02						
Floyd	5,393,630	11,864	10,787	10,532	477	1.51	1,332	230	1.14			
Forsyth	3,194,395	7,449	6,389	7,449	429	1.42						
Franklin	6,404,500	13,988	12,809	13,971	458	1.33	17	250	.75			
Fulton	698,875	1,604	1,398	1,604	436	1.36						
Glascock	1,939,400	3,902	3,879	3,902	497	1.11						
Gordon	3,145,780	6,609	6,292	6,609	476	1.17						
Greene	5,781,427	11,583	11,568	11,573	499	1.06	10	220	.50			
Gwinnett	7,867,799	17,667	15,736	17,559	446	1.44	108	390	1.75			
Habersham	638,750	1,485	1,278	1,435	445	1.27						
Hall	4,188,761	9,586	8,378	9,586	437	1.40						
Hancock	6,859,285	14,371	13,719	13,888	480	1.08	483	244	.77			
Haralson	2,408,724	5,597	4,817	5,597	480	1.27						

TABLE 6.—QUANTITY OF COTTON GINNED, AVERAGE WEIGHT OF BALE, AVERAGE COST PER BALE FOR GINNING AND BALING (CROP OF 1899): BY STATES AND COUNTIES—Continued.

GEORGIA—Continued.

| COUNTIES. | Total gross weight in pounds. | Commercial bales. | Equivalent 500-pound bales. | UPLAND CROP. | | | | | | SEA-ISLAND CROP. | | |
| | | | | Square bales. | | | Round bales. | | | | | |
				Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.	Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.	Number of bales.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.
Harris	11,003,877	22,852	22,008	21,380	496	1.05	1,522	275	1.00			
Hart	5,630,710	12,519	11,261	12,421	452	1.30	98	227	.70			
Heard	6,497,855	13,422	12,996	13,422	484	1.24						
Henry	9,704,237	20,056	19,408	19,856	487	1.12	200	220	1.00			
Houston	10,363,636	20,782	20,727	20,782	499	1.09						
Irwin	1,332,700	2,929	2,665	1,891	485	1.59				1,038	400	4.06
Jackson	10,189,395	22,866	20,379	22,816	446	1.28	50	250	1.00			
Jasper	7,594,275	15,320	15,189	15,320	496	1.14						
Jefferson	9,943,510	21,182	19,887	21,182	469	1.08						
Johnson	4,007,800	8,336	8,016	8,336	481	1.08						
Jones	5,582,540	11,130	11,165	11,130	503	1.21						
Laurens	10,649,145	22,080	21,298	21,380	490	1.22	700	250	.65			
Lee	4,097,295	8,654	8,195	8,654	478	1.24				420	395	3.42
Liberty	180,250	450	360	30	483	1.25						
Lincoln	2,526,535	5,132	5,053	5,132	492	1.17						
Lowndes	3,081,200	7,691	6,162	114	444	1.44				7,577	400	3.08
Lumpkin	28,750	75	58	75	388	1.52						
McDuffie	3,839,186	8,635	7,678	6,901	494	1.15	1,784	250	1.13			
Macon	8,380,308	16,713	16,761	16,713	501	1.12						
Madison	5,129,455	11,443	10,259	11,443	448	1.32						
Marion	4,667,825	9,681	9,336	9,681	482	1.34						
Meriwether	11,200,300	22,452	22,401	22,452	499	1.08				50	400	4.00
Miller	1,041,250	2,075	2,083	2,025	504	1.59						
Milton	2,723,425	6,407	5,447	6,407	425	1.41						
Mitchell	4,759,910	10,049	9,520	7,863	494	1.23				2,186	400	3.33
Monroe	9,173,760	18,724	18,348	18,724	490	1.15				534	378	4.00
Montgomery	2,445,955	5,392	4,892	4,858	462	1.33						
Morgan	7,818,370	16,453	15,637	15,220	494	1.14	1,233	248	.58			
Murray	1,178,245	2,586	2,346	2,586	454	1.48						
Muscogee	3,494,475	7,042	6,989	7,042	496	1.24						
Newton	7,018,700	14,373	14,037	14,348	489	1.26	25	250	1.30			
Oconee	3,496,200	7,349	6,992	7,349	476	1.09						
Oglethorpe	8,929,440	19,276	17,859	19,256	463	1.07	20	250	.50			
Paulding	4,090,440	9,154	8,181	9,154	447	1.44						
Pickens	817,020	1,851	1,634	1,851	441	1.47						
Pierce	1,298,975	3,657	2,598							3,657	355	4.12
Pike	7,105,340	14,281	14,211	14,268	498	1.07	13	246	1.00			
Polk	4,081,265	8,852	8,163	8,852	461	1.56						
Pulaski	7,906,450	16,431	15,813	15,184	501	1.08	1,297	250	.50			
Putnam	4,692,239	9,609	9,384	9,609	488	1.13						
Quitman	3,091,920	6,243	6,184	6,243	495	1.04						
Randolph	9,165,250	18,558	18,330	18,558	494	1.09						
Richmond	1,867,115	3,764	3,734	3,764	495	1.23						
Rockdale	3,619,675	7,368	7,239	7,368	491	1.30						
Schley	2,841,625	5,760	5,683	5,760	493	1.26						
Screven	8,442,248	17,963	16,884	17,666	471	1.30				297	400	3.79
Spalding	5,682,610	11,390	11,365	11,390	499	1.08						
Stewart	8,843,587	17,875	17,687	17,875	495	1.28						
Sumter	12,445,007	25,164	24,890	25,164	495	1.20						
Talbot	4,233,583	8,893	8,467	8,893	476	1.24						
Taliaferro	3,088,250	6,487	6,176	6,020	495	1.00	467	229	1.00			
Tattnall	2,980,433	7,309	5,960	952	445	1.87				6,357	402	3.20
Taylor	4,154,433	8,371	8,309	8,371	496	1.40						
Telfair	1,216,875	2,541	2,434	2,324	486	1.46				217	406	3.75
Terrell	12,792,500	25,719	25,585	25,719	497	1.04						
Thomas	5,810,135	12,473	11,620	10,923	479	1.23				1,550	375	3.28
Troup	10,716,741	21,550	21,483	21,515	498	1.06	35	147	1.00			
Twiggs	4,574,259	9,484	9,149	9,484	482	1.27						
Upson	4,830,625	9,765	9,661	9,765	495	1.16						
Walker	1,633,315	3,631	3,267	3,631	450	1.42						
Walton	9,526,465	19,665	19,053	19,665	484	1.20				123	370	3.75
Ware	45,450	123	91									
Warren	4,669,192	9,659	9,338	9,007	500	1.14	652	250	.75			
Washington	14,321,798	29,544	28,644	29,194	488	1.14	350	250	1.25			
Wayne	396,500	965	793	110	495	1.25				855	400	4.00
Webster	2,000,250	4,116	4,001	4,116	486	1.15						
White	60,000	150	120	150	400	1.65						
Whitfield	858,575	1,947	1,717	1,947	441	1.56						
Wilcox	1,950,085	3,885	3,900	3,820	504	1.34				65	400	3.00
Wilkes	7,758,460	17,405	15,507	14,840	483	1.11	2,565	280	.63			
Wilkinson	5,309,466	11,037	10,619	11,037	481	1.16						
Worth	5,043,850	10,485	10,088	9,296	492	1.18				1,189	390	3.60

TABLE 6.—QUANTITY OF COTTON GINNED, AVERAGE WEIGHT OF BALE, AVERAGE COST PER BALE FOR GINNING AND BALING (CROP OF 1899): BY STATES AND COUNTIES—Continued.

INDIAN TERRITORY.

COUNTIES.	Total gross weight in pounds.	Commercial bales.	Equivalent 500-pound bales.	SQUARE BALES.			ROUND BALES.		
				Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.	Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.
The Territory	71,803,832	160,320	143,608	121,785	508	$2.61	38,539	259	$1.15
Chickasaw Nation	36,137,438	79,696	72,275	64,099	505	2.47	15,597	240	1.00
Cherokee Nation	10,296,935	24,219	20,594	16,284	503	2.82	7,935	266	
Choctaw Nation	15,397,994	31,513	30,796	28,239	509	2.49	3,274	317	1.44
Creek Nation	9,896,243	24,770	19,792	13,037	525	2.65	11,733	261	1.00
Seminole Nation	75,222	126	150	126	597				

KANSAS.

COUNTIES.	Total gross weight in pounds.	Commercial bales.	Equivalent 500-pound bales.	Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.	Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.
The State	60,500	121	121	121	500	$3.00			
Montgomery	60,500	121	121	121	500	3.00			

KENTUCKY.

COUNTIES.	Total gross weight in pounds.	Commercial bales.	Equivalent 500-pound bales.	Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.	Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.
The State	39,600	84	79	84	471	$2.25			
Fulton	30,000	60	60	60	500	2.50			
Graves	9,600	24	19	24	400	2.00			

LOUISIANA.

COUNTIES.	Total gross weight in pounds.	Commercial bales.	Equivalent 500-pound bales.	Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.	Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.
The State	350,176,196	708,508	700,352	694,816	499	$1.75	13,692	263	$1.82
Acadia	2,472,200	5,060	4,944	5,060	489	1.52			
Ascension	2,487,794	5,009	4,976	5,009	497	2.00			
Avoyelles	19,859,017	38,586	39,718	38,570	515	1.67	16	225	1.37
Bienville	5,818,215	11,775	11,636	11,775	494	1.52			
Bossier	13,648,625	27,639	27,287	25,655	511	1.50	1,984	267	.75
Caddo	15,296,021	30,218	30,592	29,620	507	1.52	593	273	.79
Calcasieu	377,000	825	754	825	457	2.00			
Caldwell	1,630,701	3,423	3,261	3,423	476	1.45			
Cameron	323,169	621	646	621	520	2.33			
Catahoula	6,002,310	12,979	12,005	12,979	462	1.83			
Claiborne	9,859,075	20,270	19,718	20,270	486	1.66			
Concordia	12,041,932	24,096	24,084	24,096	500	1.66			
De Soto	6,954,945	13,990	13,910	13,990	497	1.50			
East Baton Rouge	10,564,280	22,476	21,128	22,080	474	1.84	396	250	1.90
East Carroll	9,611,288	18,970	19,223	18,970	507	1.94			
East Feliciana	10,876,060	24,615	21,752	22,042	464	1.78	2,573	250	1.50
Franklin	3,385,754	6,990	6,772	6,858	489	1.46	132	245	.75
Grant	4,319,267	8,651	8,639	8,651	499	1.70			
Iberia	1,754,690	3,406	3,509	3,406	515	1.57			
Iberville	2,101,791	4,149	4,204	4,149	507	2.07			
Jackson	3,175,078	6,679	6,350	6,679	475	1.85			
Lafayette	7,243,050	14,935	14,486	13,744	505	1.98	1,191	250	1.25
Lincoln	5,513,250	11,137	11,027	11,137	495	1.47			
Livingston	1,461,600	3,100	2,923	3,100	471	1.77			
Madison	7,200,161	14,274	14,400	14,274	504	1.99			
Morehouse	16,082,433	32,763	32,165	32,163	495	1.79	600	270	1.00
Natchitoches	14,174,792	28,187	28,350	28,187	503	1.59			
Ouachita	11,116,132	22,466	22,232	22,466	495	1.80			
Pointe Coupee	21,340,981	41,672	42,682	41,672	512	1.88			
Rapides	19,077,552	38,015	38,155	36,729	510	1.74	1,286	279	1.95
Red River	7,641,554	15,063	15,283	15,063	507	1.53			
Richland	6,605,021	13,079	13,210	13,079	505	1.64			
Sabine	5,226,455	10,426	10,453	10,426	501	1.56			
St. Helena	3,031,605	6,325	6,063	6,325	479	1.65			
St. Landry	21,975,635	44,729	43,951	44,726	491	1.97	3	225	1.75
St. Martin	4,803,000	11,612	9,606	7,102	505	1.77	4,510	269	
St. Tammany	524,000	1,187	1,048	1,187	461	1.92			
Tangipahoa	2,035,536	4,111	4,071	4,111	495	1.97			
Tensas	17,020,863	32,297	34,041	31,889	530	1.73	408	256	1.50
Union	6,121,221	12,391	12,242	12,391	494	1.54			
Vermilion	1,850,425	3,594	3,701	3,594	515	1.97			
Vernon	736,440	1,493	1,473	1,493	493	1.83			
Washington	4,483,519	9,309	8,967	9,309	482	2.00			
Webster	4,406,038	8,911	8,813	8,911	494	1.43			
West Baton Rouge	4,030,970	8,168	8,082	8,168	494	1.70			
West Carroll	1,772,750	3,527	3,546	3,527	503	1.84			
West Feliciana	9,388,056	19,618	18,776	19,618	479	2.01			
Winn	2,758,995	5,747	5,518	5,747	480	1.50			

TABLE **6.**—QUANTITY OF COTTON GINNED, AVERAGE WEIGHT OF BALE, AVERAGE COST PER BALE FOR GINNING AND BALING (CROP OF 1899): BY STATES AND COUNTIES—Continued.

MISSISSIPPI.

