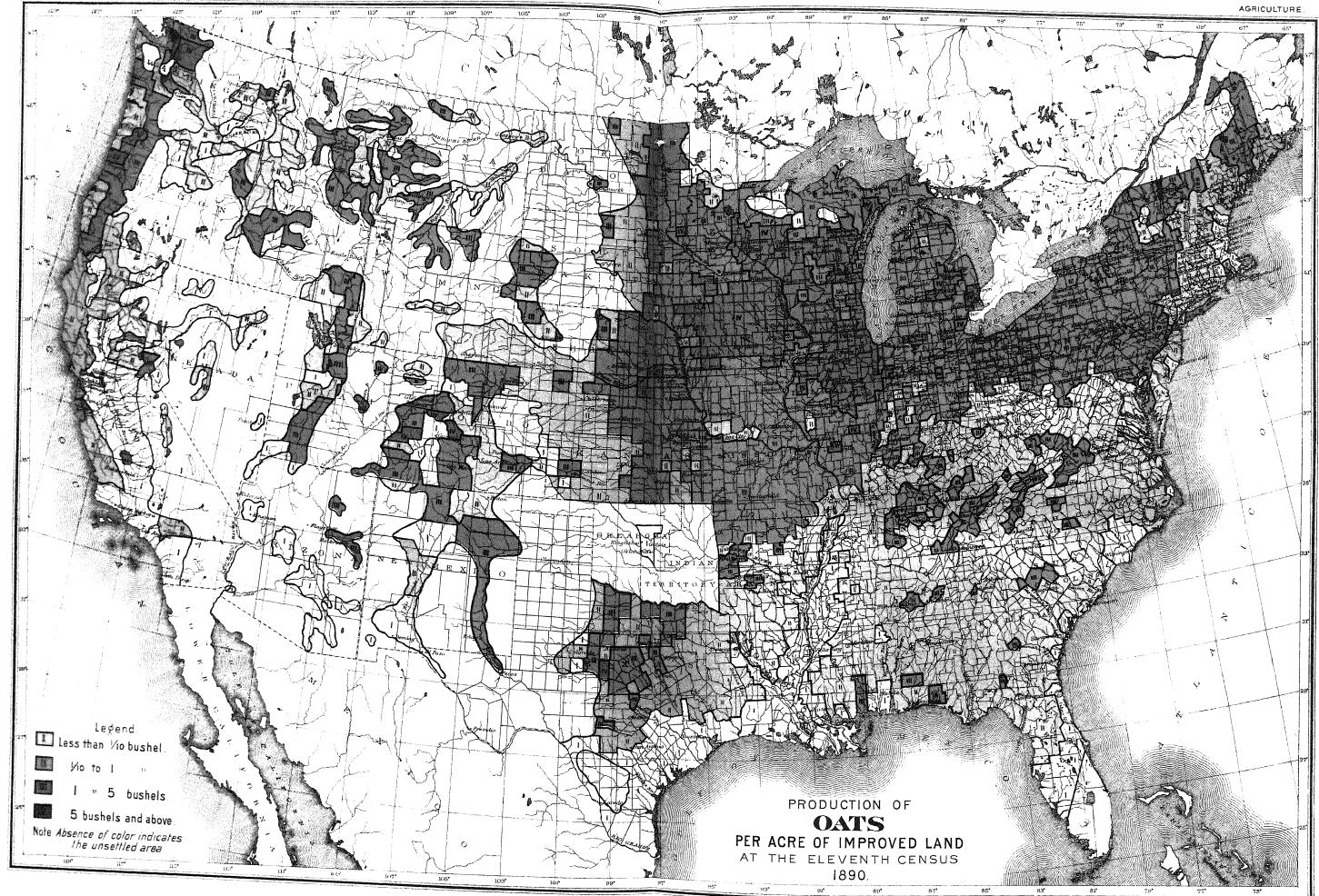
PRODUCTION OF WHEAT WITH PERCENTAGES OF TOTAL PRODUCT, BY STATES AND TERRITORIES, IN DESCENDING ORDER OF PRODUCTION: 1889.

