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Small Grains 2016 Summary

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USDA



All wheat production totaled 2.31 billion bushels in 2016, up 12 percent from the revised 2015 total of 2.06 billion bushels. Area harvested for grain totaled 43.9 million acres, down 7 percent from the previous year. The United States yield is estimated at 52.6 bushels per acre, up 9 bushels from the previous year and represents a new record high. The levels of production and changes from 2015 by type are winter wheat, 1.67 billion bushels, up 22 percent; other spring wheat, 534 million bushels, down 11 percent; and Durum wheat, 104 million bushels, up 24 percent.

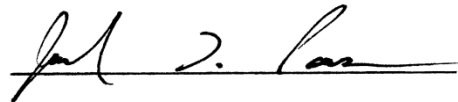
Oat production is estimated at 64.8 million bushels, down 28 percent from 2015. Yield is estimated at 66.0 bushels per acre, down 4.2 bushels from the previous year. Harvested area, at 981,000 acres, is 23 percent below last year.

Barley production is estimated at 199 million bushels, down 9 percent from the revised 2015 total of 218 million bushels. Average yield per acre, at 77.9 bushels, is up 8.8 bushels from the previous year and is the highest yield on record since estimates began in 1866. Producers seeded 3.05 million acres in 2016, down 16 percent from last year. Harvested area, at 2.56 million acres, is down 19 percent from 2015.

This report was approved on September 30, 2016.



Secretary of Agriculture
Designate
Robert Johansson



Agricultural Statistics Board
Chairperson
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Oat Area Planted and Harvested, Yield, and Production – States and United States: 2014-2016

State	Area planted ¹			Area harvested		
	2014	2015	2016	2014	2015	2016
	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)
Alabama	50	55	50	15	20	20
Arkansas	12	11	11	8	8	8
California	120	120	110	10	10	11
Colorado	45	45	55	9	10	10
Georgia	60	65	45	20	25	15
Idaho	70	75	55	15	15	15
Illinois	35	40	45	25	25	20
Indiana ²	20	15	(NA)	10	5	(NA)
Iowa	145	125	120	55	57	43
Kansas	85	95	120	15	40	30
Maine	32	30	25	31	29	24
Michigan	55	75	65	40	50	30
Minnesota	230	280	210	125	160	120
Missouri	25	30	45	13	14	19
Montana	45	50	60	16	22	28
Nebraska	110	135	135	30	40	25
New York	55	70	90	40	40	60
North Carolina	33	35	35	17	16	9
North Dakota	235	275	290	105	140	110
Ohio	50	70	50	35	40	25
Oklahoma	60	40	65	10	7	8
Oregon	30	35	30	18	11	10
Pennsylvania	90	95	85	60	65	50
South Carolina	21	24	17	10	9	7
South Dakota	250	325	295	100	145	110
Texas	450	520	470	45	55	60
Utah ²	20	20	(NA)	3	2	(NA)
Virginia ²	10	12	(NA)	3	4	(NA)
Washington	25	18	18	5	5	7
Wisconsin	255	280	210	140	195	100
Wyoming	30	23	22	7	12	7
United States	2,753	3,088	2,828	1,035	1,276	981

See footnote(s) at end of table.

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**Oat Area Planted and Harvested, Yield, and Production – States and United States:
2014-2016 (continued)**

State	Yield			Production		
	2014 (bushels)	2015 (bushels)	2016 (bushels)	2014 (1,000 bushels)	2015 (1,000 bushels)	2016 (1,000 bushels)
Alabama	65.0	50.0	55.0	975	1,000	1,100
Arkansas	90.0	60.0	73.0	720	480	584
California	100.0	60.0	65.0	1,000	600	715
Colorado	60.0	80.0	80.0	540	800	800
Georgia	54.0	45.0	58.0	1,080	1,125	870
Idaho	82.0	86.0	83.0	1,230	1,290	1,245
Illinois	80.0	77.0	81.0	2,000	1,925	1,620
Indiana ²	74.0	59.0	(NA)	740	295	(NA)
Iowa	64.0	73.0	76.0	3,520	4,161	3,268
Kansas	56.0	65.0	57.0	840	2,600	1,710
Maine	70.0	80.0	71.0	2,170	2,320	1,704
Michigan	69.0	67.0	58.0	2,760	3,350	1,740
Minnesota	63.0	78.0	68.0	7,875	12,480	8,160
Missouri	65.0	65.0	60.0	845	910	1,140
Montana	69.0	53.0	47.0	1,104	1,166	1,316
Nebraska	80.0	67.0	60.0	2,400	2,680	1,500
New York	63.0	58.0	55.0	2,520	2,320	3,300
North Carolina	67.0	66.0	60.0	1,139	1,056	540
North Dakota	73.0	74.0	66.0	7,665	10,360	7,260
Ohio	63.0	63.0	74.0	2,205	2,520	1,850
Oklahoma	38.0	39.0	43.0	380	273	344
Oregon	85.0	88.0	90.0	1,530	968	900
Pennsylvania	58.0	55.0	67.0	3,480	3,575	3,350
South Carolina	62.0	58.0	46.0	620	522	322
South Dakota	93.0	87.0	82.0	9,300	12,615	9,020
Texas	38.0	48.0	50.0	1,710	2,640	3,000
Utah ²	69.0	85.0	(NA)	207	170	(NA)
Virginia ²	78.0	76.0	(NA)	234	304	(NA)
Washington	70.0	54.0	61.0	350	270	427
Wisconsin	62.0	72.0	66.0	8,680	14,040	6,600
Wyoming	59.0	60.0	55.0	413	720	385
United States	67.9	70.2	66.0	70,232	89,535	64,770

(NA) Not available.