COUNTIES.	Total gross weight in pounds.	Commercial bales.	Equivalent 500-pound bales.	SQUARE BALES.			ROUND BALES.		
				Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.	Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.
The State	618,888,461	1,264,048	1,237,666	1,214,699	499	$1.78	49,349	258	$1.14
Adams	11,300,110	23,971	22,600	23,971	475	1.54			
Alcorn	2,614,885	5,219	5,229	5,219	501	2.10			
Amite	10,528,702	21,352	21,057	21,352	493	1.47			
Attala	9,295,749	18,906	18,591	18,906	492	1.75			
Benton	3,691,725	7,391	7,888	7,391	499	1.85			
Bolivar	27,781,375	53,976	55,463	53,976	514	1.81			
Calhoun	4,721,825	9,447	9,444	9,447	500	2.03			
Carroll	9,800,094	21,251	19,600	18,513	494	1.56	2,738	240	1.18
Chickasaw	7,597,140	16,841	15,194	12,809	516	1.56	4,032	246	1.00
Choctaw	4,084,986	8,113	8,170	8,113	504	2.00			
Claiborne	6,077,828	13,232	12,156	13,232	459	1.59			
Clarke	5,058,030	10,056	10,116	10,056	503	1.70			
Clay	8,297,329	16,080	16,595	16,080	516	1.49			
Coahoma	21,583,485	43,164	43,167	41,831	508	1.90	1,338	242	1.00
Copiah	12,380,615	25,223	24,761	25,223	491	1.46			
Covington	3,455,678	7,249	6,912	7,249	477	2.10			
De Soto	12,098,415	25,935	24,197	22,289	499	1.62	3,646	265	1.42
Franklin	6,414,805	13,335	12,830	13,335	481	1.51			
Greene	87,500	175	175	175	500	2.00			
Grenada	7,445,068	16,450	14,890	13,359	492	1.73	3,091	282	1.18
Hancock	90,000	180	180	180	500	2.00			
Hinds	20,510,459	46,022	41,021	36,615	493	1.77	9,407	263	1.21
Holmes	18,663,995	38,914	37,328	35,009	505	1.77	3,905	255	1.12
Issaquena	8,762,620	17,815	17,525	17,815	506	2.10			
Itawamba	2,490,455	4,940	4,981	4,940	504	1.95			
Jackson	1,575	8	3	3	525	1.75			
Jasper	5,593,605	11,188	11,187	11,188	500	1.68			
Jefferson	13,408,390	28,195	26,817	28,195	476	1.50			
Jones	3,497,735	7,222	6,995	7,222	484	1.71			
Kemper	7,998,715	15,940	15,997	15,940	502	1.65			
Lafayette	7,926,185	16,118	15,852	16,118	492	1.77			
Lauderdale	7,475,900	15,034	14,952	15,034	497	1.60			
Lawrence	5,945,581	12,436	11,891	12,436	478	1.87			
Leake	6,646,718	18,600	18,293	18,600	489	1.82			
Lee	8,385,733	16,362	16,771	16,362	513	1.95			
Leflore	19,785,168	39,367	39,470	89,337	502	1.93	30	240	1.08
Lincoln	5,726,980	11,542	11,454	11,542	496	1.58			
Lowndes	10,453,425	20,920	20,907	20,920	500	1.70			
Madison	13,341,140	27,096	26,682	25,753	504	1.89	1,848	270	1.18
Marion	2,411,665	5,052	4,823	5,052	477	2.18			
Marshall	11,185,117	22,806	22,270	22,806	488	1.67			
Monroe	13,017,245	26,184	26,035	24,221	517	1.70	1,963	255	1.00
Montgomery	5,955,515	13,584	11,911	10,936	485	1.70	2,648	247	1.13
Neshoba	3,844,934	7,877	7,690	7,877	488	1.90			
Newton	8,180,795	16,533	16,362	16,533	495	1.79			
Noxubee	11,921,230	25,025	23,843	22,325	502	1.58	2,700	265	1.33
Oktibbeha	6,220,925	12,322	12,442	12,322	505	1.59			
Panola	13,599,044	28,230	27,198	28,230	482	1.63			
Pearl River	82,500	170	165	170	485	1.75			
Perry	626,139	1,287	1,252	1,287	487	1.79			
Pike	4,795,031	9,849	9,590	9,849	485	1.83			
Pontotoc	6,378,090	12,602	12,756	12,602	506	1.87			
Prentiss	5,123,312	10,099	10,247	10,099	507	1.80			
Quitman	3,192,125	6,810	6,884	6,310	506	1.87			
Rankin	7,113,933	14,273	14,228	14,273	498	1.60			
Scott	4,097,185	8,346	8,194	8,346	491	1.68			
Sharkey	11,736,758	21,576	23,474	21,576	544	2.14			
Simpson	4,371,160	9,187	8,742	9,187	476	1.85			
Smith	4,321,345	9,056	8,643	9,056	477	1.87			
Sunflower	9,004,805	17,686	18,009	17,487	514	2.03	199	240	1.00
Tallahatchie	11,757,425	24,510	23,515	22,096	502	1.73	2,414	275	1.00
Tate	8,592,244	17,197	17,184	17,197	500	1.69			
Tippah	3,742,428	7,434	7,485	7,383	506	2.01	51	197	1.00
Tishomingo	1,871,961	3,720	3,744	3,720	503	2.18			
Tunica	12,357,913	24,959	24,716	23,844	507	1.89	1,115	250	1.00
Union	4,601,970	10,099	9,204	8,209	503	1.76	1,890	250	1.50
Warren	11,600,899	23,856	23,201	23,816	487	1.88	40	240	1.20
Washington	34,586,059	64,551	69,132	64,507	538	1.85	44	228	1.18
Wayne	2,456,625	4,819	4,913	4,819	510	1.61			
Webster	4,482,750	9,515	8,966	9,515	471	1.87			
Wilkinson	8,253,820	17,610	16,508	17,610	469	1.64			
Winston	5,390,935	10,749	10,782	10,749	502	1.71			
Yalobusha	7,194,215	17,886	14,388	11,126	490	1.73	6,760	257	1.21
Yazoo	23,917,141	49,379	47,834	49,379	484	1.75			

TABLE 6.—QUANTITY OF COTTON GINNED, AVERAGE WEIGHT OF BALE, AVERAGE COST PER BALE FOR GINNING AND BALING (CROP OF 1899): BY STATES AND COUNTIES—Continued.

MISSOURI.

COUNTIES.	Total gross weight in pounds.	Commercial bales.	Equivalent 500-pound bales.	SQUARE BALES.			ROUND BALES.		
				Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.	Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.
The State	10,137,502	19,377	20,275	19,377	523	$2.66			
Butler	68,000	136	136	136	500	3.00			
Dunklin	6,830,105	12,985	13,660	12,985	526	2.26			
Howell	98,294	192	197	192	512	2.38			
Mississippi	6,000	12	12	12	500	3.00			
New Madrid	915,700	1,690	1,831	1,690	542	2.58			
Oregon	38,750	75	78	75	517	2.75			
Ozark	305,000	610	610	610	500	2.68			
Pemiscot	720,700	1,394	1,442	1,394	517	2.55			
Ripley	179,150	353	358	353	508	3.00			
Stoddard	696,625	1,387	1,393	1,387	502	2.44			
Taney	279,178	543	558	543	514	2.62			

NORTH CAROLINA.

COUNTIES.	Total gross weight in pounds.	Commercial bales.	Equivalent 500-pound bales.	Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.	Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.
The State	220,199,727	473,155	440,400	472,385	466	$1.58	770	253	$0.83
Alamance	294,980	736	590	736	401	1.77			
Alexander	377,680	912	755	880	420	1.84	32	240	1.00
Anson	9,332,888	19,139	18,666	19,139	488	1.35			
Beaufort	1,742,875	3,623	3,485	3,623	481	1.56			
Bertie	3,253,157	6,563	6,506	6,563	496	1.32			
Bladen	1,499,550	3,055	2,999	3,055	491	1.50			
Brunswick	126,500	253	253	253	500	1.65			
Burke	100,800	224	202	224	450	1.25			
Cabarrus	3,784,730	8,197	7,569	8,197	462	2.02			
Caldwell	3,200	8	6	8	400	2.25			
Camden	505,500	1,001	1,011	1,001	505	1.61			
Carteret	297,720	600	595	600	496	2.21			
Catawba	2,009,245	4,536	4,018	4,536	443	1.25			
Chatham	2,862,025	6,734	5,724	6,734	425	1.98			
Chowan	1,032,495	2,064	2,065	2,064	500	1.48			
Cleveland	5,654,580	12,350	11,309	12,350	458	1.36			
Columbus	1,252,514	2,483	2,505	2,483	504	1.44			
Craven	2,038,068	4,244	4,076	4,244	480	1.68			
Cumberland	3,985,094	8,601	7,970	8,601	463	1.81			
Currituck	296,500	578	593	578	513				
Davidson	647,515	1,366	1,295	1,366	474	1.90			
Davie	378,750	840	758	840	451	1.60			
Duplin	2,422,735	5,100	4,845	5,100	475	1.47			
Durham	572,390	1,320	1,145	1,320	434	1.56			
Edgecombe	6,849,509	15,626	13,699	15,626	438	1.25			
Forsyth	4,400	11	9	11	400	1.60			
Franklin	4,915,435	10,865	9,831	10,865	452	1.49			
Gaston	3,288,425	7,477	6,577	7,477	440	1.26			
Gates	735,100	1,481	1,470	1,481	496	1.87			
Granville	666,625	1,523	1,333	1,523	438	1.54			
Greene	3,641,740	7,500	7,283	7,500	486	1.43			
Guilford	137,975	549	276	549	251	1.41			
Halifax	7,293,693	15,888	14,587	15,460	465	1.46	428	256	.75
Harnett	2,807,010	6,265	5,614	6,265	448	1.66			
Hertford	1,986,465	3,993	3,973	3,983	498	1.49	10	250	
Hyde	67,250	139	135	139	484	2.04			
Iredell	5,063,715	11,180	10,127	11,180	453	1.43			
Johnston	8,917,507	19,834	17,835	19,834	450	1.34			
Jones	1,771,345	3,680	3,543	3,680	481	1.67			
Lenoir	3,577,541	7,153	7,155	7,153	500	1.47			
Lincoln	2,553,290	5,796	5,107	5,796	441	1.29			
Martin	1,801,500	3,642	3,603	3,642	495	1.31			
Mecklenburg	10,899,580	22,805	21,799	22,805	478	1.42			
Montgomery	2,521,820	5,503	5,044	5,503	458	1.44			
Moore	2,217,215	5,050	4,434	5,050	439	1.55			
Nash	4,397,270	10,174	8,795	10,174	432	1.33			
Northampton	5,675,184	11,570	11,350	11,570	491	1.53			
Onslow	1,148,995	2,333	2,298	2,333	492	1.64			
Orange	818,150	1,929	1,636	1,929	424	1.64			
Pamlico	633,250	1,274	1,267	1,274	497	1.88			
Pasquotank	546,750	1,088	1,094	1,088	503	1.88			
Pender	888,100	827	776	827	469	1.64			
Perquimans	1,625,250	3,223	3,251	3,223	504	1.43			
Pitt	6,978,885	14,474	13,948	14,474	482	1.49			
Polk	448,200	1,000	896	1,000	448	1.48			
Randolph	224,000	560	448	560	400	1.30			
Richmond	11,804,632	23,931	23,609	23,931	493	1.32			
Robeson	14,134,405	28,847	28,269	28,847	490	1.18			
Rowan	4,395,425	9,458	8,791	9,458	465	1.48			
Rutherford	2,349,110	5,271	4,698	5,271	446	1.31			
Sampson	4,440,698	9,521	8,881	9,521	466	1.50			
Stanly	2,683,825	6,105	5,368	5,805	449	1.50	300	250	.75
Tyrrell	353,275	720	707	720	491	1.58			
Union	11,475,125	25,316	22,950	25,316	453	1.46			
Vance	1,162,320	2,542	2,325	2,542	457	1.25			

TABLE 6.—QUANTITY OF COTTON GINNED, AVERAGE WEIGHT OF BALE, AVERAGE COST PER BALE FOR GINNING AND BALING (CROP OF 1899): BY STATES AND COUNTIES—Continued.

NORTH CAROLINA—Continued.

COUNTIES.	Total gross weight in pounds.	Commercial bales.	Equivalent 500-pound bales.	SQUARE BALES.			ROUND BALES.		
				Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.	Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.
Wake	9,790,375	22,616	19,581	22,616	433	1.36			
Warren	3,028,940	6,653	6,058	6,653	455	1.55			
Washington	918,325	1,861	1,837	1,861	493	1.30			
Wayne	9,285,282	19,695	18,571	19,695	471	1.42			
Wilson	5,302,985	11,660	10,606	11,660	455	1.30			
Yadkin	8,000	20	16	20	400	5.00			

OKLAHOMA.

The Territory	35,991,448	84,035	71,983	53,077	518	$2.09	30,958	274	$1.52
Blaine	279,500	1,118	559				1,118	250	1.25
Cleveland	3,913,110	8,958	7,826	6,462	500	2.00	2,496	276	1.30
Custer	688,410	1,898	1,377	765	500	2.00	1,133	270	1.35
Dewey	100,000	200	200	200	500	2.50			
Greer	2,115,772	4,239	4,231	4,239	499	2.26			
Kingfisher	679,500	1,368	1,359	1,368	497	2.17			
Lincoln	6,663,250	15,688	13,326	10,028	514	1.83	5,660	267	1.40
Logan	2,643,070	6,132	5,286	4,192	502	2.14	1,940	277	2.05
Noble	500,000	1,000	1,000	1,000	500	2.25			
Oklahoma	2,106,274	4,166	4,213	4,166	506	2.13			
Pawnee	1,065,327	1,971	2,131	1,971	541	2.00			
Payne	2,404,950	5,855	4,810	3,555	515	1.86	2,300	250	1.25
Pottawatomie	11,419,355	28,662	22,839	12,351	552	2.08	16,311	282	2.04
Washita	1,360,860	2,698	2,722	2,698	504	2.01			
Woods	52,070	82	104	82	635				

SOUTH CAROLINA.

COUNTIES.	Total gross weight in pounds.	Commercial bales.	Equivalent 500-pound bales.	UPLAND CROP.						SEA-ISLAND CROP.		
				Square bales.			Round bales.			Number of bales.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.
				Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.	Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.			
The State	418,552,594	876,545	837,105	864,714	491	$1.29	3,602	257	$1.00	8,229	347	$7.34
Abbeville	13,245,030	28,047	26,490	28,047	472	1.04						
Aiken	12,522,004	26,889	25,044	26,889	466	1.16						
Anderson	19,227,846	39,615	38,456	39,615	485	1.52						
Bamberg	8,908,681	17,704	17,817	17,614	505	1.18	90	250	1.25			
Barnwell	19,024,124	38,100	38,048	36,962	507	1.23	1,138	245	1.06			
Beaufort	1,651,930	3,903	3,304	2,260	468	1.84				1,648	362	6.96
Berkeley	5,943,969	13,188	11,888	11,991	467	1.35				1,197	346	7.06
Charleston	1,853,429	5,389	3,707							5,389	344	8.00
Cherokee	4,850,150	10,369	9,700	10,369	468	1.59						
Chester	9,566,705	21,045	19,133	20,331	462	1.03	714	250	.54			
Chesterfield	6,959,330	14,193	13,919	14,193	490	1.86						
Clarendon	11,255,790	21,865	22,512	21,865	515	1.02						
Colleton	4,049,726	8,043	8,099	8,043	495	1.37						
Darlington	14,781,117	29,552	29,462	29,552	498	1.13						
Dorchester	3,117,000	6,569	6,234	6,569	475	1.21						
Edgefield	9,652,189	20,125	19,304	20,125	479	1.18						
Fairfield	10,806,520	22,212	21,613	22,212	487	1.11						
Florence	9,495,698	19,137	18,991	19,137	496	1.35						
Georgetown	647,860	1,305	1,296	1,305	496	1.62						
Greenville	12,322,345	26,809	24,645	26,809	460	1.59						
Greenwood	13,498,560	28,834	26,987	28,820	468	1.09	14	232	.50			
Hampton	7,514,137	14,755	15,028	14,750	509	1.39	5	250	1.00			
Horry	2,596,855	5,231	5,194	5,231	496	1.55						
Kershaw	8,728,860	17,727	17,458	17,727	492	1.10						
Lancaster	9,288,285	20,499	18,576	20,499	453	1.32						
Laurens	17,943,772	39,993	35,888	38,780	454	1.26	1,218	275	1.54			
Lexington	6,511,844	14,352	13,024	14,352	454	1.09						
Marion	13,842,673	28,939	27,685	28,939	478	1.05						
Marlboro	19,233,482	39,194	38,467	39,194	491	1.06						
Newberry	12,120,108	26,245	24,240	25,845	465	1.04	400	250	1.00			
Oconee	4,985,885	10,695	9,972	10,695	466	1.58						
Orangeburg	31,035,667	65,149	62,071	65,134	476	1.02	15	250	.50			
Pickens	5,159,850	11,323	10,320	11,323	456	1.66						
Richland	6,302,690	12,573	12,605	12,573	501	1.43						
Saluda	6,748,327	14,643	13,497	14,643	461	1.25						
Spartanburg	16,873,837	36,739	33,747	36,739	459	1.62						
Sumter	25,702,142	50,670	51,404	50,670	507	1.05						
Union	8,525,666	18,258	17,052	18,258	467	1.23						
Williamsburg	10,159,085	20,630	20,318	20,630	492	1.58						
York	11,955,026	26,037	23,910	26,024	459	1.09	13	240	1.62			

TABLE 6.—QUANTITY OF COTTON GINNED, AVERAGE WEIGHT OF BALE, AVERAGE COST PER BALE FOR GINNING AND BALING (CROP OF 1899): BY STATES AND COUNTIES—Continued.

TENNESSEE.