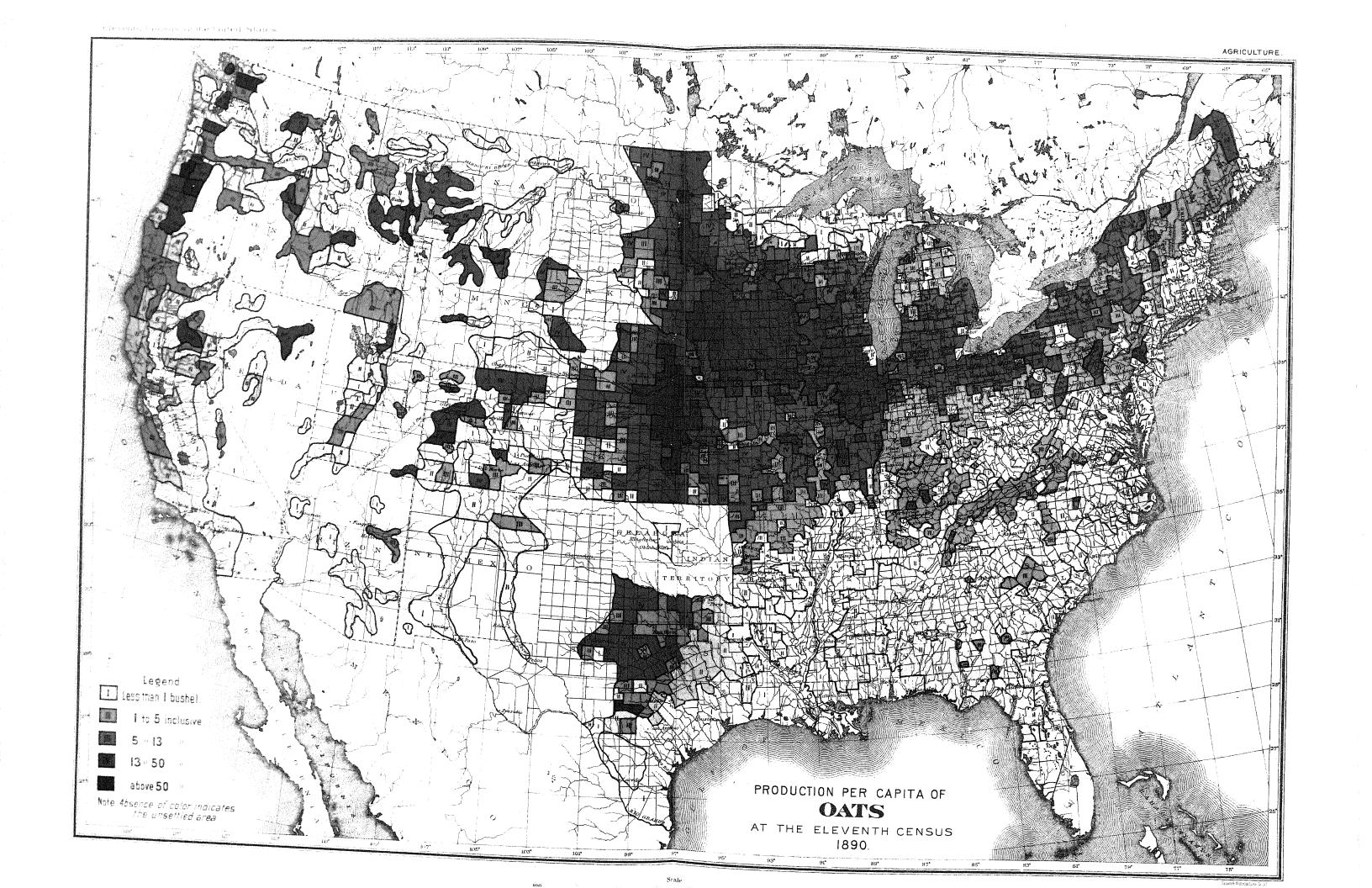
STATES AND TERRITORIES.	Total produc- tion of wheat. (Bushels.)	Percentage of total.	Cumu- lative per- centage.	STATES AND TERRITORIES.	Total produc- tion of wheat. (Bushels.)	Percentage of total.	Curan- lativa por contago.
The United States	468, 373, 968 52, 300, 247 40, 869, 337	100,00 11.17 8.73	11.17	25. Colorado 26. New Jersey. 27. Utah. 28. Delawaro	2,845,400 1,823,382 1,515,465 1,501,650	0, 61 0, 39 0, 32 0, 32	07.8 98 1 08.5 08.5
3. Illinois	37, 389, 444 37, 318, 798 35, 559, 208 30, 399, 871	7. 98 7. 97 7. 50 6, 49	27, 88 35, 85 43, 44 49, 93	20. Idaho 30. Georgia 31. Arkansas 32. South Carolina	1, 176, 878 1, 006, 312 955, 668 658, 351	0, 25 0, 23 0, 20 0, 14	90.0 90.3 90.6 90.6
7. Missouri 8. North Dakota 9. Michigan 0. Pennsylyania	30, 113, 821 26, 403, 365 24, 771, 171 21, 595, 409	6.43 5.64 5.29 4.61	56, 36 62, 00 67, 29 71, 90	33. Montana 34. New Mexico 35. Alabama 36. Verment	457, 607 349, 484 208, 591 164, 720	0, 10 0, 07 0, 04 0, 03	99. 7 99. 6 99. 6