¹ Includes area planted in preceding fall.

² Estimates discontinued in 2016.

Barley Area Planted and Harvested, Yield, and Production – States and United States: 2014-2016

State	Area planted ¹			Area harvested		
	2014	2015	2016	2014	2015	2016
	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)
Arizona	36	17	16	32	16	15
California	80	80	80	25	29	55
Colorado	57	65	79	54	63	74
Delaware	41	32	35	31	22	25
Idaho	600	610	600	550	580	580
Kansas ²	16	13	(NA)	10	8	(NA)
Maine ²	13	13	(NA)	12	12	(NA)
Maryland	70	50	50	45	35	34
Michigan ²	9	11	(NA)	8	6	(NA)
Minnesota	75	135	95	60	120	79
Montana	920	990	990	770	860	780
New York ²	12	11	(NA)	8	9	(NA)
North Carolina ²	20	19	(NA)	15	14	(NA)
North Dakota	620	1,120	740	535	1,050	640
Oregon	50	49	45	38	37	32
Pennsylvania	70	55	55	50	40	38
South Dakota ²	28	37	(NA)	17	19	(NA)
Utah	32	27	29	20	16	19
Virginia	56	46	33	28	16	12
Washington	115	115	110	105	105	93
Wisconsin ²	26	28	(NA)	16	15	(NA)
Wyoming	85	100	95	68	86	82
United States	3,031	3,623	3,052	2,497	3,158	2,558

See footnote(s) at end of table.

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**Barley Area Planted and Harvested, Yield, and Production – States and United States:
2014-2016 (continued)**

State	Yield			Production		
	2014 (bushels)	2015 (bushels)	2016 (bushels)	2014 (1,000 bushels)	2015 (1,000 bushels)	2016 (1,000 bushels)
Arizona	125.0	120.0	128.0	4,000	1,920	1,920
California	73.0	55.0	75.0	1,825	1,595	4,125
Colorado	124.0	130.0	129.0	6,696	8,190	9,546
Delaware	86.0	80.0	76.0	2,666	1,760	1,900
Idaho	94.0	97.0	107.0	51,700	56,260	62,060
Kansas ²	35.0	39.0	(NA)	350	312	(NA)
Maine ²	68.0	85.0	(NA)	816	1,020	(NA)
Maryland	77.0	69.0	72.0	3,465	2,415	2,448
Michigan ²	53.0	56.0	(NA)	424	336	(NA)
Minnesota	52.0	77.0	66.0	3,120	9,240	5,214
Montana	58.0	52.0	60.0	44,660	44,720	46,800
New York ²	47.0	45.0	(NA)	376	405	(NA)
North Carolina ²	71.0	72.0	(NA)	1,065	1,008	(NA)
North Dakota	67.0	64.0	67.0	35,845	67,200	42,880
Oregon	50.0	52.0	67.0	1,900	1,924	2,144
Pennsylvania	71.0	65.0	75.0	3,550	2,600	2,850
South Dakota ²	52.0	37.0	(NA)	884	703	(NA)
Utah	83.0	84.0	82.0	1,660	1,344	1,558
Virginia	79.0	75.0	67.0	2,212	1,200	804
Washington	60.0	48.0	77.0	6,300	5,040	7,161
Wisconsin ²	47.0	55.0	(NA)	752	825	(NA)
Wyoming	107.0	95.0	96.0	7,276	8,170	7,872
United States	72.7	69.1	77.9	181,542	218,187	199,282

(NA) Not available.

¹ Includes area planted in preceding fall.

² Estimates discontinued in 2016.

All Wheat Area Planted and Harvested, Yield, and Production – States and United States: 2014-2016