COUNTIES.	Total gross weight in pounds.	Commercial bales.	Equivalent 500-pound bales.	SQUARE BALES.			ROUND BALES.		
				Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.	Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.
The State	105,820,457	215,175	211,641	199,926	510	$2.63	15,249	254	$1.41
Bedford	22,925	49	46	49	468	2.25			
Benton	168,000	333	336	333	505	2.25			
Bledsoe	2,000	8	4				8	250	2.25
Bradley	125,250	284	251	284	441	1.48			
Cannon	12,000	24	24	24	500	1.56			
Carroll	3,107,670	6,881	6,215	5,231	513	2.27	1,650	256	1.30
Chester	1,885,350	3,774	3,771	3,774	500	2.28			
Crockett	2,974,459	5,779	5,949	5,779	515	2.34			
Decatur	588,130	1,208	1,176	1,208	487	2.43			
Dekalb	2,000	4	4	4	500	5.00			
Dickson	3,000	6	6	6	500	5.00			
Dyer	4,319,400	11,055	8,639	5,539	523	2.32	5,516	257	1.00
Fayette	10,931,820	21,602	21,864	21,602	507	2.11			
Gibson	3,773,023	7,252	7,546	7,252	520	2.33			
Giles	2,892,280	5,779	5,785	5,779	501	2.29			
Hamilton	8,500	17	17	17	500				
Hardeman	5,350,027	10,795	10,700	10,595	500	2.09	200	250	1.60
Hardin	2,324,160	4,780	4,648	4,389	510	2.30	341	250	1.25
Haywood	8,548,786	18,844	17,098	15,344	498	2.18	3,500	259	1.28
Henderson	2,361,737	4,706	4,723	4,706	502	2.28			
Henry	384,150	658	668	658	508	2.36			
Hickman	18,000	36	36	36	500	3.63			
Jackson	1,000	2	2	2	500	6.25			
James	2,500	5	5	5	500				
Lake	7,328,585	13,530	14,657	13,530	542	2.25			
Lauderdale	6,002,239	13,079	12,004	10,786	505	2.24	2,293	240	1.32
Lawrence	185,500	371	371	371	500	3.13			
Lincoln	1,099,400	2,196	2,199	2,196	501	1.89			
McMinn	212,300	433	425	433	490	1.85			
McNairy	3,562,279	6,997	7,125	6,997	509	2.38			
Madison	6,240,015	12,095	12,480	12,095	516	2.28			
Marshall	147,500	295	295	295	500	2.00			
Maury	116,500	238	233	233	500	2.00			
Meigs	1,500	3	3	3	500	5.00			
Monroe	1,500	3	3	3	500	2.00			
Obion	433,500	867	867	867	500	2.25			
Overton	1,000	2	2	2	500	6.25			
Perry	98,750	215	198	215	459	2.75			
Polk	355,100	778	710	778	456	1.65			
Rutherford	1,596,565	3,158	3,193	3,158	506	2.07			
Sevier	3,000	6	6	6	500	1.50			
Shelby	17,727,049	34,693	35,454	34,693	511	2.16			
Tipton	9,881,188	20,327	19,762	18,586	508	2.08	1,741	250	1.25
Warren	50,000	100	100	100	500	1.50			
Wayne	175,000	350	350	350	500	1.75			
Weakley	824,220	1,573	1,648	1,573	524	2.38			
White	4,000	8	8	8	500	5.00			
Williamson	17,600	32	35	32	550	3.25			

TEXAS.

COUNTIES.	Total gross weight in pounds.	Commercial bales.	Equivalent 500-pound bales.	Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.	Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.
The State	1,304,508,782	2,658,555	2,609,018	2,392,094	517	$2.19	266,461	256	$1.19
Anderson	8,412,890	16,370	16,826	16,370	514	1.95			
Angelina	1,919,100	3,967	3,838	3,967	484	2.01			
Archer	70,587	135	141	135	525	2.50			
Atascosa	1,999,560	3,875	3,999	3,875	516	2.27			
Austin	15,871,849	29,932	31,744	28,547	543	1.85	1,385	275	1.10
Bandera	602,885	1,168	1,206	1,168	516	2.55			
Bastrop	20,130,318	41,048	40,261	35,409	526	2.00	5,639	268	1.13
Baylor	232,750	450	466	450	517	2.00			
Bee	2,391,928	4,560	4,784	4,560	525	2.28			
Bell	27,876,771	53,152	55,754	50,357	535	2.03	2,795	336	2.13
Bexar	4,442,758	8,821	8,886	7,975	529	2.31	846	268	1.60
Blanco	1,975,445	3,783	3,951	3,783	522	2.34			
Bosque	5,868,113	11,566	11,736	11,566	507	2.24			
Bowie	8,413,188	16,665	16,826	16,665	505	2.14			
Brazoria	3,444,030	6,720	6,888	6,720	513	1.91			
Brazos	11,084,500	21,272	22,069	21,272	519	1.93			
Brown	6,309,595	12,340	12,619	12,340	511	2.10			
Burleson	12,597,154	28,372	25,194	19,845	547	2.04	8,527	251	1.10
Burnet	3,894,000	7,587	7,788	7,587	513	2.10			
Caldwell	28,736,592	50,807	47,473	39,779	521	1.95	11,028	262	1.30
Calhoun	738,668	1,402	1,477	1,402	527	2.29			
Callahan	3,858,000	7,588	7,716	7,588	508	2.39			
Camp	3,803,420	7,612	7,607	7,612	500	1.98			
Cass	7,671,560	15,876	15,343	15,376	499	2.07			
Cherokee	7,649,790	15,176	15,800	15,176	504	1.88			

TABLE 6.—QUANTITY OF COTTON GINNED, AVERAGE WEIGHT OF BALE, AVERAGE COST PER BALE FOR GINNING AND BALING (CROP OF 1899): BY STATES AND COUNTIES—Continued.

TEXAS—Continued.

COUNTIES.	Total gross weight in pounds.	Commercial bales.	Equivalent 500-pound bales.	SQUARE BALES.			ROUND BALES.		
				Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.	Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.
Childress	127,500	255	255	255	500	2.75			
Clay	1,673,000	3,346	3,346	3,346	500	2.14			
Coke	672,385	1,318	1,345	1,318	510	2.75			
Coleman	4,044,400	7,773	8,089	7,773	520	2.14			
Collin	24,588,283	53,330	49,077	42,971	510	1.87	10,359	253	1.80
Colorado	15,461,690	29,795	30,928	28,155	533	1.94	1,640	275	1.00
Comal	5,998,835	11,304	11,997	11,304	531	2.33			
Comanche	11,898,305	23,196	23,797	23,196	512	1.79			
Concho	21,000	40	42	40	525	2.50			
Cooke	5,952,279	11,815	11,905	11,515	510	1.96	300	275	1.00
Coryell	10,351,201	22,557	20,702	18,157	510	2.23	4,400	246	1.85
Cottle	86,625	165	178	165	525	3.00			
Dallas	20,505,885	42,512	41,012	39,124	504	2.27	3,388	235	
Delta	12,352,430	23,940	24,705	23,756	518	2.11	184	250	1.00
Denton	10,190,617	24,824	20,381	14,947	510	1.80	9,877	259	1.00
Dewitt	11,720,081	28,906	23,440	17,307	503	2.37	11,599	259	1.08
Duval	426,588	819	853	819	521	3.33			
Eastland	7,805,520	16,340	15,611	14,600	502	2.11	1,740	275	1.06
Edwards	2,000	4	4	4	500	3.00			
Ellis	43,319,442	93,685	86,639	71,774	526	2.36	21,911	255	1.30
Erath	10,605,254	20,620	21,211	20,620	514	2.39			
Falls	24,207,931	52,196	48,416	39,592	530	2.01	12,604	251	1.25
Fannin	29,900,903	61,063	59,802	54,190	519	1.79	6,873	260	1.38
Fayette	36,619,188	71,530	73,238	66,115	532	2.02	5,415	260	1.00
Fisher	372,500	745	745	745	500	2.42			
Foard	204,000	400	408	400	510	2.13			
Fort Bend	4,128,070	9,057	8,256	7,227	508	2.14	1,830	250	1.00
Franklin	4,329,610	8,527	8,659	8,527	508	1.99			
Freestone	10,069,100	19,705	20,138	19,705	511	2.11			
Frio	1,294,946	2,480	2,590	2,480	522	2.25			
Galveston	380,326	794	761	794	479				
Gillespie	3,191,405	6,076	6,388	6,076	525	2.36			
Goliad	3,717,629	7,192	7,485	7,192	517	2.22			
Gonzales	22,065,259	42,229	44,131	42,229	523	2.07			
Grayson	20,435,628	45,281	40,871	35,911	503	1.90	9,370	253	1.08
Gregg	3,097,005	6,234	6,194	6,234	481	1.86			
Grimes	13,270,689	25,695	26,541	25,695	516	1.86			
Guadalupe	14,056,829	29,429	28,114	23,874	522	2.06	5,555	289	1.30
Hall	56,500	118	118	113	500	2.50			
Hamilton	7,535,320	15,268	15,070	13,870	516	2.06	1,398	270	1.00
Hardeman	667,500	1,335	1,335	1,335	500	2.50			
Hardin	41,300	89	83	89	464	2.38			
Harris	2,929,601	5,532	5,859	5,532	530	2.24			
Harrison	9,831,539	19,611	19,663	19,611	501	1.74			
Haskell	415,000	830	830	830	500	2.48			
Hays	11,868,537	24,161	23,737	20,974	528	1.94	3,187	250	1.00
Hemphill	20,000	40	40	40	500	3.00			
Henderson	8,046,275	15,894	16,093	15,894	506	2.03			
Hill	29,535,133	62,493	59,070	49,753	530	2.28	12,740	250	1.12
Hood	3,970,480	8,352	7,941	7,496	499	2.36	856	205	1.30
Hopkins	12,854,945	24,567	24,710	24,567	503	2.18			
Houston	13,077,105	25,625	26,154	25,625	510	1.80			
Howard	2,500	5	5	5	500	2.25			
Hunt	25,158,741	52,987	50,317	46,754	513	1.97	6,233	247	1.00
Jack	1,586,025	3,161	3,172	3,161	502	2.09			
Jackson	1,602,715	3,195	3,325	3,195	520	2.39			
Jasper	910,878	1,884	1,822	1,884	483	2.00			
Johnson	13,417,246	26,844	26,834	25,068	518	2.15	1,776	245	
Jones	2,200,500	4,401	4,401	4,401	500	2.13			
Karnes	6,257,487	12,314	12,515	12,314	508	2.25			
Kaufman	26,714,506	55,273	53,429	48,034	518	2.26	7,239	252	1.13
Kendall	938,800	1,856	1,878	1,856	506	2.21			
Kent	94,500	189	189	189	500	2.50			
Kerr	394,150	778	789	778	507	2.25			
Kimble	317,000	634	634	634	500	2.33			
Knox	170,500	341	341	341	500	2.25			
Lamar	24,596,318	49,221	49,193	46,969	512	2.08	2,252	234	1.00
Lampasas	2,280,923	4,484	4,562	4,484	509	2.37			
Lavaca	21,241,931	39,074	42,484	38,982	544	1.96	92	280	1.00
Lee	10,742,920	22,804	21,486	17,399	536	2.16	5,405	263	1.20
Leon	10,888,860	21,369	21,778	21,369	503	2.08			
Liberty	1,688,000	3,475	3,376	3,475	486	2.25			
Limestone	24,894,880	49,539	49,790	48,024	511	2.07	1,515	250	1.00
Live Oak	212,000	424	424	424	500	2.25			
Llano	1,261,984	2,512	2,524	2,512	502	2.25			
McCulloch	1,552,120	3,100	3,104	3,100	501	2.17			
McLennan	32,981,947	70,536	65,964	53,824	530	2.28	16,712	266	1.25
Madison	5,948,125	11,636	11,896	11,636	511	1.94			
Marion	1,939,900	3,891	3,880	3,891	499	2.16			
Mason	2,128,605	4,164	4,257	4,164	511	2.40			

TABLE **6.**—QUANTITY OF COTTON GINNED, AVERAGE WEIGHT OF BALE, AVERAGE COST PER BALE FOR GINNING AND BALING (CROP OF 1899): BY STATES AND COUNTIES—Continued.

TEXAS—Continued.

COUNTIES.	Total gross weight in pounds.	Commercial bales.	Equivalent 500-pound bales.	SQUARE BALES.			ROUND BALES.		
				Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.	Number.	Average gross weight of bale (pounds).	Average cost per bale for ginning and baling.
Matagorda	2,187,334	4,289	4,375	4,289	510	2.33			
Medina	2,097,365	4,058	4,195	4,058	517	2.32			
Menard	344,500	660	689	660	522	2.08			
Milam	33,876,697	68,927	67,753	59,567	526	2.14	9,360	271	.95
Mills	2,439,630	4,706	4,879	4,706	518	2.34			
Mitchell	458,000	906	916	906	505	2.33			
Montague	7,532,140	16,767	15,064	13,384	397	2.06	3,383	262	1.20
Montgomery	5,195,325	9,980	10,272	9,980	515	1.87			
Morris	4,672,780	9,514	9,345	9,514	491	2.09			
Nacogdoches	9,520,591	19,059	19,041	19,059	500	2.14			
Navarro	32,738,934	66,460	65,478	62,192	510	2.19	4,268	243	1.25
Newton	659,655	1,387	1,319	1,387	476	2.01			
Nolan	662,160	1,696	1,324	876	513	2.57	820	260	1.25
Nueces	251,550	489	503	489	514	3.37			
Orange	18,150	33	36	33	550	2.50			
Palo Pinto	2,464,023	5,239	4,928	4,682	498	2.20	557	239	1.00
Panola	6,963,465	13,927	13,927	13,927	500	1.80			
Parker	8,716,555	17,382	17,433	17,382	501	1.96			
Pecos	36,400	70	73	70	520	2.10			
Polk	4,227,500	8,454	8,455	8,454	500	2.17			
Rains	2,787,500	5,554	5,575	5,554	502	1.99			
Red River	14,291,949	28,173	28,584	27,836	510	2.27	337	267	1.25
Refugio	201,000	402	402	402	500	2.55			
Robertson	16,196,987	34,436	32,394	29,132	509	2.11	5,304	257	1.13
Rockwall	6,026,700	11,848	12,053	11,848	509	2.10			
Runnels	1,549,520	3,069	3,099	3,069	505	2.10			
Rusk	10,645,303	21,236	21,291	21,236	501	1.92			
Sabine	2,181,120	4,388	4,262	4,388	486	2.04			
San Augustine	3,093,300	6,262	6,187	6,262	494	1.98			
San Jacinto	4,412,972	8,844	8,826	8,544	507	2.16	300	270	1.50
San Patricio	417,720	830	835	830	508	2.69			
San Saba	1,660,089	3,279	3,320	3,279	506	2.19			
Scurry	468,000	900	936	900	520	2.25			
Shackelford	403,500	807	807	807	500	2.56			
Shelby	7,303,091	14,697	14,606	14,697	497	1.98			
Smith	13,448,830	26,787	26,888	26,787	502	1.86			
Somervell	705,780	1,376	1,411	1,375	513	2.30			
Stephens	1,937,590	3,872	3,875	3,872	500	2.06			
Stonewall	350,000	700	700	700	500	2.50			
Tarrant	8,095,210	17,019	16,190	14,459	512	1.81	2,560	268	1.13
Taylor	3,260,010	6,462	6,520	6,462	504	2.04			
Throckmorton	175,875	335	352	335	525	2.75			
Titus	5,360,150	10,740	10,720	10,740	499	1.99			
Tom Green	42,500	85	85	85	500	2.50			
Travis	30,039,144	57,486	60,078	56,263	528	2.02	1,223	255	1.38
Trinity	3,406,250	6,776	6,812	6,776	503	2.05			
Tyler	2,290,880	4,672	4,581	4,672	490	1.91			
Upshur	6,715,475	13,512	13,431	13,512	497	1.90			
Uvalde	264,130	515	528	515	513	2.50			
Van Zandt	13,213,915	26,266	26,428	26,266	503	2.07			
Victoria	5,977,830	11,451	11,956	11,451	522	2.17			
Walker	4,857,145	9,277	9,714	9,277	521	1.87			
Waller	4,595,690	8,845	9,191	8,845	520	2.12			
Ward	468,950	924	928	924	502	3.00			
Washington	24,895,553	47,324	48,791	46,452	521	1.85	872	264	1.00
Wharton	13,691,380	41,036	27,383	12,479	535	1.88	28,557	246	1.00
Wichita	156,500	313	313	313	500	2.75			
Wilbarger	737,675	1,450	1,475	1,450	509	2.25			
Williamson	44,618,570	88,537	89,237	77,752	538	2.00	10,785	259	1.38
Wilson	4,260,795	8,155	8,522	8,155	535	2.34			
Wise	8,777,855	18,119	17,556	16,654	503	2.33	1,465	266	1.50
Wood	7,995,930	15,888	15,992	15,888	503	1.67			
Young	1,515,300	2,984	3,031	2,984	508	2.15			

VIRGINIA.