1. South Dakota 2. Wisconsin 3. Kentucky 4. Nebraska	10, 541, 138 11, 698, 922 10, 707, 462 10, 571, 059	3. 53 2. 50 2. 20 2. 26	75, 43 77, 93 80, 22 82, 48	37. Arizona. 38. Nevada 39. Maine. 40. Wyoming.	100, 328 81, 486 79, 826 74, 450	0, 62 0, 02 0, 02 0, 02	90.1 90.1 90.1
5. Oregon	9, 296, 734 8, 348, 177 8, 304, 539 8, 300, 789	1. 98 1. 78 1. 77 1. 77	84, 46 86, 24 88, 01 89, 78	41. New Hampshire 42. Oklahoma 43. Mississippi 44. Connecticut	85, 192 80, 175 16, 570	0.01	90. t
D. Lowa D. Virginia Washington P. North Carolina	8, 249, 786 7, 904, 092 6, 345, 426 4, 292, 035	1. 76 1. 69 1. 85 0. 92	91, 54 93, 23 94, 58 95, 50	45. Massachusotts 46. District of Columbia. 47. Florida 48. Louisiana	7, 482 1, 813 606 290 257	0.01	100.0
. West Virginia	4, 283, 344 8, 634, 197	0. 91 0. 78	96, 41 97, 10	49. Rhode Island	01	}	