State	Area planted ¹			Area harvested		
	2014 (1,000 acres)	2015 (1,000 acres)	2016 (1,000 acres)	2014 (1,000 acres)	2015 (1,000 acres)	2016 (1,000 acres)
Alabama	255	260	230	225	220	170
Arizona	85	160	111	83	152	103
Arkansas	465	350	195	395	240	115
California	530	520	480	220	235	217
Colorado	2,759	2,458	2,361	2,358	2,197	2,200
Delaware	80	70	70	75	65	65
Florida	15	25	25	10	15	17
Georgia	300	215	180	230	145	110
Idaho	1,271	1,220	1,180	1,196	1,155	1,115
Illinois	740	540	520	670	520	470
Indiana	390	290	330	335	260	280
Iowa	26	20	25	15	15	17
Kansas	9,600	9,200	8,500	8,800	8,700	8,200
Kentucky	630	560	510	510	440	400
Louisiana	160	110	25	150	92	20
Maryland	340	355	360	250	270	260
Michigan	550	510	610	470	475	570
Minnesota	1,262	1,532	1,321	1,212	1,473	1,268
Mississippi	230	150	65	215	120	50
Missouri	880	760	690	740	610	570
Montana	5,985	5,620	5,180	5,650	5,365	5,025
Nebraska	1,550	1,490	1,370	1,450	1,210	1,310
Nevada	21	12	15	10	8	9
New Jersey	33	27	25	25	20	21
New Mexico	380	385	340	105	190	205
New York	120	120	120	95	110	115
North Carolina	830	650	420	770	570	355
North Dakota	7,960	7,990	7,590	7,490	7,915	7,410
Ohio	620	520	580	545	480	560
Oklahoma	5,300	5,300	5,000	2,800	3,800	3,500
Oregon	830	835	810	818	828	797
Pennsylvania	185	195	190	150	175	150
South Carolina	230	170	60	220	160	50
South Dakota	2,514	2,756	2,270	2,364	2,236	2,157
Tennessee	530	455	400	475	395	335
Texas	6,000	6,100	5,000	2,250	3,550	2,800
Utah	130	135	129	117	128	120
Virginia	290	260	210	260	210	175
Washington	2,320	2,290	2,240	2,250	2,225	2,200
West Virginia	10	9	7	7	4	4
Wisconsin	295	230	270	250	210	250
Wyoming	140	145	140	125	130	125
United States	56,841	54,999	50,154	46,385	47,318	43,890

See footnote(s) at end of table.

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**All Wheat Area Planted and Harvested, Yield, and Production – States and United States:
2014-2016 (continued)**

State	Yield			Production		
	2014 (bushels)	2015 (bushels)	2016 (bushels)	2014 (1,000 bushels)	2015 (1,000 bushels)	2016 (1,000 bushels)
Alabama	69.0	68.0	70.0	15,525	14,960	11,900
Arizona	110.1	101.0	97.8	9,136	15,356	10,073
Arkansas	63.0	56.0	54.0	24,885	13,440	6,210
California	83.4	79.1	79.7	18,350	18,595	17,302
Colorado	38.1	37.1	48.2	89,812	81,485	106,000
Delaware	72.0	65.0	67.0	5,400	4,225	4,355
Florida	39.0	43.0	30.0	390	645	510
Georgia	49.0	43.0	46.0	11,270	6,235	5,060
Idaho	78.4	77.4	91.3	93,717	89,370	101,855
Illinois	67.0	65.0	74.0	44,890	33,800	34,780
Indiana	76.0	68.0	81.0	25,460	17,680	22,680
Iowa	49.0	52.0	63.0	735	780	1,071
Kansas	28.0	37.0	57.0	246,400	321,900	467,400
Kentucky	71.0	73.0	80.0	36,210	32,120	32,000
Louisiana	62.0	39.0	45.0	9,300	3,588	900
Maryland	70.0	64.0	64.0	17,500	17,280	16,640
Michigan	74.0	81.0	89.0	34,780	38,475	50,730
Minnesota	54.8	59.9	59.0	66,468	88,294	74,828
Mississippi	58.0	48.0	48.0	12,470	5,760	2,400
Missouri	58.0	53.0	70.0	42,920	32,330	39,900
Montana	37.1	35.1	42.3	209,470	188,515	212,675
Nebraska	49.0	38.0	54.0	71,050	45,980	70,740
Nevada	105.0	81.3	72.3	1,050	650	651
New Jersey	53.0	50.0	64.0	1,325	1,000	1,344
New Mexico	28.0	25.0	22.0	2,940	4,750	4,510
New York	63.0	63.0	74.0	5,985	6,930	8,510
North Carolina	58.0	53.0	41.0	44,660	30,210	14,555
North Dakota	46.3	46.7	45.0	347,068	370,023	333,180
Ohio	74.0	67.0	80.0	40,330	32,160	44,800
Oklahoma	17.0	26.0	39.0	47,600	98,800	136,500
Oregon	54.3	47.3	50.1	44,444	39,195	39,937
Pennsylvania	65.0	65.0	68.0	9,750	11,375	10,200
South Carolina	52.0	46.0	43.0	11,440	7,360	2,150
South Dakota	55.5	46.2	51.6	131,260	103,406	111,281
Tennessee	66.0	68.0	73.0	31,350	26,860	24,455
Texas	30.0	30.0	32.0	67,500	106,500	89,600
Utah	50.3	48.5	59.9	5,882	6,207	7,184
Virginia	68.0	66.0	53.0	17,680	13,860	9,275
Washington	48.2	50.3	71.5	108,460	111,900	157,290
West Virginia	64.0	60.0	61.0	448	240	244
Wisconsin	65.0	74.0	79.0	16,250	15,540	19,750
Wyoming	38.0	32.0	34.0	4,750	4,160	4,250
United States	43.7	43.6	52.6	2,026,310	2,061,939	2,309,675

¹ Includes area planted in preceding fall.