The State	4,310,840	9,239	8,622	9,239	467	$2.30			
Brunswick	1,475,725	3,190	2,951	3,190	463	2.07			
Greenesville	915,890	1,902	1,831	1,902	481	2.15			
Mecklenburg	114,750	250	230	250	459	2.08			
Nansemond	110,000	230	220	230	478	2.08			
Prince George	33,200	78	67	78	426	3.25			
Southampton	1,089,575	2,220	2,079	2,220	468	2.18			
Sussex	622,200	1,369	1,244	1,369	454	2.32			

CENSUS BULLETIN.

MANUFACTURE OF BEET SUGAR.

Hon. WILLIAM R. MERRIAM,
    Director of the Census.

SIR :

I transmit herewith a report on the manufacture of beet sugar in the United States, prepared under my direction by Dr. Guilford L. Spencer, of the Department of Agriculture, while acting in the capacity of expert special agent for the division of manufactures of the Census Office.

In the preparation of this report, Dr. Spencer personally visited every beet sugar factory in operation in the United States, and his report is an admirable statement of the development and present condition of this new industry. In view of the great interest in the subject of the manufacture of sugar from the beet, Dr. Spencer was instructed to prepare a report more in detail than usual.

From this report, it appears that there were 31 beet sugar factories in the United States in the census year, distributed among 10 states and 1 territory, representing an invested capital of $20,958,519, and producing 71,427 long tons of beet sugar, valued at $7,323,857. This is a small product, in view of the amount of capital invested,

(C P 23 M)

due largely to the fact that the census year was a disastrous one for the beet sugar crop.

The existence of 37 factories is reported at the close of the census year, having a nominal daily capacity of 22,310 short tons of beets, and capable of manufacturing 240,000 short tons of sugar annually.

The decade ending with the Twelfth Census covers the period of greatest activity in this industry, and may almost be said to have witnessed its birth as a successful manufacturing enterprise.

As the result of his investigations, the special agent reports that the beet sugar manufacture may now be regarded as a commercial success in the United States.

Very respectfully,

Chief Statistician for Manufactures.

MANUFACTURE OF BEET SUGAR.

By GUILFORD L. SPENCER, *Expert Special Agent.*

Reports were received from 30 establishments engaged in the manufacture of beet sugar during the census year ending May 31, 1900, and also from 1 factory equipped for the industry, which was idle. While these factories are distributed in 10 states and 1 territory, it is impossible to publish separate totals, except for the states of California and Michigan, without disclosing the operations of individual establishments.

TABLE 1.—BEET SUGAR INDUSTRY.

STATES AND TERRITORIES.	Number of establishments.	Capital invested.	Number of salaried officers.	Salaries paid.	Number of superintendents, managers, clerks, and salesmen.	Salar'es paid.	Average number of wage earners.	Wages paid.	Miscellaneous expenses.	Cost of materials used.	Value of products at works.
The United States	[1]31	$20,958,519	48	$114,300	302	$242,375	1,970	$1,092,207	$451,351	$4,803,796	$7,323,857
California	[1]8	10,139,780	11	39,900	111	77,980	909	480,072	169,449	2,243,580	3,499,996
Michigan	9	4,013,743	20	33,400	98	68,293	473	216,704	77,262	1,109,903	1,602,266
All other	14	6,804,996	17	41,000	93	96,102	588	395,431	204,640	1,450,313	2,221,595

[1] Includes one idle establishment.

The total of "all other" states and territories, shown in this and subsequent tables, includes establishments distributed as follows: Colorado, 1; Illinois, 1; Minnesota, 1; Nebraska, 3; New Mexico, 1; New York, 2; Oregon, 1; Utah, 3; Washington, 1. The statistics for these factories are grouped in order to avoid disclosing the operations of individual factories.

Of the 31 factories, 29 were controlled by incorporated companies, and 2 by individuals.

TABLE 2.—CAPITAL INVESTED.

STATES AND TERRITORIES.	Total.	Land.	Buildings.	Machinery, tools, and implements.	Cash and sundries.
United States	[1]$20,958,519	$682,705	$3,891,371	$14,420,325	$1,964,118
California	[1]10,139,780	349,969	1,825,153	7,309,447	655,211
Michigan	4,013,743	143,036	925,980	2,414,349	530,378
All other	6,804,996	189,700	1,140,238	4,696,529	778,529

[1] Includes one idle establishment.

The total capital invested in beet sugar manufacture in 1899, the year's work reported in the present bulletin, was $20,958,519, of which $682,705 is reported for land, $3,891,371 for buildings, $14,420,325 for machinery, and $1,964,118 for cash on hand, bills receivable, unsettled ledger accounts, raw materials, stock in process of manufacture, finished products on hand, and other sundries. The item "land" is not intended to include farm lands, but in view of the considerable area required by the factories for storage, disposal of waste water, etc., and to provide for the future growth of the establishments, it has not been practicable to eliminate a small area now utilized for agricultural purposes. In many instances large tracts of land are owned by the companies and devoted to agriculture.

At the census of 1890 reports were received from only 2 beet sugar factories, and therefore, to avoid disclosing the operations of individual establishments, the statistics for the industry were not separately reported, but the value of the product is estimated by the writer to have been $340,000. No estimate of the capital invested can be made.

In 1879 4 factories were in operation and were reported in the Tenth Census. The total capital invested was $365,000, and the value of the products was $282,572.[1] Few single factories reported in the Twelfth Census have so small an investment as the combined capital of the 4 in operation in 1879.

TABLE 3.—NOMINAL DAILY FACTORY CAPACITY, AND CAPITAL INVESTED PER TON OF BEETS.

STATES AND TERRITORIES.	Number of establishments.	Total capacity in tons of beets per day.	Average daily capacity per factory.	CAPITAL INVESTED PER TON OF DAILY CAPACITY.				
				Total capital.	Land.	Buildings.	Machinery and tools.	Cash and sundries.
United States	[1]31	[2]19,110 *Tons.*	616 *Tons.*	$1,097	$36	$204	$754	$103
California	[1]8	9,900	1,238	1,024	35	185	738	66
Michigan	9	4,100	456	979	35	226	589	129
All other	14	[2]5,110	364	1,334	37	224	921	152

[1] Includes one idle establishment.
[2] Includes one auxiliary factory at which no sugar is manufactured, but juice is extracted from the beets and pumped to a central factory for treatment.

In estimating the capital required in the organization of new companies for the manufacture of beet sugar, an assumed average capital per ton of beets, daily factory

[1] See Tenth Census, Manufactures, pp. 94, 101, 127.

capacity, is frequently used as a factor. It is for this reason that these figures are included in table 3.

There are many conditions which modify the average capital invested per ton of nominal capacity. Among these are the following: (1) the cost of a large factory is less per ton of capacity than that of a small one; (2) freight charges for the transportation of machinery vary with the distance of the site of the factory from the foundry in which the machinery is made; (3) the cost is necessarily greater in the case of those factories which are equipped for the recovery of sugar from molasses, from which no more sugar can be profitably extracted by the process of crystallization; (4) many factories have machinery of relatively small capacity so disposed in a large building as to permit of increasing the capacity of the plant without additional expense for buildings.

The Michigan factories were built within two years and under similar conditions in the iron market; with one exception, they are of American construction.

TABLE 4.—NUMBER AND NOMINAL DAILY CAPACITY OF ESTABLISHMENTS IN 1900, 1899, AND 1898.

STATES AND TERRITORIES.	1900.		1899.		1898.	
	Number of establishments.	Nominal daily capacity in tons of beets.	Number of establishments.	Nominal daily capacity in tons of beets.	Number of establishments.	Nominal daily capacity in tons of beets.
The United States	[1] 37	22,310	[2] 31	19,110	15	7,550
California	8	9,900	[2] 8	9,900	5	4,400
Colorado	3	1,850	1	350		
Illinois	1	700	1	700		
Michigan	10	4,450	9	4,100	1	400
Minnesota	1	400	1	400	1	400
Nebraska	3	1,260	3	1,260	2	660
New Mexico	1	200	1	200	1	200
New York	3	1,000	2	400	2	400
Ohio	1	400				
Oregon	1	350	1	350	1	350
Utah	4	[3] 1,450	3	[4] 1,100	2	750
Washington	1	350	1	350		

[1] Includes two idle establishments.
[2] Includes one idle establishment.
[3] Includes two auxiliary factories.
[4] Includes one auxiliary factory at which no sugar is manufactured, but juice is extracted from the beets and pumped to a central factory for treatment.

TABLE 5.—EMPLOYEES AND WAGES.

STATES AND TERRITORIES.	Number of salaried officers.	Salaries paid.	NUMBER OF SUPERINTENDENTS, MANAGERS, CLERKS, AND SALESMEN.				AVERAGE NUMBER OF WAGE EARNERS AND TOTAL WAGES PAID.					
			Men.	Salaries paid.	Women.	Salaries paid.	Men, 16 years and over.	Wages paid.	Women, 16 years and over.	Wages paid.	Children, under 16 years.	Wages paid.
The United States	48	$114,300	287	$235,657	15	$6,718	1,951	$1,085,218	4	$1,685	15	$5,304
California	11	39,900	107	75,637	4	2,343	903	477,306	3	1,565	3	1,201
Michigan	20	33,400	90	65,706	8	2,587	471	215,834	1	120	1	750
All other	17	41,000	90	94,314	8	1,788	577	392,078			11	3,353

In beet sugar factories the length of the manufacturing year is dependent upon agricultural conditions. The factories are operated only a part of the calendar year, but after the close of the manufacturing season, many of the employees, especially foremen and skilled laborers, are engaged for a few months in making repairs and improvements. The majority return to work on farms or in other industries. The manufacture begins at a time when there is comparatively little demand for farm labor, except in harvesting sugar beets, and thus, in a measure, it fills out the year for the farm laborer. When comparing the average earnings with the averages reported for other industries, these facts should be considered.

TABLE 6.—COST OF MATERIALS USED.

STATES AND TERRITORIES.	Total.	Sugar beets.	Fuel.	Mill supplies.	Freight paid.	All other materials.
The United States	$4,803,796	$3,485,320	$453,036	$18,933	$369,070	[1] $477,437
California	2,243,580	1,585,958	253,185	10,011	205,286	189,145
Michigan	1,109,903	902,592	90,969	2,840	26,839	86,663
All other	1,450,313	996,775	108,882	6,082	136,945	201,629

[1] Includes $51,000, cost of sugar beet juice.

The small value of the products, $7,323,857, is due to an enormous shortage in the crop of sugar beets for the year ending May 31, 1900. In all branches of sugar manufacture the years of plentiful harvests must carry the industry over the years of failure, and yield a return that will make the average earnings justify the investments.

Of the 16 new factories, 15 of which were operated for the first time in 1899, several were not completed when the harvest was ready, and in some instances there were serious losses from deterioration of the beets. As a whole, there was an apparent small profit earned by the factories, in certain cases handsome dividends were paid, in others there were heavy losses, and in many instances the factories little more than paid expenses.

In addition to the factories operated in the census year, 6, including 1 auxiliary factory at which beet juice was extracted but no sugar manufactured, were under construction for the crop of 1900. A report of these new factories not being required, the figures given are only approximate. The capital invested in new factories is $3,800,000, making a total of $24,758,519 for the new industry in the year 1900.

Of the 30 factories in operation during the census year, 10 reported the total value of their products for the preceding business year as aggregating $1,838,681. The same factories reported a product valued at $2,426,522 for the census year.

The acreage actually contracted for in 1899 was 135,305, as shown in table 7. Because of the shortage of the crop in various parts of the country, particularly in California, beets were actually harvested from but 105,175 acres, and

the average yield from this land, 8 tons (of 2,000 pounds) per acre, was very unsatisfactory. The average yield of beets for Germany[1] for the crops of 1896–97, 1897–98, and 1898–99, respectively, was 14, 14, and 13 tons per acre.

The acreage seeded for the crop of 1900, including that for 6 new factories having a total nominal daily capacity of 3,200 tons of beets, was only 123,400, whereas approximately 200,000 acres would have been required fully to supply the demand of the 36 factories in operation during that year.

TABLE **7.**—ACREAGE IN BEETS, AND QUANTITIES AND COST OF BEETS USED, BY STATES.

STATES AND TERRITORIES.	TOTAL.			BEETS GROWN BY FACTORY PROPRIETORS.			BEETS GROWN BY TENANTS OF FACTORY PROPRIETORS.			BEETS GROWN BY CONTRACT BY OTHERS THAN TENANTS OF FACTORY PROPRIETORS.			AVERAGE QUALITY OF BEETS.	
	Acres in beets.	Tons of beets (2,000 pounds).	Cost.	Acres in beets.	Tons of beets (2,000 pounds).	Cost.	Acres in beets.	Tons of beets (2,000 pounds).	Cost.	Acres in beets.	Tons of beets (2,000 pounds).	Cost.	Per cent of sucrose.	Coefficient of purity.
The United States	135,305	794,658	$3,485,320	10,239	23,241	$93,898	13,074	95,071	$430,479	111,992	676,344	$2,960,943	14.5	81.2
California	63,878	354,942	1,585,953	7,526	10,645	42,718	12,762	93,294	422,704	43,590	251,003	1,120,537	15.9	81.2
Michigan	37,034	205,925	902,592	28	218	511				37,006	205,706	902,081	18.3	82.9
All other	34,393	233,791	996,775	2,685	12,378	50,669	812	1,777	7,775	31,396	219,635	938,325	13.6	79.7

The average price paid per ton of 2,000 pounds of beets was as follows:

The United States _____ $4.39
    California _____ $4.47
    Michigan _____ 4.38
    All other states and territories _____ 4.26

In California 4 factories purchased beets at a fixed price, and 4 paid a price depending upon the results of the analysis. In Michigan 9 factories purchased on a basis of the analysis, paying $4 per ton for beets containing 12 per cent of sugar, with $3⅛ cents increase for each one-tenth per cent above 12, and a corresponding decrease for each one-tenth per cent below 12, as provided by the state bounty law, recently declared unconstitutional.

Of the factories in other parts of the United States, 8 purchased on a basis of the analysis of the beets, and 6 paid a fixed price. The New York factories paid $5 per ton of beets, irrespective of their sugar contents, in accordance with the state bounty law.

TABLE **8.**—QUANTITIES OF MATERIALS USED.