As will be seen from a comparison of the two tables last given, the rank in the scale of production of the wheat-producing states differs materially from their rank in the scale of acreage, owing to the variation in the yield per acre that obtained in the census year. While Minnesota and California stand first and second, respectively in rank of production as in rank according to acreage, Illinois occupies the third place in production, although seventh in the scale of acreage, while North Dakota and South Dakota stand eighth and eleventh, respectively, in product, instead of third and sixth, as in acreage. While the two tables differ so much that only 15 of the states and territories have the same rank in the scale of production as in that of acreage, each serves to exemplify the concentration of wheat culture. Practically one-fifth of the total wheat crop of the country in 1889 was raised in the states of Minnesota and California. The addition of Illinois, Indiana, Ohio, and Kansas raises the proportion to nearly one-half, and the further addition of Missouri, North Dakota, Michigan, Pennsylvania, and South Dakota raises it to over three-fourths.

The North Atlantic division of states had an average wheat production of 16.69 bushels per acre, the North Central an average of 14.23 bushels, the Western an average of 15.40 bushels, and the South Atlantic and South Central averages of 10.27 and 10.59 bushels, respectively. The following is found to be the classification of the various states, according to average yield per acre: Montana, over 24 bushels, Colorado and Nevada over 22 bushels, District of Columbia over 20 bushels, Maine, Vermont, and Kansas over 19, Idaho over 18, New Hampshire, New York, Utah, and Washington over 17, Massachusetts, Connecticut, Pennsylvania, Maryland, Illinois, Michigan, Wyoming, Arizona, and Oregon over 16, New Jersey, Delaware, Ohio, Wisconsin, Minnesota, Missouri, Chalma, and New Mexico 15 or over, Indiana, Iowa, and California over 14, Nebraska over 13, Texas over 12, Island over 8, South Dakota over 7, North Carolina, Mississippi, Louisiana, and Arkansas over 6, and South Carolina, Georgia, and Alabama over 5. On 1,161,317 acres, the aggregate wheat acreage of 7 states, the average Dakotas, the average was between 5 and 7 bushels, and on 5,846,671 acres, which included the wheat acreage of the average rate of production was under10 bushels. On 17,438,602 acres, or over one-half of the total wheat acreage of and under 15 bushels to the acre.

The relative area under wheat has been reduced from 0.71 acre to 0.54 acre per capita, and the relative production from 9.16 bushels to 7.48 bushels per capita, since the census of 1880, being the first time since the census of 1850 that the production of wheat per capita of population has been less than at the preceding census. The production per capita in the North Atlantic division is found to be 1.84 bushels; in the South Atlantic, 3.10 bushels; in the North Central, 14.37 bushels; in the South Central, 2.23 bushels, and in the Western, 20.84 bushels.





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The largest production per head of population was in North Dakota, where it was 144.50 bushels, South Dakota producing 50.31, Minnesota 40.17, California 33.83, Oregon 29.63, and Kansas 21.30 bushels for each inhabitant. There are 15 states in which the production was less than 1 bushel for each inhabitant, 8 of them, including the District of Columbia and 4 of the New England states, producing less than one-tenth of a bushel for each inhabitant.

OATS.

The total area devoted to the cultivation of oats in the United States in 1889 was 28,320,677 acres, or 20.20 per cent of the total cereal acreage of the country. The total production was 809,250,666 bushels, or an average of 28.57 bushels per acre.

In 1879 the total area under oats was 16,144,593 acres, or 13.61 per cent of the total cereal acreage, while the total production was 407,858,999 bushels, or an average of 25.26 bushels per acre.

There was, accordingly, an increase of 12,176,084 acres, or 75.42 per cent, in area; of 401,391,667 bushels, or 98.41 per cent, in production, and of 3.31 bushels per acre in the average yield.

The following table shows the total production of oats for the years immediately preceding each decennial census, from and including that of 1840, the total percentage of increase since 1839, the percentage of increase by decades, and the production per capita of total population:

YEARS.	Total produc- tion of onts. (Bushels.)	Percentage of increase since 1839.	Percent- age of in- erease by decades.	Number of bushels per capita of total population.
1889	809, 250, 666	557, 55	98.41	12. 92
1879	407, 858, 999	231,40	44,58	8.18
1869	282, 107, 157	129, 22	6 3, 4 0	7. 32
1850	172, 643, 185	40, 28	17.78	5.40
1849	146, 584, 170	19, 11	19, 11	6. 32
1839	123, 071, 841			7.21

It will be seen from this table that the greatest increase in the volume of production occurred between 1879 and 1889 and the smallest between 1839 and 1849, the greatest percentage of increase between 1879 and 1889 and the smallest between 1849 and 1859, the largest production per capita in 1889 and the smallest in 1859.

The increase in the acreage under oats which took place during the decade ending with 1889 amounted to 12,176,084 acres, or 75.42 per cent. The center of the productive area devoted to oats has not crossed the Mississippi river. Although the net increase in the acreage under oats west of the Mississippi is 7,737,324 acres as compared with an increase of 4,438,760 acres east of that river, the trans-Mississippi region possessed in 1889 but 12,362,763 acres, or 43.65 per cent of the total area under oats, and produced 370,945,332 bushels, or 45.84 per cent of the total crop of the country, as compared with 15,957,914 acres and a crop of 438,305,334 bushels east of the river.