Winter Wheat Area Planted and Harvested, Yield, and Production – States and United States: 2014-2016

State	Area planted ¹			Area harvested		
	2014 (1,000 acres)	2015 (1,000 acres)	2016 (1,000 acres)	2014 (1,000 acres)	2015 (1,000 acres)	2016 (1,000 acres)
Alabama	255	260	230	225	220	170
Arizona	8	5	14	7	2	7
Arkansas	465	350	195	395	240	115
California	490	450	425	190	170	170
Colorado	2,750	2,450	2,350	2,350	2,190	2,190
Delaware	80	70	70	75	65	65
Florida	15	25	25	10	15	17
Georgia	300	215	180	230	145	110
Idaho	780	760	760	730	710	710
Illinois	740	540	520	670	520	470
Indiana	390	290	330	335	260	280
Iowa	26	20	25	15	15	17
Kansas	9,600	9,200	8,500	8,800	8,700	8,200
Kentucky	630	560	510	510	440	400
Louisiana	160	110	25	150	92	20
Maryland	340	355	360	250	270	260
Michigan	550	510	610	470	475	570
Minnesota	42	52	11	32	43	8
Mississippi	230	150	65	215	120	50
Missouri	880	760	690	740	610	570
Montana	2,500	2,350	2,250	2,240	2,220	2,150
Nebraska	1,550	1,490	1,370	1,450	1,210	1,310
Nevada	15	8	10	9	6	6
New Jersey	33	27	25	25	20	21
New Mexico	380	385	340	105	190	205
New York	120	120	120	95	110	115
North Carolina	830	650	420	770	570	355
North Dakota	870	200	130	555	190	120
Ohio	620	520	580	545	480	560
Oklahoma	5,300	5,300	5,000	2,800	3,800	3,500
Oregon	750	740	720	740	735	710
Pennsylvania	185	195	190	150	175	150
South Carolina	230	170	60	220	160	50
South Dakota	1,210	1,420	1,180	1,080	970	1,100
Tennessee	530	455	400	475	395	335
Texas	6,000	6,100	5,000	2,250	3,550	2,800
Utah	120	125	120	109	119	112
Virginia	290	260	210	260	210	175
Washington	1,700	1,650	1,700	1,640	1,590	1,670
West Virginia	10	9	7	7	4	4
Wisconsin	295	230	270	250	210	250
Wyoming	140	145	140	125	130	125
United States	42,409	39,681	36,137	32,299	32,346	30,222

See footnote(s) at end of table.

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**Winter Wheat Planted and Harvested, Yield, and Production – States and United States:
2014-2016 (continued)**

State	Yield			Production		
	2014 (bushels)	2015 (bushels)	2016 (bushels)	2014 (1,000 bushels)	2015 (1,000 bushels)	2016 (1,000 bushels)
Alabama	69.0	68.0	70.0	15,525	14,960	11,900
Arizona	100.0	103.0	95.0	700	206	665
Arkansas	63.0	56.0	54.0	24,885	13,440	6,210
California	80.0	70.0	78.0	15,200	11,900	13,260
Colorado	38.0	37.0	48.0	89,300	81,030	105,120
Delaware	72.0	65.0	67.0	5,400	4,225	4,355
Florida	39.0	43.0	30.0	390	645	510
Georgia	49.0	43.0	46.0	11,270	6,235	5,060
Idaho	80.0	82.0	94.0	58,400	58,220	66,740
Illinois	67.0	65.0	74.0	44,890	33,800	34,780
Indiana	76.0	68.0	81.0	25,460	17,680	22,680
Iowa	49.0	52.0	63.0	735	780	1,071
Kansas	28.0	37.0	57.0	246,400	321,900	467,400
Kentucky	71.0	73.0	80.0	36,210	32,120	32,000
Louisiana	62.0	39.0	45.0	9,300	3,588	900
Maryland	70.0	64.0	64.0	17,500	17,280	16,640
Michigan	74.0	81.0	89.0	34,780	38,475	50,730
Minnesota	49.0	58.0	61.0	1,568	2,494	488
Mississippi	58.0	48.0	48.0	12,470	5,760	2,400
Missouri	58.0	53.0	70.0	42,920	32,330	39,900
Montana	41.0	41.0	49.0	91,840	91,020	105,350
Nebraska	49.0	38.0	54.0	71,050	45,980	70,740
Nevada	110.0	90.0	75.0	990	540	450
New Jersey	53.0	50.0	64.0	1,325	1,000	1,344
New Mexico	28.0	25.0	22.0	2,940	4,750	4,510
New York	63.0	63.0	74.0	5,985	6,930	8,510
North Carolina	58.0	53.0	41.0	44,660	30,210	14,555
North Dakota	49.0	44.0	48.0	27,195	8,360	5,760
Ohio	74.0	67.0	80.0	40,330	32,160	44,800
Oklahoma	17.0	26.0	39.0	47,600	98,800	136,500
Oregon	55.0	47.0	50.0	40,700	34,545	35,500
Pennsylvania	65.0	65.0	68.0	9,750	11,375	10,200
South Carolina	52.0	46.0	43.0	11,440	7,360	2,150
South Dakota	55.0	44.0	58.0	59,400	42,680	63,800
Tennessee	66.0	68.0	73.0	31,350	26,860	24,455
Texas	30.0	30.0	32.0	67,500	106,500	89,600
Utah	50.0	48.0	60.0	5,450	5,712	6,720
Virginia	68.0	66.0	53.0	17,680	13,860	9,275
Washington	52.0	56.0	78.0	85,280	89,040	130,260
West Virginia	64.0	60.0	61.0	448	240	244
Wisconsin	65.0	74.0	79.0	16,250	15,540	19,750
Wyoming	38.0	32.0	34.0	4,750	4,160	4,250
United States	42.6	42.5	55.3	1,377,216	1,374,690	1,671,532