STATES AND TERRITORIES.	Sugar beets.	Limestone.	Coke.	Sulphur.	Barrels.	Sacks.	FUEL.		
							Coal.	Oil.	Wood.
	[1] *Tons.*	[1] *Tons.*	[1] *Tons.*	[1] *Tons.*			*Tons.*	*Gallons.*	*Cords.*
The United States	794,658	64,805	7,519	149	90,985	1,342,649	109,235	7,017,079	3,459
California	354,942	32,403	3,274	51	1,301	891,924	8,558	7,004,415	
Michigan	205,925	15,403	2,079	40	79,468	76,796	47,979		
All other	233,791	16,999	2,166	58	10,216	373,929	52,698	12,664	3,459

[1] Tons of 2,000 pounds each.

It is customary in compiling sugar statistics to report the miscellaneous materials used in percentage terms of the weight of beets worked, or the cost of such materials is reduced to a basis of one ton of raw material. The general totals furnished in reply to the census inquiries can not be used for the purpose of making such calculations.

It is apparent, however, from a study of the schedules, that the fuel consumption was large. Owing to the use of other fuels than coal in a number of factories, the consumption of coal per 100 pounds of beets can be figured only for Michigan factories, where it was 23 pounds. This proportion is nearly one and one-half times as great as in good European practice. In considering these figures, however, it should be noted that 8 of the 9 factories in Michigan were operated for the first time during the season of 1899–1900 and that there was doubtless a large coal consumption in testing plants, and during delays incident to adjusting new machinery. It should be stated further that the grade of coal used by these factories was inferior to that with which the European records have been made. The average cost of coal at the factories in Michigan was $1.90 per ton, or an average expense of 44 cents per ton of beets worked. Several of the Michigan factories used less than 16 pounds of coal per 100 pounds of beets.

The nominal horsepower of the boilers in American beet sugar factories is approximately 58,000.

[1] "Zeitschrift des Vereins für die Rübenzucker-Industrie des Deutschen Reichs." Supplement to the number for March, 1900.

TABLE 9.—QUANTITIES AND VALUES OF PRODUCTS.

STATES AND TERRITORIES.	TOTAL VALUE OF ALL PRODUCTS.	SUGARS.						MOLASSES.		BEET PULP.	JUICE.	LIME.	FERTILIZERS.
		Total.		Granulated.		Raw.							
		Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Gallons.	Value.	Value.	Value.	Value.	Value.
The United States_	$7,323,857	163,458,075	$7,222,581	115,686,356	$5,580,527	47,771,719	$1,642,054	[1]3,551,856	$25,102	$21,822	$51,000	$642	$2,710
California _____	3,499,996	86,741,713	3,490,318	43,839,911	2,049,726	42,901,802	1,440,592	1,708,501	-----	6,968	-----	-----	2,710
Michigan_____	1,602,266	33,708,283	1,600,284	32,737,098	1,561,100	971,185	39,184	321,100	1,225	241	-----	516	-----
All other _____	2,221,595	43,008,079	2,131,979	39,109,347	1,969,701	3,898,732	162,278	1,522,255	23,877	14,613	51,000	126	-----

[1] Includes quantities for which no value could be given, also wastage.

Deducting the raw sugar reported to be melted in the crop of 1900 (3,462,700 pounds) from the total amount of raw sugar manufactured (47,771,719 pounds), there remain 44,309,019 pounds, which may be properly credited as this year's output of raw sugar, and the total output of granulated and raw sugar is therefore 159,995,375 pounds, or 71,427 tons of 2,240 pounds. White granulated sugar formed 72 per cent of the total quantity of sugar manufactured, and raw sugar for refining, 28 per cent.

A quantity of raw sugar or low grade massecuite is carried forward each year by most of the factories, which renders it impracticable to ascertain the exact quantity of sugar manufactured from the beets grown in any one year. Assuming that the factories operated in 1898 carried forward to the next crop relatively the same quantity of sugar as in 1899, and deducting this amount and crediting the sugar carried forward in 1899 to the crop of that year, we obtain a total of 161,474,100 pounds, or 203 pounds of sugar per ton of beets, or 10 pounds of sugar per 100 pounds of beets, as the yield from beets grown in the census year. In view of the high average percentage of sugar in the beets, as shown in table 7, page 4, this yield is disappointing. It is probably in a measure due to the deterioration of beets at new factories not fully prepared for work when the roots were harvested. Such deterioration was reported at several factories.

Molasses.—The statistics of the quantity and value of the molasses product shown in table 9 are misleading, since large quantities were reported for which no value could be assigned, and large quantities ran to waste. The value reported, $25,102, represents only the portion sold, or for which there was an assured market.

Beet juice.—The beet juice reported was the product of an auxiliary plant and was pumped to the central factory.

Beet pulp, lime, and fertilizers.—Beet pulp is a very valuable by-product in European beet sugar manufacture, and finds a ready market. At most of the American factories the demand for pulp is small, this by-product being frequently given to the farmers in consideration of its removal. The value of the pulp sold was $21,822. No figures could be obtained showing the quantity of pulp produced. Based on the usual yield of pressed pulp, the total product amounted to approximately 400,000 tons.

Small quantities of lime and lime-cake or filter press-cake were sold, the latter for use as a fertilizer. The value of the lime sold was $642, and of the lime-cake or fertilizer, $2,710.

For purposes of comparison the beet sugar production of Europe and the United States is given in table 10.

TABLE 10.—BEET SUGAR MANUFACTURED ON THE CONTINENT OF EUROPE AND IN THE UNITED STATES FOR THE YEARS 1897-98 TO 1899-1900.

(From Licht's Monthly Circular.)

	1899-1900. Tons of 2,204 pounds.	1898-99. Tons of 2,204 pounds.	1897-98. Tons of 2,204 pounds.
Germany _____	1,798,631	1,721,718	1,852,857
Austria _____	1,108,007	1,051,290	831,667
France _____	977,850	830,182	821,235
Russia _____	910,000	776,066	738,715
Belgium _____	304,000	244,017	265,397
Holland _____	171,029	149,763	125,658
Other countries ____	253,929	209,115	196,245
Total for Europe_____	5,523,446	4,982,101	4,831,774
The United States ____	[1]71,427	[2]82,471	[2]40,399

[1] In tons of 2,240 pounds, deducting raw sugar carried over to 1900.
[2] Willett & Gray's Weekly Statistical Sugar Trade Journal, in tons of 2,204 pounds.

Historical.[1]—Until 1879 the history of the American beet sugar industry is a record of a series of failures.

The first experiments were made in 1830. There is no record of the quantity of sugar manufactured.

The history of the next experiments is also brief. David Lee Child in 1838-39 conducted small works at Northampton, Mass., and made 1,300 pounds of sugar, then discontinued the manufacture.

There is no record of further attempts until 1863, and from that time until 1876 a number of failures occurred in California, Illinois, and Wisconsin.

The first factory in California was erected in 1870, at Alvarado, the site of the first successful factory in the United States.

These works were operated until 1873, when it was proposed to remove them to another location. A new company was organized, which purchased the Alvarado machinery and removed it to Soquel, Santa Cruz county. E. H. Dyer, a stockholder of the Alvarado Company, purchased the buildings, and in the face of many difficulties organized a company and installed new machinery. After a short time this company was reincorporated with larger capital, and operated the works until 1889 with varying success. The operations were hampered by imperfect and antiquated machinery, and these conditions, combined with lower prices of sugar, compelled another reorganization. In 1899 the property passed into the hands of the Alameda Sugar Company under the management of E. C. Burr, an experienced sugar refiner, who has rebuilt the factory and has continued the manufacture with marked success.

[1] Compiled largely from reports of William McMurtrie [In U. S. Dept. of Agriculture, Special Report No. 28 (1880), Appendix B] and H. W. Wiley [In U. S. Dept. of Agriculture, Division of Chemistry, Bulletin No. 27 (1890)]

The factory at Soquel, Cal., was in operation in 1879 and reported in the Tenth Census. It was operated at a loss for several years, and was abandoned about 1880.

The history of the manufacture at Alvarado is of great interest, since the success of these works, and the practical demonstration of the fact that suitable beets could be grown, led to the establishment of other factories, and were undoubtedly important factors in the development of the beet sugar industry.

In 1879, 4 factories were in operation, 2 in California, 1 in Maine, and 1 in Delaware. The statistics of these factories, as published in the Tenth Census, are shown in table 11.

TABLE 11.—STATISTICS OF BEET SUGAR FACTORIES IN 1879, BY STATES, CENSUS OF 1880.[1]

STATES AND TERRITORIES.	Number of establishments.	Capital invested.	Average number of wage earners.[2]	Wages paid.	Cost of materials used.	Value of products.
The United States_	4	$365,000	350	$62,271	$186,128	$282,572
California_____	2	215,000	150	39,131	104,724	162,988
Delaware_____	1	100,000	50	3,140	6,404	8,584
Maine_____	1	50,000	150	20,000	75,000	111,000

[1] Data from Tenth Census, Manufactures, pp. 94, 101, and 127.
[2] Men, 16 years and over.

Of these factories 3 apparently yielded a small profit to their owners, but the history of the industry shows that, except 1 factory in California, at Alvarado, all were failures. The Alvarado factory, in fact, would possibly have followed the fate of the others, on account of its small capacity and antiquated machinery, had not additional capital been obtained. As already stated, the Alvarado Company was reorganized in 1889 upon a good financial basis and is still a prosperous establishment.

The favorable results obtained in the factory at Alvarado and the building of a factory at Watsonville, Cal., by Claus Spreckels, gave a new impetus to the sugar industry. Since then 35 factories have been built, or are building, in 11 states and 1 territory.

The Oxnard Brothers have been active in the development of the beet sugar industry, and through their influence several large factories have been constructed.

The historic Alvarado factory[1] as it appeared in 1885 is shown in Figure 1. At this time it had antiquated machinery of sufficient capacity to work approximately 125 tons of beets per day. The present Alvarado factory, owned by the Alameda Sugar Company, and equipped with modern American machinery, is shown in Figure 2.

[1] From U. S. Dept. of Agriculture, Division of Chemistry, Bulletin No. 5, (1885).
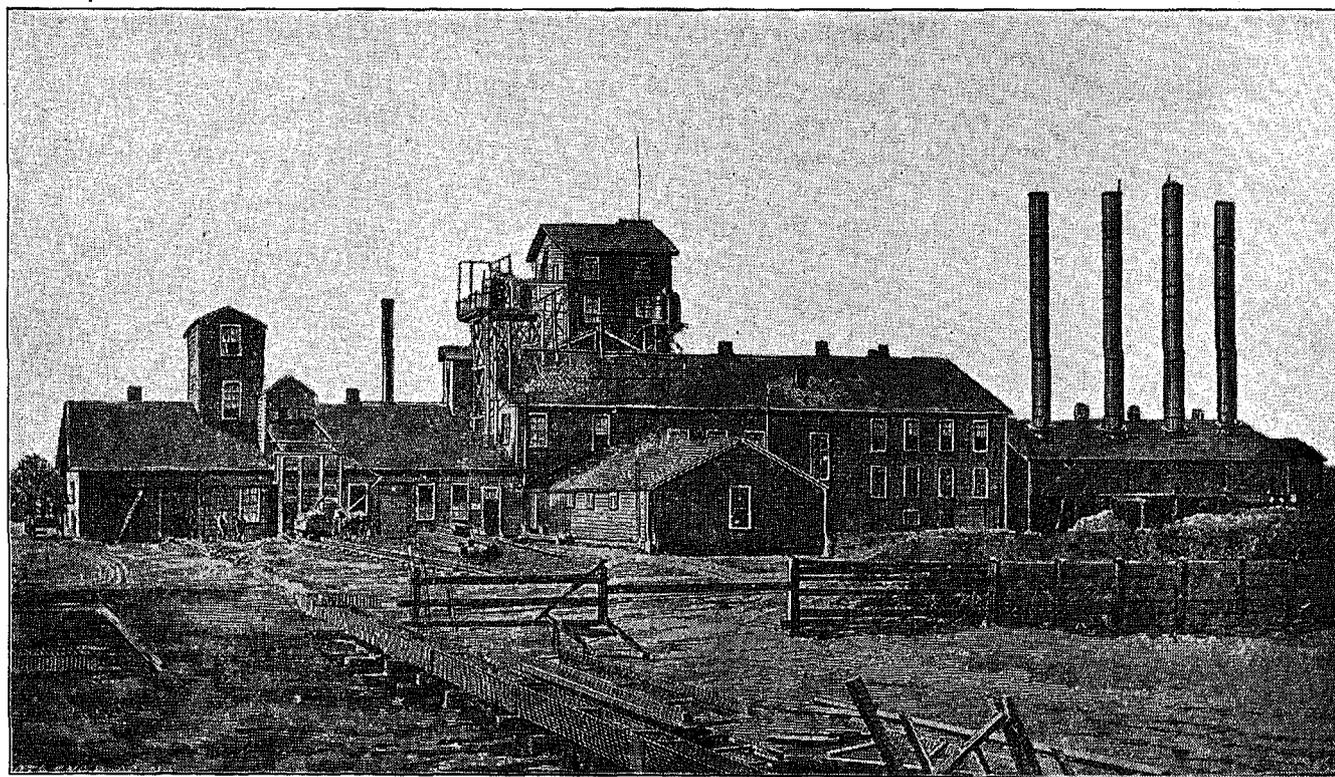
Fig. 1.—ALVARADO FACTORY, ALVARADO, CAL.—1885.
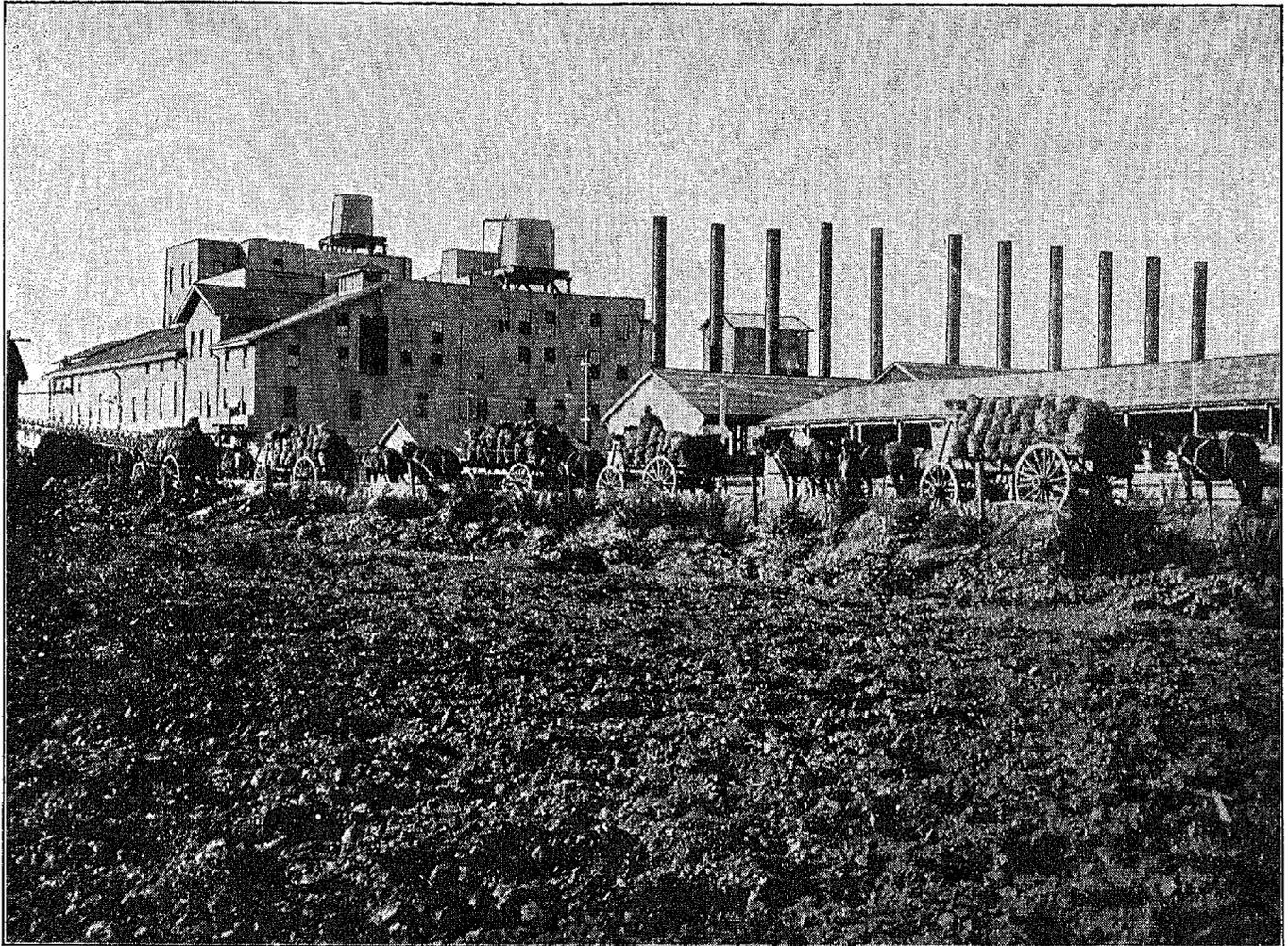
Fig. 2.—ALVARADO FACTORY, ALVARADO, CAL.—1900.