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AREA AND PERCENTAGES OF AREA IN OATS, BY STATES AND TERRITORIES, IN DESCENDING ORDER OF AREA: 1889.

STATES AND TERRITORIES.	Total area in cats. (Acres.)	Percentage of total.	Cumu- lative per- centage.	STATES AND TERRITORIES.	Total area in oats. (Acres.)	Percentage of total.	Cumu- lative per- centage.
The United States	28, 320, 077	100.00		25. West Virginia	180, 815	0.64	96. 20
1, Illinois.	3, 870, 702	13, 67	13.67	26. Mississippi	133, 361	0.47	96. 67 97. 10
2. Iowa	3, 752, 141	18, 25	26, 92	27. Maine	121, 612	0.43	97.10
3. Missouri		5.92	32.84	28. Now Jersey	121, 327	0.43	97, 89
4. Wisconsin		5.74	38.58	29. Vermont	101,582	0.36	97.89
5. Minnesota		5, 58	44, 16	31. Colorado		0.35	98, 55
0. Nobraska	1,503,515	5.31	49.47	32. Washington	87, 959 65, 089	0.23	98.78
7. Kansas	1,463,520	5, 17	54.61	33. California.	57, 569	0.23	98.98
8. New York		5.00	59.64	34. Montana	52, 768	0.19	99.17
0. Pennsylvania	1, 310, 197	4.63	64, 27	35. Florido	1	0.15	99, 32
10. Ohio		4, 20	68.56	36. Louisiana.	42, 003 27, 023	0.13	09, 41
11. Indiana	1, 102, 479	3.89	72, 45	87. New Hampshire	1	0.09	90.50
· 12. Michigan	1,085,759	3.83	76. 28	88. Connecticut		0.00	90.50
13. Kentucky	645, 316	2, 28	78.50	30. Utah	1	0.08	90, 67
14. Tonnessee	588, 138	2,08	80.04	40. Idaho	1	0.08	99. 75
15. South Dakota	580, 289	2.05	82.69	41. Dolawaro	19, 874	0.00	90. 82
16. North Carolina	541, 851	1.91	84.60	42. Wyoming		0.07	99, 87
17. Texas	528, 924	1.87	86.47	43. Massachusetts	3	0.05	99, 93
18. Georgia	516, 886	1.82	88.29	44. New Mexico	,	0.03	99, 92
19. Virginia	495, 508	1,75	90.04	45. Oklahoma	1	0.03	99. 97
20. North Dakota	402, 855	1.42	91, 46	46. Rhode Island	i '	0.02	00. 0
21. Alabama	844, 788	1.22	92.68	47. Nevada	.,	1	
22. South Carolina	808, 056	1.09	93.77	48. Arizona.		0.03	100, 00
23. Arkansas	288, 332	1.02	94.79	49. District of Columbia	(3)	1	
24. Oregon	218, 736	0.77	95, 56	244 Tip Prior of Continuity	. 03/	1	

The states that had the largest area devoted to the cultivation of oats in 1889 belong to the North Central division, which, with only 25.37 per cent of the entire land surface of the country, contained 70.13 per cent of the total acreage under oats. The division which stands next in importance is the North Atlantic, having 11.09 per cent of the total area under oats. That proportion was far in excess of the ratio borne by its land surface to the entire land surface of the country, which was only 5.46 per cent. Next in importance stands the South Atlantic division, which, with 9.04 per cent of the entire land surface, had 7.78 per cent of the total acreage under oats. The South Central division, with 20.55 per cent of the entire land surface, had 9.04 per cent of the total acreage, while the Western division, with 39.58 per cent of the entire land surface, had only 1.96 per cent of the total acreage under oats.