¹ Includes area planted in preceding fall.

Other Spring Wheat Area Planted and Harvested, Yield, and Production – States and United States: 2014-2016

State	Area planted			Area harvested		
	2014	2015	2016	2014	2015	2016
	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)
Colorado	9	8	11	8	7	10
Idaho	480	450	410	455	435	395
Minnesota	1,220	1,480	1,310	1,180	1,430	1,260
Montana	3,050	2,650	2,150	2,980	2,540	2,110
Nevada	6	4	5	1	2	3
North Dakota	6,250	6,700	6,000	6,140	6,650	5,850
Oregon	80	95	90	78	93	87
South Dakota	1,300	1,330	1,080	1,280	1,260	1,050
Utah	10	10	9	8	9	8
Washington	620	640	540	610	635	530
United States	13,025	13,367	11,605	12,740	13,061	11,303
State	Yield			Production		
	2014	2015	2016	2014	2015	2016
	(bushels)	(bushels)	(bushels)	(1,000 bushels)	(1,000 bushels)	(1,000 bushels)
Colorado	64.0	65.0	88.0	512	455	880
Idaho	76.0	70.0	87.0	34,580	30,450	34,365
Minnesota	55.0	60.0	59.0	64,900	85,800	74,340
Montana	35.0	31.0	36.0	104,300	78,740	75,960
Nevada	60.0	55.0	67.0	60	110	201
North Dakota	47.5	48.0	46.0	291,650	319,200	269,100
Oregon	48.0	50.0	51.0	3,744	4,650	4,437
South Dakota	56.0	48.0	45.0	71,680	60,480	47,250
Utah	54.0	55.0	58.0	432	495	464
Washington	38.0	36.0	51.0	23,180	22,860	27,030
United States	46.7	46.2	47.2	595,038	603,240	534,027

Durum Wheat Area Planted and Harvested, Yield, and Production – States and United States: 2014-2016

State	Area planted			Area harvested		
	2014	2015	2016	2014	2015	2016
	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)
Arizona	77	155	97	76	150	96
California	40	70	55	30	65	47
Idaho	11	10	10	11	10	10
Montana	435	620	780	430	605	765
North Dakota	840	1,090	1,460	795	1,075	1,440
South Dakota	4	6	10	4	6	7
United States	1,407	1,951	2,412	1,346	1,911	2,365

State	Yield			Production		
	2014	2015	2016	2014	2015	2016
	(bushels)	(bushels)	(bushels)	(1,000 bushels)	(1,000 bushels)	(1,000 bushels)
Arizona	111.0	101.0	98.0	8,436	15,150	9,408
California	105.0	103.0	86.0	3,150	6,695	4,042
Idaho	67.0	70.0	75.0	737	700	750
Montana	31.0	31.0	41.0	13,330	18,755	31,365
North Dakota	35.5	39.5	40.5	28,223	42,463	58,320
South Dakota	45.0	41.0	33.0	180	246	231
United States	40.2	44.0	44.0	54,056	84,009	104,116

Wheat Production by Class – United States: 2014-2016

[Wheat class estimates are based on the latest available data including both surveys and administrative data]

Crop	2014	2015	2016
	(1,000 bushels)	(1,000 bushels)	(1,000 bushels)
Winter			
Hard red	738,650	830,446	1,081,690
Soft red	454,531	359,054	345,230
Hard white	11,546	16,109	25,476
Soft white	172,489	169,081	219,136
Spring			
Hard red	555,543	567,637	493,125
Hard white	8,943	5,649	7,539
Soft white	30,552	29,954	33,363
Durum	54,056	84,009	104,116
Total	2,026,310	2,061,939	2,309,675

Wheat Class Percentage Estimates

The following percentages are the basis for the United States wheat production by class estimates each year. These estimates are based on the latest varietal or class survey data available. These end-of-season percentages will be used during the 2017 forecast season. However, if an unusual situation significantly distorts a State's normal distribution, then updated percentages will be used to forecast the production by class.