Beet sugar was not reported separately in the census of 1890, as only 2 factories were in operation. These factories were both located in California, and are still operated upon a largely increased scale. One of these factories a few years ago manufactured nearly 20,000 tons of sugar in a single season.

The quantity of beet sugar manufactured in 1889 was not separately tabulated in the report of the Eleventh Census. The quantity reported by the factories to the California state board of agriculture was 2,457 tons of 2,000 pounds, a large part of which was raw sugar. The total value of the product probably did not exceed $275,000. The average price paid for sugar beets was approximately $5 per ton. The total output of beet sugar in 1889 was less than 2 per cent of the total cane and beet sugar of domestic manufacture.

In 1897 the number of factories had increased to 9, with a total of 45,246 short tons [1] of sugar manufactured, or approximately 12 per cent of the total cane and beet sugar of domestic manufacture.

In 1899, as shown by the census statistics in this report, the number of factories operated was 30, with an output of 79,998 short tons of sugar, excluding 1,731 short tons of raw sugar melted in 1900, equivalent to the quantity melted in 1899 from the product of 1898. The total quantity of cane and beet sugar of domestic manufacture, as reported in Willett & Gray's Circular in 1899, was 229,537 short tons, showing that the production of beet sugar was then approximately 35 per cent of the total sugar produced in the country from sugar cane and beets.

The cane crop of 1899 was fully 100,000 tons below the average, but the beet crop was not over 50 per cent of what would reasonably be expected from the acreage seeded, hence the comparison is a just one.

The American beet sugar factories now have a nominal daily capacity of 22,310 short tons of beets, and, when fully supplied with the raw material, should easily manufacture 240,000 short tons of sugar per annum.

From this brief historical sketch it is apparent that the period for which the statistics were gathered by the Census Office was one of the greatest activity in our beet sugar industry. This fact has largely influenced the writer in devoting to the details of advancement more space than a strictly statistical report would require.

It should be stated that this period of great activity began in 1896, since when 35 factories have been built,

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[1] U. S. Dept. of Agriculture. Special Report on the Beet Sugar Industry in the United States. (1898.) p. 160.

including 6 new ones for the crop of 1900. Of these 35 factories, 2 have failed. One, located at Menomonee Falls, Wis., was not completed in time for the crop, and tests of machinery showed it to be practically a failure. This factory has never been operated and is not included in the statistics in this report. The second failure was that of the factory at Rome, N. Y. This factory was operated during three seasons, but was of small capacity and capital, and was not prepared to meet the sharp competition of other factories in the purchase of beets.

Federal and state aid.—The bounty paid under the provisions of the tariff act of 1890 proved a powerful stimulus to investments in beet sugar manufacture. Under this act domestic producers were paid a direct bounty for each pound of beet sugar manufactured. Since the repeal of this act, a protective tariff has favored the domestic manufacture of beet sugar.

Congress has for several years made appropriations to enable the Department of Agriculture to conduct investigations relative to the industry, and has also made provision for admitting beet sugar machinery of foreign manufacture free of duty.

The Secretary of Agriculture has vigorously prosecuted the investigations entrusted to his Department. Printed information and beet seeds have been liberally distributed among farmers, and prospective investors have been accorded by the Department every facility to aid them in deciding upon locations for factories. The present Secretary, Hon. James Wilson, has been especially active in his efforts in behalf of the industry, and has done much toward the definition of those areas best suited to beet culture.

Several states have extended aid in the form of direct bounties, and have expended large sums for this purpose. The experience of the past few years as regards bounties has not always, however, been such as to encourage investments. Several state legislatures have repealed the bounty laws passed by their predecessors, and have even refused the payment of bounty already earned. The supreme court of Michigan has declared the bounty act of that state unconstitutional.

Local aid has been extended in a number of instances in the form of factory sites and exemption from taxation for a term of years.

Progress in machinery and methods.—The greatest advances in the past decade, in machinery, have been in the line of improvements rather than of new inventions.

There has been a marked improvement in labor-saving machinery, but perhaps the most notable advances have been in the convenient distribution of machinery and in the use of special devices in the transportation and handling of the raw materials, products, and by-products.

The climatic and labor conditions which obtain in localities in the United States suitable for the cultivation of the sugar beet and for the manufacture of beet sugar, have resulted in the development of mechanical devices which are used but little abroad. A person familiar with European machinery and factory construction, on inspect-

ing the better class of establishments embodying American ideas and of American construction, will at once notice the simplicity of arrangement and the graceful yet substantial design of the machinery.

Since the beet sugar industry originated in Europe, and has there attained its greatest development, it is natural that we should have derived our processes of manufacture and the designs of much of our machinery from European sources.

Our builders have, in many instances, improved upon the foreign construction and have produced machinery better adapted to American labor and climatic conditions.

Owing to the close study of foreign methods by our American builders and manufacturers, and to the considerable number of factory employees of foreign birth, it is impracticable in this review to confine these remarks to progress in machinery designed and built by Americans; frequently the suggestions leading to improvements have come directly or indirectly from abroad. Only those processes in use in this country will be mentioned.

Transportation, unloading, and storage of beets.—The broad, level valleys of California permit the transportation of large loads of sugar beets in farm wagons. Loads exceeding 10 tons of beets have frequently been drawn to the factories, in farm wagons of special construction. Inquiry in California indicates that the average load is from 7 to 8 tons of beets. The average in the beet districts of other states is probably less than 2, and doubtless in frequent cases does not exceed 1 ton per load. The economy of labor in the transportation of beets in California is evident from these figures.

The labor employed in hauling a load of 8 tons is no greater than for a load of 1 ton, and, by the use of mechanical devices for unloading, the actual cost for labor of delivering 8 tons of beets upon the cars or in the bins is little greater than for the delivery of a single ton. It should be noted, however, that the conditions in California are quite different from those of other beet sugar producing states.

The dry weather that usually prevails there during the greater part of the manufacturing season contributes to the delivery of roots with but little adhering soil. This condition is favorable to the use of mechanical dumping devices that can not be used to advantage in many other sections of the country.

A dumping device much used in California is usually termed the "net method." A net is stretched over the bed of the wagon and the beets are loaded upon it. The load is drawn alongside the car or bin, to which one edge of the net is then attached; the entire load is now discharged at one time by drawing on the opposite edge of the net by means of horses or a motor. In some instances the net and contents are lifted bodily by a traveling crane and the load deposited where desired in the bin.

A patented apparatus in use at a western factory consists essentially of a counterpoised tilting table, upon which the loaded wagon of beets is clamped, and by a simple manipulation its contents are dumped into the bin.

A tilting table is used at certain factories in discharging beets from railway cars. One of these factories has a capacity for dumping three cars, and another for dumping five cars at a time. The tables are tilted by hydraulic power and the beets fall directly into the sluices and are flushed into the factory.

The California factories have a very large receiving capacity. One of them can receive 1,000 tons of beets per day, by wagon alone, if necessary. Outside of California, mechanical devices for unloading beets are little used.

Many years ago certain French factories began the use of pipe lines in the transfer of beet juice from auxiliary or rasping stations to the central factory. This method is still used in Europe at several factories, but is not widely employed.

The exceptionally favorable conditions for beet production in Utah have led the Utah Sugar Company to increase its manufacture by means of outlying stations, according to the French system, devised by Linard. The Utah Sugar Company operated one auxiliary plant last year, and is equipping a second for the present season's work. These auxiliary plants have a combined capacity of from 700 to 800 tons of beets per day. A third auxiliary plant is now being built by this company for the crop of 1901–1902. The juice receives a part of its requirement of lime, and is then pumped approximately 20 miles through 5-inch pipe lines to the central factory. European experience has amply demonstrated that with proper precautions no loss of sugar need be feared in the use of pipe lines.

The construction of beet bins and sluices has been materially improved. The earlier bins were more or less experimental and of somewhat temporary construction. The modern factories now have substantial, well ventilated bins. In some instances the sluices are built of steel, which provides a very strong and convenient construction. In general, however, cement concrete is employed.

In those states where intense cold weather prevails during the greater part of the manufacturing season, the beet bins are constructed rather with a view to protecting the roots from thawing than for protection from frost. The experience of the American factories appears to have demonstrated that little loss of sugar is to be feared from the beets being frozen, but that, once frozen, every effort must be made to prevent thawing prior to manufacturing operations. In general, the bins are built of wood and wholly above ground. In cold climates, the bins in which beets are to be stored but a few days are often left open at the sides, and in some instances are not even roofed.

The American methods of constructing beet bins are much simpler than those employed in Europe, where these necessary adjuncts frequently involve a large outlay of capital. It is undoubtedly true that our abundant supplies of lumber at moderate cost have had their influence on the design and construction of the bins.

Factory buildings.—The advance in the methods of constructing factory buildings is especially noticeable. In modern American factories heavy brick walls, with roof and floors of wood, are no longer seen. Light walls, steel posts and beams, and concrete floors are the rule. The machinery is entirely supported upon beams carried by posts, the walls serving only for protection from the weather. The absence of the heavy partition walls so common in European factories is noticeable.

In laying the floors, expanded metal, such as is frequently used instead of wooden lathing, is laid from beam to beam upon a temporary staging of lumber. The concrete, to a thickness of approximately 3 inches, is applied directly upon the metal. A floor of this class is not only fireproof, but is of great advantage in the event of leakage, or tanks overflowing.

The modern sugar factory building is fireproof, and as there is no inflammable material stored in it, the formerly heavy item of fire insurance is practically eliminated.

A very hopeful sign for the future of the American beet sugar industry is found in the evident belief on the part of the projectors of many of the factories, that the industry has long since passed the experimental stage. This is evidenced by the large, substantial buildings, and the arrangement of machinery so as to admit of readily enlarging the plant. With few exceptions, the factories built within the past 10 years have been designed with a view to doubling their capacity, 350 or 500 tons of beets having been considered an economical starting point. In figure 3, a factory is shown which was originally designed for a capacity of 1,000 tons, with space for doubling. It has since been enlarged to 2,000 tons capacity. In the interior view, figure 4, the spaces provided for additional machinery may be noted in a similar, but smaller, factory by the same builders. Two of the old factories have been repeatedly enlarged, 2 factories have doubled, and 1 has nearly quadrupled its capacity. The beet sugar building of today is lofty, and is prepared for almost any emergency that may arise in the development of new processes and new machinery.

Experience has demonstrated that the greatest problems in the American beet sugar industry are to be found in the field rather than in the factory. It should not be assumed from this statement that suitable beets are difficult to grow in satisfactory quantities; the problem is to convince the farmer that with persistent effort and experience he will find sugar beets a surer and more profitable crop than many others.

Of the factories built in this country within the past few years, the most successful, mechanically considered, have been designed and built by Americans or by sugar engineers of foreign birth who have been long identified with the sugar industry in the United States.

In some instances, the experience of our manufacturers with foreign-built machinery has not been satisfactory. The American engineer has great aptitude in designing and placing machinery with a view to economy and to quality of product, and the American manufacturer demands that his factory shall include such conditions. He can unquestionably obtain these conditions at home and avoid the expensive experiences of certain factories.
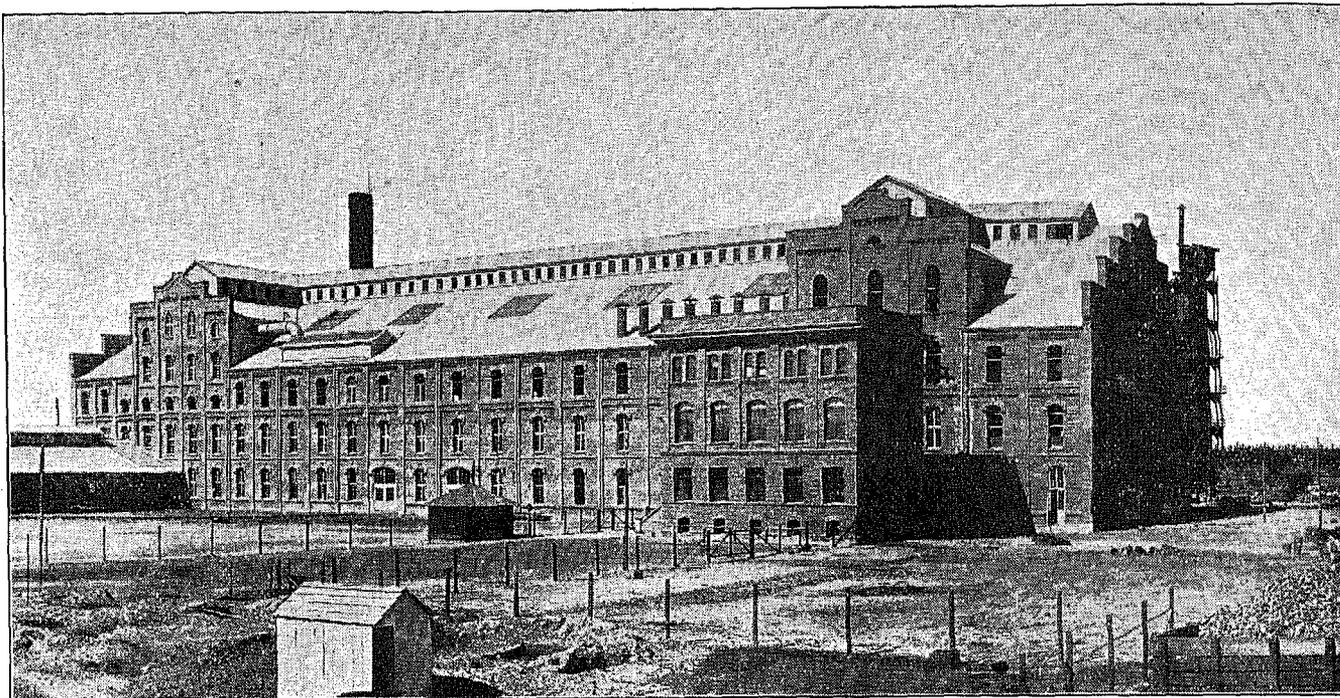
Fig. 3.—American Beet Sugar Co.'s Factory, Oxnard, Cal.