The net increase in the acreage under oats is not only much larger than that under any other cereal but it is more generally distributed. Of the states and territories, 37 show an increase in their acreage under oats, the total aggregating 12,455,069 acres. The total decrease in the 12 states that show a restricted area devoted to oats was only 278,985 acres, so that there was a net increase of 12,176,084 acres. The following states show an increase of acreage under oats: Iowa, 2,244,564 acres; Illinois, 1,910,813 acres; Nebraska, 1,253,058 acres; Kansas, 1,027,667 acres; Minnesota, 961,789 acres; Missouri, 708,233 acres; Wisconsin, 671,554 acres; Michigan, 549,572 acres; South Dakota, 520,414 acres; Indiana, 478,948 acres; North Dakota, 384,504 acres; Ohio, 304,967 acres; Texas, 290,914 acres; Kentucky, 241,900 acres; New York, 156,200 acres; Arkansas, 121,819 acres, and Tennessee, 119,572 acres. The only states that show a reduction in their acreage under oats that is at all worthy of mention are Georgia, with a decrease of 95,892 acres; Virginia, 67,935 acres, and Mississippi, 65,136 acres. The extent to which the increase of acreage under oats is distributed throughout the country is apparent on an examination of the totals for the 5 grand divisions of the states. In the North Atlantic there is an increase of 234,185 acres, or 8.06 per cent; in the North Central the increase is 11,016,083 acres, or 124.56 per cent; in the South Central, 733,837 acres, or 40.18 per cent, and in the Western, 219,754 acres, or 65.40 per cent, while in the South Atlantic there is a decrease of 27,775 acres, or 1.24 per cent.

There were, in 1889, 7 states that had a larger area under oats than under any other cereal. In Maine 70.80 acres out of every 100 acres in cereals were under oats, in Montana 68.38, in Wyoming 66.96, and in Vermont 54.91 acres. New York with 43.75 acres under oats out of every 100 of the total cereal acreage, New Hampshire with 43.28, and Wisconsin, with 37.67 acres, had a larger acreage devoted to oats than to any other cereal. In the United States at large the proportion in oats was 20.20 acres in 1889 out of every 100 under cereals, as compared with 13.61 out of every 100 in 1879.

Taking the states by geographical divisions and comparing the ratio borne by the acreage under oats to the total cereal acreage of the division in 1889 with what it was in 1879, it is found that in the North Atlantic the percentage increased from 29.32 to 35.41, in the North Central from 12.61 to 21.92, in the South Central from 9.46

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to 12.72, and in the Western from 8.82 to 9.40. In the South Atlantic, the only one of the 5 showing a reduced acreage under oats, the proportion of the total cereal acreage devoted to that product shows a slight increase, owing in part to the still greater reduction in the area under wheat.

PRODUCTION OF OATS WITH PERCENTAGES OF TOTAL PRODUCT, BY STATES AND TERRITORIES, IN DESCENDING ORDER OF PRODUCTION: 1889.