Winter Wheat Production Distribution by Class – States: 2015 and 2016

State	Hard red		Soft red		Hard white		Soft white	
	2015 (percent)	2016 (percent)	2015 (percent)	2016 (percent)	2015 (percent)	2016 (percent)	2015 (percent)	2016 (percent)
Alabama	-	1	100	99	-	-	-	-
Arizona	99	98	-	-	1	2	-	-
Arkansas	-	-	100	100	-	-	-	-
California	89	89	-	-	7	6	4	5
Colorado	95	93	-	-	5	7	-	-
Delaware	-	-	100	100	-	-	-	-
Florida	15	2	83	95	2	1	-	2
Georgia	-	-	100	100	-	-	-	-
Idaho	25	22	-	-	-	-	75	78
Illinois	-	-	100	100	-	-	-	-
Indiana	-	-	100	100	-	-	-	-
Iowa	56	65	42	34	1	-	1	1
Kansas	97	97	-	-	3	3	-	-
Kentucky	-	-	100	100	-	-	-	-
Louisiana	-	-	99	100	-	-	1	-
Maryland	-	-	100	100	-	-	-	-
Michigan	-	-	65	60	-	-	35	40
Minnesota	99	100	-	-	1	-	-	-
Mississippi	2	4	98	96	-	-	-	-
Missouri	2	1	98	99	-	-	-	-
Montana	100	100	-	-	-	-	-	-
Nebraska	97	96	-	-	3	4	-	-
Nevada	71	36	-	-	-	-	29	64
New Jersey	-	-	100	100	-	-	-	-
New Mexico	99	99	-	-	-	1	1	-
New York	3	3	92	92	-	1	5	4
North Carolina	-	-	100	100	-	-	-	-
North Dakota	100	100	-	-	-	-	-	-
Ohio	-	-	100	100	-	-	-	-
Oklahoma	99	99	1	1	-	-	-	-
Oregon	5	7	-	-	-	-	95	93
Pennsylvania	1	-	98	99	-	-	1	1
South Carolina	-	-	100	99	-	-	-	1
South Dakota	100	100	-	-	-	-	-	-
Tennessee	-	-	100	100	-	-	-	-
Texas	93	97	7	3	-	-	-	-
Utah	75	75	-	-	1	1	24	24
Virginia	-	-	100	100	-	-	-	-
Washington	14	15	-	-	-	-	86	85
West Virginia	4	3	95	96	-	-	1	1
Wisconsin	4	4	96	96	-	-	-	-
Wyoming	98	94	-	-	2	6	-	-

- Represents zero.

Other Spring Wheat (excluding Durum) Production Distribution by Class – States: 2015 and 2016

State	Hard red		Hard white		Soft white	
	2015	2016	2015	2016	2015	2016
	(percent)	(percent)	(percent)	(percent)	(percent)	(percent)
Colorado	50	69	40	17	10	14
Idaho	44	42	17	21	39	37
Minnesota	100	100	-	-	-	-
Montana	100	100	-	-	-	-
Nevada	-	-	-	36	100	64
North Dakota	100	100	-	-	-	-
Oregon	38	40	1	1	61	59
South Dakota	100	100	-	-	-	-
Utah	51	43	3	12	46	45
Washington	34	35	1	-	65	65

- Represents zero.

Winter Wheat Head Population

The National Agricultural Statistics Service conducted objective yield surveys in 10 winter wheat estimating States during 2016. Randomly selected plots in winter wheat fields were visited monthly from May through harvest to obtain specific counts and measurements. Data in this table are actual field counts from this survey.

Winter Wheat Heads per Square Foot – Selected States: 2012-2016

State	2012	2013	2014	2015	2016
	(number)	(number)	(number)	(number)	(number)
Colorado					
July	41.0	32.1	42.4	51.1	43.0
August	41.0	31.9	43.2	49.3	43.6
Final	41.0	31.9	43.4	49.3	43.6
Illinois					
July	56.5	60.9	63.5	56.7	57.4
August	56.5	61.2	63.7	56.9	57.3
Final	56.5	61.2	63.7	56.9	57.3
Kansas					
July	46.5	50.4	36.4	43.1	54.7
August	46.7	50.4	36.4	43.1	54.7
Final	46.7	50.4	36.4	43.1	54.7
Missouri					
July	49.9	54.6	51.2	52.5	53.7
August	49.9	55.8	50.9	52.5	53.7
Final	49.9	55.8	50.9	52.5	53.7
Montana					
July	44.1	43.7	43.4	48.9	54.6
August	44.7	45.1	44.2	47.7	55.2
Final	45.0	45.1	44.2	47.7	55.2
Nebraska					
July	50.7	38.5	48.2	47.9	60.2
August	50.7	38.8	48.2	47.6	60.3
Final	50.7	38.8	48.2	47.6	60.3
Ohio					
July	58.3	53.0	58.8	51.0	58.0
August	58.3	54.0	58.4	51.2	58.0
Final	58.3	54.0	58.4	51.2	58.0
Oklahoma					
July	47.7	51.7	34.9	39.6	41.8
August	47.7	51.7	34.9	39.4	41.8
Final	47.7	51.7	34.9	39.4	41.8
Texas					
July	34.3	33.3	32.8	34.3	34.4
August	34.3	33.3	32.8	34.3	34.4
Final	34.3	33.0	33.1	34.2	34.5
Washington					
July	37.3	38.0	32.3	31.3	36.1
August	36.6	38.6	32.1	31.3	35.3
Final	36.9	38.6	32.3	31.3	35.5
10 State					
July	44.8	46.4	39.5	42.8	48.3
August	44.9	46.6	39.6	42.4	48.4
Final	44.9	46.6	39.5	42.4	48.4