This is not intended to be a sweeping condemnation of foreign-built factories, since we know there are builders in Europe as competent as any in the world. The writer's wish is simply to emphasize the fact that satisfactory machinery can be obtained in this country. The time has long since passed when it was necessary to go to Europe for sugar engineers or to find shops capable of designing or building beet sugar machinery. There is not a single item of sugar machinery that our shops can not build, of as effective design as the most approved from foreign sources.

The advance in the beet sugar industry in the past 10 years has been so great that we now have several large shops prepared to execute orders for complete plants. The illustrations, figures 3 and 5, of American built and equipped factories, as compared with the pioneer factory shown in Figure 1, are indicative of the great progress made in the beet sugar industry.

Automatic scales of German manufacture are employed in many factories in weighing the beets. The scales provide a valuable check on the weight of raw material entering the factory. Automatic scales of American manufacture are also being introduced, to some extent, in weighing the finished product.

There has been but little improvement during the past decade in the design of the diffusion battery. Some advance may be noted in the construction of details, such as latches, etc., and heating by means of steam injectors appears to be growing in favor. The long desired invention of a satisfactory continuous process of diffusion seems to be as far from attainment as ever.

For the removal of the pulp various devices are used. The usual method is to discharge the by-product from the elevators into dump cars, to be carried to the silos or storage pile. Some factories, finding no market for the pulp during the past season, flushed it from the building with water, in one instance a distance of several miles, to the ocean. Aerial transportation of the pulp in cars suspended from a cable is practised at several factories.

The systematic storage and care of pulp, so noticeable in Europe, is almost entirely lacking in this country. So far as the writer could learn, the return of a certain quantity of the pulp to the beet grower is stipulated in the contracts of only one company. This is a very popular form of contract abroad, and in many districts it is doubtful whether beets could be obtained without it.

Hon. James Wilson, Secretary of Agriculture, who has been consistently encouraging the beet sugar industry through his field agents and the publications of the Department, has wisely taken the ground that the most profitable expansion of the industry demands the utilization of the pulp in cattle feeding. He looks for the greatest advance to be made in those sections where the farmer can be made to appreciate the feeding value of this by-product.

In Europe kilns have been constructed and used to some extent for desiccating pulp. Kilns of American design are being constructed at several factories. These kilns will make it possible to ship dry pulp, over long distances if necessary, to points where it will find a market. The dried material contains about 10 per cent of water, and may be used as an absorbent for molasses or other liquid food. It is claimed that a ready market awaits this product both at home and abroad.

The carbonatation apparatus has been improved. A few factories employ modern tanks 18 to 20 feet in depth. The use of cotton-seed oil, which is displacing tallow in several factories for keeping down the foam in the car-
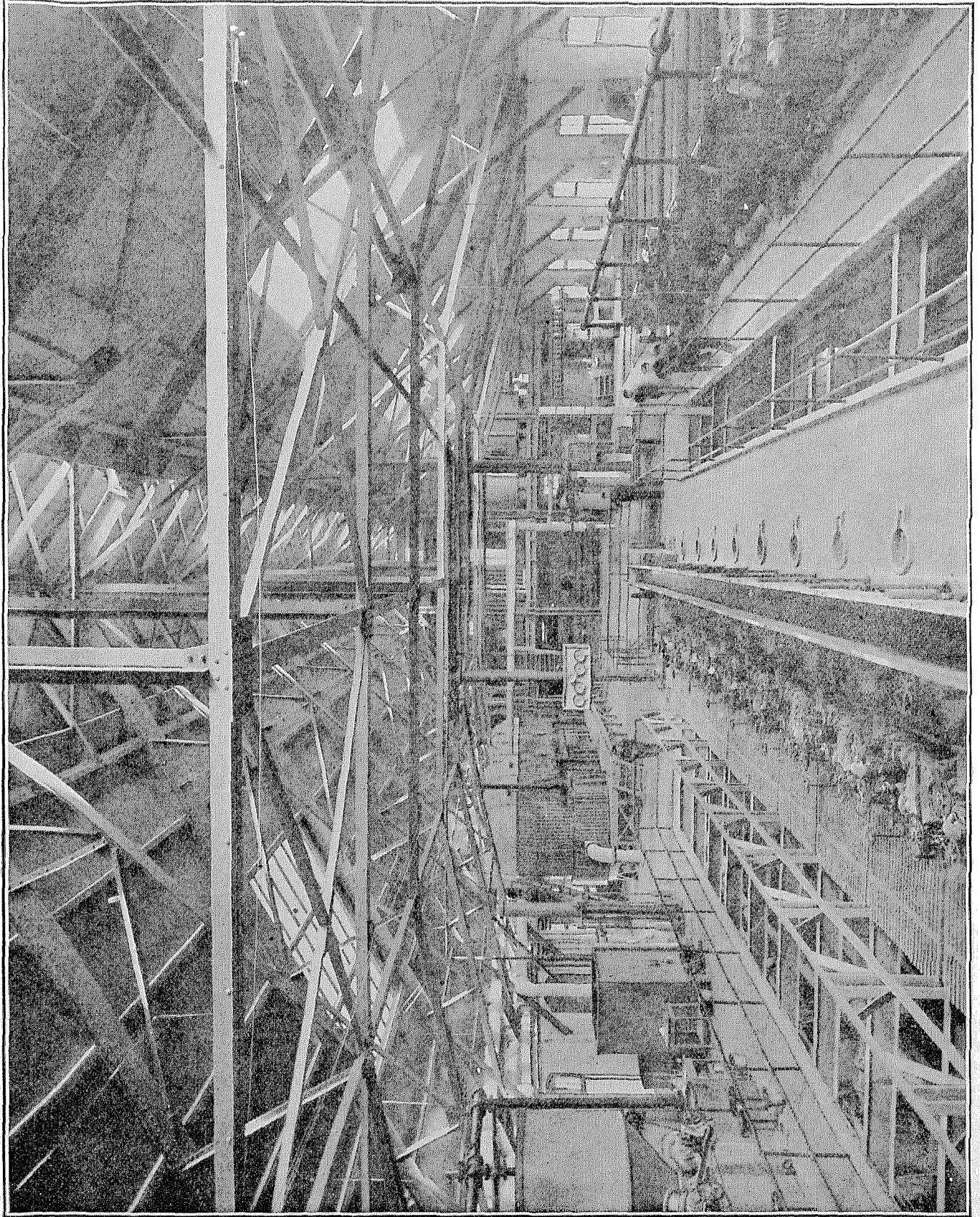
Fig. 4.—Interior view, Standard Beet Sugar Co.'s Factory, Leavitt, Nebr.

bonatation process, results in a considerable economy. Only one factory is equipped with the process of continous carbonatation. Where all the factory conditions conduce to regularity of work, this process would probably prove a saving of labor.

Filtration plays an important part in the modern sugar factory. The juice and liquors are repeatedly filtered at the various stages of the manufacture. This demand for filtration led first to the invention of filter pockets, of which the formerly well-known Puvrez filter and filter pockets were forerunners, and from which the present mechanical filters were developed. The improvement in mechanical filtration has been limited to details of joints and fastenings.

Sand filters are being erected in one factory. A filter of the Denek type, but provided with a metal filtering surface, has been successfully employed as a depulper by the builder of two of the new factories. Two small filters of this type are sufficient for the removal of the fine pulp from the diffusion juice of 500 tons of beets a day.

A few years ago there was a tendency to increase the size of the filter presses, and a number of the so-called "monster" presses were built. These presses have apparently not proved as desirable in practice as was anticipated, and now few presses are built having a filtering area even as large as 1,000 square feet.

The improvement in the methods of removing the filter-press or lime-cake from the factory has been marked. This has been a very troublesome by-product with which to deal, especially in cold climates. The old method of discharging the lime-cake into cars is disappearing.

In a number of sugarhouses, located where the climate is mild, the lime-cake is discharged into a conveyor or drag, and is mechanically removed from the building. Many factories in Nebraska and the states farther east discharge the lime-cake into a mixer, where it is beaten to a batter with waste water which is constantly flowing into the mixer. The thin batter overflows into a trough and is led to a settling pond. In a more recent construction the lime-cake batter is forced by a centrifugal pump through a 4-inch pipe, and deposited in the pond.

The settling pond is arranged to give the water a long travel with a slow current. By the time the water has reached the outlet it is reasonably clear. It is claimed that this water may be run into the rivers without perceptibly polluting them. One of the factories uses this method for the disposal of all its waste, including that from the Steffen saccharate process. In a few months after the close of the manufacturing season, the lime deposit dries, and may be removed from the bed of the pond with road scrapers.

With few exceptions the American factories manufacture only white granulated sugar of a very excellent quality. This sugar is manufactured without the use of boneblack, the bleaching of the juice being accomplished by sulphurous acid.

There has been no marked improvement in the apparatus for sulphuring the juice; the French and German types of sulphur stoves are used. In many factories the juice is treated with sulphurous acid in tanks somewhat similar to those employed in the carbonatation. In other factories a very rational continuous apparatus, built of wood, is used. This apparatus, when once regulated, is easily controlled without detailing a laborer specially for the purpose.

The Welner-Jelinck type and the ordinary vertical tube or "standard" multiple-effects are used for evaporating the juice by all but one of the factories. This latter factory uses an automatic multiple-effect, a recent American invention of the "film" type, but in which a copious circulation of the solution over the heating surfaces is maintained by mechanical means. This apparatus is widely used in the manufacture of cane sugar and in sugar refineries, but has not yet had an extended trial in the beet sugar industry.

Apparatus of the Welner-Jelinck type, with horizontal tubes of small diameter, is used by the majority of the factories. One factory is equipped with a quintuple-effect evaporator, and all the others have quadruple-effects.

The vacuum-pans employed are of the usual form, and show no material progress, either in shape or distribution of the heating surface, over those employed ten years ago.

The brasmoscope, a foreign invention, is used to some extent in controlling the boiling of the low products. This is an instrument which is attached to the vacuum-pan and enables a rapid estimate of the density of the massecuite to be made from temperature and pressure indications. By the use of this apparatus massecuites may be concentrated to a practically uniform density.

Probably the most important advance made in beet sugar methods in the past few years, as illustrated in American factories, is the process of "crystallization in movement." This process was invented in Germany. It consists in agitating the massecuite during the crystallization, and is usually applied in this country to the low products only. The apparatus consists of a large wrought-iron cylinder, fitted with a water jacket and agitators similar to those of a massecuite mixer. The average capacity of the apparatus is approximately 35 tons of massecuite. As the name of the process implies, the massecuite is agitated and the crystals are kept in motion during the crystallization, thus constantly bringing their surfaces into contact with fresh portions of the sugar solution, and promoting a rapid increase in size. The massecuite is systematically cooled during the progress of the crystallization, thus forcing the sugar out of solution. A small centrifugal is employed in many factories to determine the most economical point at which to discontinue the operation.

This process has facilitated the management of the low products and reduced the time required for the crystallization to four or five days, instead of the several weeks
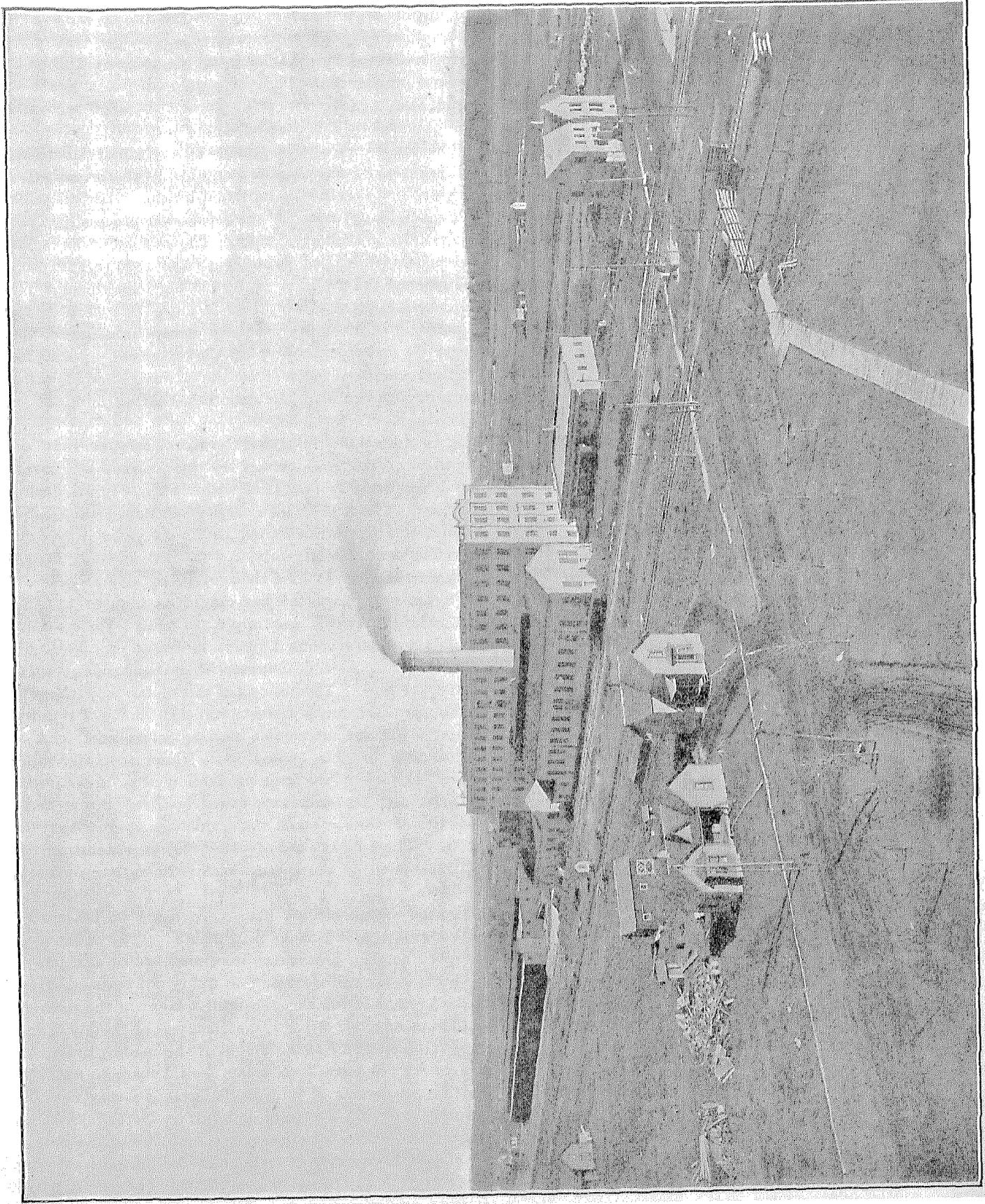
Fig. 5.—Alma Sugar Co.'s Factory, Alma, Mich.

formerly required. The crystallization in movement has proven an economy of labor. It also permits systematic control of the crystallization of the sugar.

Vacuum crystallizers are being installed in a factory now building.

The most approved centrifugals for drying sugar are of American invention. American types of centrifugals are used wherever sugar is manufactured.

The only recent improvement in these machines worthy of special note, is the water-driven centrifugal. A water motor is coupled directly to the spindle of the machine, and does away with belting and shafting. This device not only promotes the safety of the workmen, but renders each machine entirely independent of the others, and obviates the delays incident to belts and pulleys. A factory now building will be supplied with water-driven centrifugals.