STATES AND TERRITORIES.	Total produc- tion of oats. (Bushels.)	Percentage of total.	Cumu- lative per- centage,	etatus and territories.	Total produc- tion of oats. (Bushels.)	Percentage of total.	Cumu- lative per- centage.
The United States	809, 250, 666	100.00		25, Alabama	3, 230, 455	0,40	96, 93
				26. South Carolina	3,019,119	0.37	97.30
1, Iowa	140, 679, 289	18. 13	18, 13	27. West Virginia	2, 946, 653	0.88	97.66
2. Illinois	137, 024, 828	17. 01	95.14	28. New Jorsey	2, 837, 293	0.35	98.01
3. Wisconsin	60, 739, 052	7. 51	42, 65	20. Colorado	2, 514, 480	0.31	98, 32
4, Minnesota	,,,	6.17	48.82	30. Washington	2, 273, 182	0.28	00.80
5. Kansas	44, 629, 034	5, 52	54.84	31. Maryland	2, 010, 658	0, 25	98, 85
6. Nobraska	43, 843, 640	5.42	59, 76	32. Montana	1,535,615	0.19	90,04
7. Ohio	40, 136, 732	4.00	64.72	83. California	1,463,068	. 0.18	99.22
8. Missouri	89, 820, 149	4.92	60, 64	34. Mississippi	1, 362, 290	0.17	90, 30
9. New York	38, 896, 479	4.81	74.45	35. New Hampshire	892, 243	0.11	99, 50
10. Michigan	36, 961, 193	4.57	79.02	86. Utah	597, 947	0.07	99, 57
II. Pennsylvania;	86, 197, 409	4.47	83, 49	87. Connocticut	593, 091	0.07	99, 64
12, Indiana	81,401,601	3.89	87.88	38. Idaho	587, 407	0.07	99.71
13. Toxas	12,581,360	1,56	88, 94	39. Florida	891, 321	0.05	99, 76
14. Kentacky	8,775,814	1.08	90.02	40. Massachusetts	388, 819	0.05	99.81
15. South Dakota	7, 460, 840	0.92	00, 04	41. Wyoming	888, 505	0.05	20, 80
16. Tennossee	7, 355, 100	0.91	91.85	42. Delaware	382, 900	0.05	00.01
17. Oregon	5,948,594	0.74	92.59	43. Louisiana	207, 271	0.04	00,05
18. North Dakota	5, 773, 129	0.71	93.30	44. Now Mexico	193, 832	0.02	99, 97
19, Virginia	5,695,100	0.70	04,00	45. Rhode Island		0.01	99,98
20. Georgia	4,707,821	0.59	94, 59	40. Novada	90, 126	0.01	90,99
21. North Carolina		0, 53	95, 15	47. Oklahoma	1	h	
22. Arkansas		0, 52	95, 67	48. Arizona.	83, 996	0.01	100,00
23. Maino	1 1 1	0.45	06.12	49. District of Columbia.	1,871	11	J
24. Vermont	1 , ., .,	0,41	96, 53	•			,

Of oats, as of corn, Iowa had the largest production, although second to Illinois in extent of area devoted thereto. Out of the 14 states that had the largest production of oats in 1889, Nebraska was the only one that had the same rank in the scale of production as in that of acreage. Missouri, while standing third in the number of acres devoted to the cultivation of this product, stood eighth in the number of bushels produced. Wisconsin, Minnesota, Kansas, Ohio, Michigan, and Texas stood higher in the scale of production than in that of acreage, while New York, Pennsylvania, Indiana, and Kentucky fail to maintain, when production becomes the basis of comparison, the positions they respectively occupied in the scale of acreage.

Over one-third of the total oat production of the country was contributed by Iowa and Illinois, and these states, added to Wisconsin, Minnesota, Kansas, and Nebraska, have an aggregate production amounting to almost three-fifths of the total production of the country. Berkshire county, in Massachusetts, produced in 1889 over one-half of the total corp of the state, while in Rhode Island, Newport and Washington counties contributed over nine-tenths of the whole. In Arizona practically all the eats grown in the territory were the production of Apache county, and in Nevada, one county, Elko, out of 14, furnished nearly two-thirds of the entire crop of the state. Over one-half of the total crop of the state was produced in Maine by 3 counties out of 16; in New Hampshire, by 2 out of 10; in Connecticut, by 2 out of 8; in Maryland, by 4 out of 23; in Florida, by 6 out of 45; in Minnesota, by 16 out of 79; in North Dakota, by 4 out of 47; in Oregon, by 4 out of 31; in Washington, by 3 out of 33; in Wyoming, by 2 out of 12; in Montana, by 3 out of 16; in Colorado, by 8 out of 51; in New Mexico, by 2 out of 14; in California, by 6 out of 53, and in Louisiana, by 6 out of 59. In New York 9 counties out of 60 had over one-third of the total oat production of the state, while in Pennsylvania 8 counties out of 60 produced over one-fourth.