Rye Area Planted and Harvested, Yield, and Production – States and United States: 2014-2016

State	Area planted ¹			Area harvested		
	2014	2015	2016	2014	2015	2016
	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)
Georgia	170	210	200	20	30	30
Oklahoma	240	250	260	55	85	75
Other States ²	1,024	1,124	1,431	183	250	309
United States	1,434	1,584	1,891	258	365	414
State	Yield			Production		
	2014	2015	2016	2014	2015	2016
	(bushels)	(bushels)	(bushels)	(1,000 bushels)	(1,000 bushels)	(1,000 bushels)
Georgia	27.0	14.0	21.0	540	420	630
Oklahoma	9.0	24.0	25.0	495	2,040	1,875
Other States ²	33.6	36.6	35.4	6,154	9,156	10,946
United States	27.9	31.8	32.5	7,189	11,616	13,451

¹ Includes area planted in preceding fall.

² For 2015, Other States include: Illinois, Kansas, Michigan, Minnesota, Nebraska, New York, North Carolina, North Dakota, Pennsylvania, South Carolina, South Dakota, Texas, and Wisconsin. For 2016, Other States include: Illinois, Kansas, Maine, Maryland, Michigan, Minnesota, Nebraska, New Jersey, New York, North Carolina, North Dakota, Pennsylvania, South Carolina, South Dakota, Texas, Virginia, and Wisconsin.

Small Grain Annual Summary Area Planted and Harvested, Yield, and Production in Domestic Units – United States: 2015-2016

Crop	Area planted		Area harvested	
	2015	2016	2015	2016
	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)
Barley	3,623	3,052	3,158	2,558
Oats	3,088	2,828	1,276	981
Rye	1,584	1,891	365	414
Wheat, all	54,999	50,154	47,318	43,890
Winter	39,681	36,137	32,346	30,222
Durum	1,951	2,412	1,911	2,365
Other spring	13,367	11,605	13,061	11,303
Crop	Yield per acre		Production	
	2015	2016	2015	2016
	(bushels)	(bushels)	(1,000 bushels)	(1,000 bushels)
Barley	69.1	77.9	218,187	199,282
Oats	70.2	66.0	89,535	64,770
Rye	31.8	32.5	11,616	13,451
Wheat, all	43.6	52.6	2,061,939	2,309,675
Winter	42.5	55.3	1,374,690	1,671,532
Durum	44.0	44.0	84,009	104,116
Other spring	46.2	47.2	603,240	534,027

Small Grain Annual Summary Area Planted and Harvested, Yield, and Production in Metric Units – United States: 2015-2016

Crop	Area planted		Area harvested	
	2015	2016	2015	2016
	(hectares)	(hectares)	(hectares)	(hectares)
Barley	1,466,190	1,235,110	1,278,010	1,035,200
Oats	1,249,680	1,144,460	516,380	397,000
Rye	641,030	765,270	147,710	167,540
Wheat, all	22,257,550	20,296,820	19,149,120	17,761,840
Winter	16,058,500	14,624,280	13,090,100	12,230,540
Durum	789,550	976,110	773,360	957,090
Other spring	5,409,490	4,696,430	5,285,660	4,574,210
Crop	Yield per hectare		Production	
	2015	2016	2015	2016
	(metric tons)	(metric tons)	(metric tons)	(metric tons)
Barley	3.72	4.19	4,750,460	4,338,850
Oats	2.52	2.37	1,299,600	940,130
Rye	2.00	2.04	295,060	341,670
Wheat, all	2.93	3.54	56,116,780	62,859,050
Winter	2.86	3.72	37,412,930	45,491,650
Durum	2.96	2.96	2,286,350	2,833,570
Other spring	3.11	3.18	16,417,500	14,533,830

Crop Comments

Oats: Production in 2016 is estimated at 64.8 million bushels, down 28 percent from 2015. Yield is estimated at 66.0 bushels per acre, down 4.2 bushels from the previous year. Harvested area, at 981,000 acres, is 23 percent below the previous year. Record low acres were harvested in Georgia, Iowa, North Carolina, Ohio, Oregon, Pennsylvania, South Carolina, and Wisconsin.

The largest decreases in production from 2015 occurred in the upper Midwest where yields in Minnesota, North Dakota, South Dakota, and Wisconsin were down from record or near record yields of the previous year. Despite dry conditions in many parts of New York, increased acreage led to a production increase of nearly 1 million bushels in the State. A record high yield is estimated in Colorado.