Molasses processes.—But two molasses processes are now in use in American factories, namely, the Steffen separation process and the osmose process. The former is a saccharate process, employing quicklime in an impalpable powder as a precipitant of the sugar; the latter, as its name implies, depends upon dialysis. Both processes are of foreign origin and have been in use many years.

A factory built for the crop of 1900 by E. H. Dyer & Co., at Fremont, Ohio, is equipped with a lead saccharate process, a German invention. In this process the molasses is mixed with caustic potash and lead carbonate. The nascent oxide of lead formed, combines with the sugar, forming a saccharate of lead, which is collected and washed in a filter-press, then suspended in water and decomposed with carbonic acid; pure sugar is thus liberated, and the carbonate of lead precipitated is used in the treatment of a subsequent lot of molasses. The mother liquor which flows from the filter-presses is treated for the recovery of potash, soda, and other by-products.

Should this process prove satisfactory in the practical test of manufacture, it will enable the factory to utilize every by-product of the beet in the manufacture of readily salable material.

The development of molasses processes is well shown in table 12, which presents the statistics of the German sugar industry, compiled by Ernst Glanz. Data prior to 1886 are omitted.

TABLE 12.—QUANTITIES OF MOLASSES TREATED IN GERMANY BY VARIOUS PROCESSES FOR THE EXTRACTION OF THE SUGAR.

Crop.	Osmose process.	Elution process.	Steffen's separation process.	Strontium process.	All other processes.	Total quantity of molasses treated.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1886–87	7,315	93,589	35,537	104,104	14,400	254,945
1887–88	92,460	97,115	48,878	117,549	15,033	366,035
1888–89	51,598	73,839	34,762	121,356	11,022	292,577
1889–90	46,579	70,345	40,273	118,489	6,905	282,591
1890–91	73,209	79,785	50,980	121,530	10,048	335,502
1891–92	57,496	60,382	50,725	124,420	5,182	298,105
1892–93	25,614	44,897	49,336	127,130	4,628	251,605
1893–94	19,462	22,842	28,938	157,628	2,806	231,676
1894–95	15,883	28,111	34,293	184,431		262,718
1895–96	24,601	24,019	31,425	214,632		294,677
1896–97	10,966	21,135	32,403	255,830	2,041	322,375
1897–98	7,297	10,240	27,230	260,225	1,815	306,807
1898–99	4,342	3,598	20,616	249,307	2,265	280,128

An examination of these German statistics[1] indicates that the strontium process leads all others, both in the amount of sugar recovered and in the rate of increase in its application. In 1890 approximately 36 per cent of the sugar recovered by all molasses processes was obtained by the use of strontia. The per cent of increase has been rapid, and in 1899 nearly 90 per cent of the sugar recovered was obtained by this process.

The osmose and elution processes have rapidly decreased in the extent of their application, until at the present time they are little used, as is indicated by the statistical table.

The yield of sugar by the separation process (Steffen) reached its maximum in 1890. The output of sugar by this process decreased 35 per cent from 1890 to 1892, and has reached the production of 1892 but once since. The sugar yielded by this process is more than double the quantity by all other processes except the strontium. There is little probability of the extensive application of the strontium process in the United States, unless large deposits of suitable strontium-bearing minerals be discovered.

It is noticeable in these German statistics that the quantity of molasses treated by the various saccharate and other processes has varied within narrow limits during the past 15 years. The quantity consumed in alcohol manufacture has varied more; but in 15 years it has not exceeded 105,000 tons yearly, and in 1898 was only 51,666 tons, a figure approaching the average of several years.

The quantity exported has ranged as high as 111,000 tons, while in 1898 it was only 7,234 tons. The quantity of molasses not accounted for in molasses processes, distillation, and export, in 1898 reached the enormous quantity of 138,816 tons. The disposal of this molasses, with profit to the manufacturer, is a great problem. Some of it is fed to cattle, but the amount so used is only a small part of the surplus of this by-product. These are interesting figures, in view of the large production of molasses in our factories and the enormous losses incurred through the necessity of running much of the molasses product into the rivers. These figures are of value also in exhibiting the relative extent of the application of the various molasses processes.

Marked improvements have been made in laboratory methods and polariscopic instruments. The most progressive factories are using direct methods of analysis of the beets in control work and in fixing the purchase price of the beets. A few factories still adhere to the indirect method of analysis of beets, i. e., analysis of the juice, and conversion to terms of the weight of the beet by the use of an arbitrary factor. It is a fact well known to analysts that the proportion of juice in the beets is a very variable quantity, and that the use of an arbitrary factor introduces errors in the estimate of the sugar content. For this reason certain establishments have been in the habit of varying the factor from time to time, as in their judgment, based

[1] "Zeitschrift des Vereins für die Rübenzucker-Industrie des Deutschen Reichs." Supplement to the number for March, 1900. Translated and weights converted into tons of 2,000 pounds.

on tests, the beets varied in juice content. This has led to dissatisfaction on the part of the farmers. These factories, if they continue to purchase beets on test, will be compelled to keep pace with improvements in analytical methods, and purchase on the basis of the percentage of sugar in the beet as determined directly and without the arbitrary assumption of factors for conversion.

The direct methods of beet analysis have been so greatly simplified in the past few years that it is now possible to make a large number of tests with great accuracy and little labor. A notable improvement in polariscopes, conducive to accuracy and ease of manipulation, is in the addition of a pair of prisms which give a triple instead of a double field. This device enables a prompt and accurate adjustment to the neutral point to be made. Other improvements, aside from accuracy of adjustments of the various parts of the instrument, relate to the better protection of the optical parts from climatic influences, dust, and insects.

The improvements in mills and rasps for pulping the beet for analytical purposes have been numerous, as have also those in the other laboratory accessories. All the American factories have well equipped laboratories and are more or less under chemical control.

Summary and conclusion.—The statistics of the beet sugar industry show that, after many years of manufacture on a small scale, it has assumed large proportions, and in the census year more than one-third of the domestic sugar product was obtained from the beet. This quantity of sugar, 70 per cent of which was suitable for immediate consumption, was produced in a year of extremely unfavorable agricultural conditions in the beet districts. The yield of beets per acre was less than half that of an average season. The factories could readily manufacture more than two and one-half times the quantity of sugar produced, if supplied with sufficient raw material.

The progress of the industry can not be measured by the returns of previous censuses, since beet sugar has been separately reported but once, by the census of 1880, and at that time the total capital invested in 4 establishments would not equip a modern factory of average capacity.

The schedules show that but 1 factory obtained sufficient beets, and that many were operated but a small fraction of their capacity. The average quantity of beets worked per factory was 26,489 short tons, and the average nominal capacity of the factories, based upon only 100 days' work, is more than 60,000 tons. The average length of the working season in the various states is not known, but for the United States it is probably nearer 140 days than 100 days. Notwithstanding the very adverse agricultural conditions which resulted in the small supply of raw material, the value of the products was larger than the expenditures. A number of factories earned a fair return on their investments, others paid expenses, and several lost heavily. The statistics demonstrate that beet sugar manufacture is a commercial success in the United States.

CENSUS BULLETIN.

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POPULATION OF ALASKA BY DISTRICTS AND MINOR CIVIL DIVISIONS.

This bulletin, prepared under the direction of Mr. WILLIAM C. HUNT, chief statistician for population, gives the aggregate population of Alaska by districts and minor civil divisions, according to the official count of the returns of the Twelfth Census, taken as of June 1, 1900.

The territory of Alaska was acquired by treaty from Russia in 1867. No systematic enumeration of the entire population was ever undertaken by the Russian government, although various counts and estimates were made at different times of certain elements of the population and of specific districts and settlements. An effort was made, however, in 1839, by Veniaminof, a Russian priest, to summarize all existing information as to the total population of the Russian possessions in America. In doing this he grouped the inhabitants as those "known and counted," those "known but not counted," and those "estimated only," and the sum of these three made a total population of 39,813, of which only 10,313 were in the class of "known and counted." Twenty-four years later, in 1863, Kostlivtzof, a special inspector of the Russian government, made another estimate, based upon a partial enumeration, in which the population was classified by tribes, the result of which was a total of 80,434. Examples of less careful, though semi-official, statements of the total population of Alaska, during the Russian occupation, are found in the biennial reports of the Russian-American Company, in which the total is given in round numbers as from 56,000 to 70,000, and later, in the report of Major General Halleck, U. S. A., at the time of the acquisition, in which the total was fixed at, approximately, 82,400, an estimate which, it is said, was "largely augmented by the unconscious duplication of tribes and the inclusion of others which had no existence."

No attempt was made by the United States government to enumerate the people of Alaska at the decennial census of 1870, three years after the purchase; but in 1880 the Superintendent of Census designated special agents to canvass the territory and make such an enumeration as the difficulties of the situation permitted. The result of this effort was an actual count of all accessible settlements, supplemented by estimates, based for the most part on the records and personal knowledge of the missionary priests, for those regions which could not be visited in person by the special agents. The figures thus obtained made up a total of 33,426. At the taking of the Eleventh Census, in 1890, it was found possible to make a somewhat more extended canvass of various parts of the territory, and the count of the people which resulted therefrom showed a total of 32,052, with probably a smaller element of uncertainty in it than in any preceding total.

The Twelfth Census has been taken under more favorable conditions, owing to the greatly increased facilities for communication and to the introduction of a new and large element attracted from the United States and elsewhere by the recently discovered gold fields. As a consequence of these changed conditions, and of the zeal and knowledge of the special agents in charge of the census work, the enumeration has been successful to a degree not before attained, and the results may be accepted with corresponding confidence. The total population of Alaska, as shown by the returns of the Twelfth Census, is 63,592.

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The foregoing statement affords a basis for the following recapitulation of the various Alaskan censuses:

SOURCE.	Year.	Population.
Estimate by Veniaminof	1839	39,813
Estimate by Kostlivtzof	1863	30,434
United States Census	1880	33,426
United States Census	1890	32,052
United States Census	1900	63,592

For purposes of census enumeration the territory of Alaska in 1900 was divided arbitrarily into two districts, namely, the Northern district, which embraces the valley of the Yukon river and all territory north of it, and the Southern district, which embraces all the remainder of the territory, including the Alaskan peninsula and the chain of Aleutian islands. At the census of 1880 the territory was subdivided into six districts, two of which correspond with the Northern district, as at present defined, and four with the Southern district. Likewise at the census of 1890 seven districts were formed for enumeration purposes, the boundaries of two of which conform substantially with the present Northern district, and the boundaries of the remainder with the present Southern district. In the absence of any survey or established lines in Alaska, the natural barrier interposed by the mountain range between the valley of the Yukon and that of the Kuskokwim rivers has been assumed as a sufficiently well defined boundary for census purposes, and this range has, in fact, constituted the dividing line between districts in each of the preceding censuses.

Owing to the exceptional difficulties to be encountered in making an enumeration of these remote and sparsely settled regions, the work of the Twelfth Census was assigned to two special agents, Mr. Samuel C. Dunham for the Northern district, and Mr. William A. Kelly for the Southern district, both well equipped for the service by previous residence in the territory and personal knowledge of the places and people within their respective districts.

Table 1 shows the population of Alaska by districts at each census from 1880 to 1900, inclusive, together with the number and per cent of increase (or decrease) during each census period.

TABLE 1.—POPULATION OF ALASKA: 1880 TO 1900.

CENSUS YEARS.	Population.	INCREASE.	
		Number.	Per cent.
The Territory:			
1900	63,592	31,540	98.4
1890	32,052	[1] 1,374	[1] 4.1
1880	33,426		
Northern district:			
1900	30,569	23,435	328.5
1890	7,134	[1] 2,830	[1] 28.4
1880	9,964		
Southern district:			
1900	33,023	8,105	32.5
1890	24,918	1,456	6.2
1880	23,462		

[1] Decrease.

The population of the Southern district of Alaska in 1880 was returned as 23,462, and that of the Northern district as 9,964. At the census of 1890 the population of the Southern district had increased by 6.2 per cent, and that of the Northern district had decreased by 28.4 per cent, making a net decrease for the territory of 4.1 per cent. Ten years later, in 1900, the population of the Southern district had been augmented by 8,105, or 32.5 per cent, and that of the Northern district by 23,435, or 328.5 per cent, making a total increase for the territory of 31,540, or 98.4 per cent.

The total land surface of Alaska is, approximately, 590,884 square miles, the average number of persons to each 100 square miles at the last three censuses being as follows: 1880, 6; 1890, 5; 1900, 11.

Table 2 shows the population of Alaska by districts and the population of certain cities, villages, and settlements therein for the years 1890 and 1900, so far as it has been separately returned. There are no civil divisions in Alaska corresponding to the counties and townships of other territories, and the following table accounts for that part of the population only which was found in the more important settlements; the remainder is widely distributed over the territory as a whole.

TABLE 2.—POPULATION OF ALASKA BY MINOR CIVIL DIVISIONS: 1890 AND 1900.

MINOR CIVIL DIVISIONS.	1900	1890	MINOR CIVIL DIVISIONS.	1900	1890
NORTHERN DISTRICT	30,569	7,134	SOUTHERN DISTRICT—Continued.		
			Eyak village	222	
Anvik village	166	191	Haines village	85	
Cape Prince of Wales settlements	396		Hooniah (or Kantukan) village	447	
Cape Smythe settlement	314	246	Howkan village	145	105
Cheennik village (Dexter)	140		Igagik village	203	60
Circle City village	230		Juneau city	1,864	1,253
Eagle City village	458		Kadiak settlement	341	495
Eaton village	76		Karluk settlement	470	1,123
Fort Yukon village	155		Kasilof village	159	117
Golofnin City village	185	25	Kenai village	290	264
Ikogmute (Russian Mission)	166		Ketchikan village	460	40
Kangernak village	143		Killisnoo village	172	79
Kesuna village	208		Klawak village	131	287
Kinak village	269		Knakanak village	145	53
Koscrefsky village	135	131	Kogiung village	533	133
Naparegarak village	197		Kwiniak village	201	109
Nome city	12,486		Loring village	168	200
Nulato village	281	118	Metlakatla village	465	823
Oldborehki village	192		Naknek village	431	
Peavey village	35		Nuchek village	144	145
Point Hope village	623	301	Nushagak village	324	268
Rampart village	211		Orca village	173	
St. James Mission	161		Sand Point village	16	
St. Michael village	857	101	Saxman village	142	
Sifarnak village	148		Seldovia village	149	99
Sillitmute village	242		Shakan village	93	
Tanana village	186	203	Shouing village	336	
Unalaklik village	241	175	Sitka city	1,396	1,190
			Skagway city	3,117	
			Sumdum village	137	42
SOUTHERN DISTRICT	33,023	24,918	Sunrise village	130	
			Tatiklek village	150	90
			Treadwell village	522	
Afognak settlement	307	409	Tyonek village	107	115
Akiachak village	165	43	Uganik village	158	31
Apollo village	87		Ugashik village	348	154
Auke village	261	324	Unalaska village	428	317
Belkofski village	147	185	Unga village	175	159
Carmel village	381	189	Valdes village	315	
Chenega village	140		Wood Island settlement	220	
Douglas city	825	402	Wrangell village	868	316
Dyea village	261		Yakutat village	247	308

Of the above named 78 places in Alaska, 27 are in the Northern district and 51 in the Southern district; 37 have less than 200 inhabitants; 31 have more than 200 but less than 500; 6 have more than 500 but less than 1,000; and 4 have more than 1,000, namely, Nome, with 12,486; Skagway, with 3,117; Juneau, with 1,864; and Sitka, with 1,396 inhabitants.

Director of the Census.