The average yield per acre of cats in the United States was 28.57 bushels. In the North Atlantic division the average yield per acre was 27.66 bushels, in the North Central it was 32.48 bushels, and in the Western 28.13 bushels. In the South Atlantic and South Central divisions it was 10.77 and 14.79 bushels, respectively. The state of Iowa had an average production of over 39 bushels per acre, Wisconsin over 37, Illinois over 35, Washington and Michigan over 34, New Hampshire and Ohio over 33, Vermont over 32, Minnesota over 31, and Kansas and Maine over 30. There were 22 states and territories which had an average yield of between 20 and 30 bushels to the acre: Nebraska and Montana over 29, Colorado, Indiana, and Nevada over 28, Pennsylvania, Rhode Island, New York, Oregon, and Massachusetts over 27, Idaho, Wyoming, and Utah over 26, California over 25, Connecticut over 24, Texas, Missouri, New Jersey, and Arizona over 23, the District of Columbia over 21, New

Mexico and Maryland over 20. The states and territory with an average of from 10 to 20 bushels per acre were Delaware with over 19, Oklahoma with over 17, West Virginia with over 16, Arkansas and North Dakota with over 14, Kentucky with over 13, South Dakota and Tennessee with over 12, Virginia and Louisiana with 11 or over, and Mississippi with over 10. South Carolina, Alabama, Florida, and Georgia averaged over 9 bushels to the acre, and North Carolina stood at the foot of the list with 8.33 bushels.

The average production of oats per head of population in the country at large was 12.92 bushels. By geographical divisions the North Central has the largest production per head of population, 28.85 bushels, the Western being 5.16 bushels, the North Atlantic 4.99, the South Central 3.45, and the South Atlantic 2.68.

BARLEY.

The total area devoted to the cultivation of barley in the United States in 1889 was 3,220,834 acres, or 2.29 per cent of the total cereal acreage of the country. The total barley production was 78,332,976 bushels, or an average of 24,32 bushels per acre.

In 1879 the total area under barley was 1,997,727 acres, or 1.68 per cent of the total cereal acreage, while the total production was 43,997,495 bushels, or an average of 22.02 bushels per acre.

There was, accordingly, an increase of 1,223,107 acres, or 61.22 per cent, in area; of 34,335,481 bushels, or 78.04 per cent, in production, and of 2.30 bushels per acre in the average yield.

The following table shows the total barley production for the years immediately preceding each decennial census, from and including that of 1840, the total percentage of increase since 1839, the percentage of increase by decades, and the production per capita of total population:

YBARS.	Total produc- tion of barley. (Bushels.)	Percentage of increase since 1830.	Percent- age of in- crease by decades.	Number of bushels per capita of total population.	
1889	78, 332, 970	1,782.32	78.04	1. 25	
1879	43, 997, 495	957.25	47.83	0.88	
1869	29, 761, 305	615.16	88.05	0.77	
1859	15, 825, 898	280, 29	206, 29	0.50	
1849	5, 167, 015	24.16	24.16	0.22	
1839	4, 161, 504			0.24	

It will be seen from the foregoing table that the greatest increase in the volume of barley production occurred between 1879 and 1889 and the smallest between 1839 and 1849, the greatest percentage of increase between 1849 and 1859 and the smallest between 1839 and 1849, the greatest production per head of population in 1889 and the smallest in 1849.

The decade ending with 1889 witnessed an increase in the area devoted to the cultivation of barley second only to the increase in the area devoted to oats. The acreage devoted to this purpose showed an increase of 61.22 per cent and the total production an increase of 78.04 per cent.

The enlargement of the area devoted to barley has not been confined to any particular section of the country, although it has had its largest development in the west. The center of production is now west of the Mississippi river; there are 2 acres under barley west of that river for every 1 acre east of it. While, taking the country as a whole, there are 25 states that show a reduced acreage against 23 that show an increase, the total reduction of acreage amounts to only 144,821 acres, as compared with a total increase of 1,367,928 acres. East of the Mississippi river there was an increase of 257,785 acres, west of the Mississippi an increase of 965,322 acres.