Nationally, oat producers had seeded 29 percent of this year's crop by April 3, six percentage points behind the 5-year average. At the beginning of April, oat planting progress was at or behind the 5-year average in all estimating States except Pennsylvania. By May 1, oat producers had sown 78 percent of the Nation's crop, 13 percentage points ahead of the 5-year average, and 56 percent of the oat crop had emerged, 9 percentage points ahead of the 5-year average. Iowa, Minnesota, Pennsylvania, and South Dakota reported emergence progress more than 20 percentage points ahead of their respective 5-year averages by the beginning of May. By the end of May, 30 percent of the oat crop was at or beyond the heading stage, slightly ahead of last year but 2 percentage points behind the 5-year average. Heading of this year's oat crop advanced to 92 percent complete by July 3, three percentage points ahead of last year and 12 percentage points ahead of the 5-year average. By the beginning of July, oat heading progress was 46 percentage points ahead of the 5-year average in North Dakota and 23 percentage points ahead in Minnesota. Oat producers had harvested 53 percent of this year's crop by July 31, fifteen percentage points ahead of last year and 11 percentage points ahead of the 5-year average. Harvest progress was at or ahead of the 5-year average by the end of July in all estimating States except Nebraska and Pennsylvania. Ninety-five percent of the Nation's oat crop was harvested by August 28, slightly ahead of last year and 6 percentage points ahead of the 5-year average.

Beginning in 2016, oat estimates were discontinued in Indiana, Utah, and Virginia.

Barley: Production is estimated at 199 million bushels, down 9 percent from the revised 2015 total of 218 million bushels. Average yield per acre, at 77.9 bushels, is up 8.8 bushels from the previous year and is the highest yield on record since estimates began in 1866. Producers seeded 3.05 million acres in 2016, down 16 percent from last year. Harvested area, at 2.56 million acres, is down 19 percent from 2015.

Six percent of the Nation's barley was planted by April 3, slightly behind the 5-year average. Planting progress was well behind the historical pace in Idaho at this time with 6 percent planted, 15 percentage points behind the 5-year average. Nationwide, barley producers had seeded 57 percent of the Nation's crop by May 1, thirteen percentage points behind last year but 10 percentage points ahead of the 5-year average. By the beginning of May, emergence was evident in 29 percent of the Nation's barley acreage, 4 percentage points behind last year but 11 percentage points ahead of the 5-year average. Nationwide, 97 percent of the barley crop was sown by May 29, three percentage points behind last year but 9 percentage points ahead of the 5-year average. Eighty-eight percent of the barley crop had emerged by May 29, four percentage points behind last year but 19 percentage points ahead of the 5-year average. Heading of the Nation's barley crop advanced to 72 percent complete by July 3, six percentage points behind last year but 24 percentage points ahead of the 5-year average. Dry weather aided crop maturation in North Dakota at end of June, with barley heading advancing to 90 percent complete, 53 percentage points ahead of the 5-year average. Overall, three-quarters of the barley was reported in good to excellent condition on July 3, compared with 73 percent at the same time last year. By July 31, barley producers had harvested 11 percent of the Nation's crop, 3 percentage points behind last year but 3 percentage points ahead of the 5-year average. Overall, 71 percent of the barley was reported in good to excellent condition on August 14, compared with 65 percent at the same time last year. By September 11, barley producers had harvested 95 percent of this year's crop, 3 percentage points behind last year but 3 percentage points ahead of the 5-year average.

Beginning in 2016, barley estimates were discontinued in Kansas, Maine, Michigan, New York, North Carolina, South Dakota, and Wisconsin.

Winter wheat: Winter wheat production for 2016 totaled 1.67 billion bushels, up 22 percent from the revised 2015 total of 1.37 billion bushels. The United States yield, at 55.3 bushels per acre, is up 12.8 bushels from 2015 and represents a new record high. Area harvested for grain is estimated at 30.2 million acres, down 7 percent from the previous year. Record high yields are estimated in Colorado, Idaho, Illinois, Indiana, Kansas, Kentucky, Michigan, Missouri, Montana, Nebraska, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, South Dakota, Tennessee, Utah, Washington, and Wisconsin for 2016.

Harvested acreage was down from 2015 in most of the major Hard Red Winter (HRW) growing States, the primary wheat producing area. However, HRW production totaled 1.08 billion bushels, up 30 percent from 2015 due to the higher yields in 2016 compared with 2015.

In the Soft Red Winter (SRW) growing area, planted and harvested acreage decreases from 2015 were experienced throughout most of the region. SRW production totaled 345 million bushels, down 4 percent from 2015.

White winter production totaled 245 million bushels, up 32 from the previous year. Harvested acreage in the Pacific Northwest (Idaho, Oregon, and Washington) was up 2 percent from 2015. Yields were up from last year in Idaho and Washington.

Other spring wheat: Production for 2016 is estimated at 534 million bushels, down 11 percent from the revised 2015 total of 603 million bushels. Harvested area totaled 11.3 million acres, down 13 percent from 2015. The United States yield is estimated at 47.2 bushels per acre, 1 bushel higher than the 2015 average yield and represents a new record high. Of the total production, 493 million bushels are Hard Red Spring wheat, down 13 percent from 2015. A record high yield is estimated in Idaho for 2016.

By May 8, producers had sown 77 percent of the spring wheat crop, 7 percentage points behind the previous year but 26 percentage points ahead of the 5-year average. Favorable field conditions aided planting progress which remained ahead of the 5-year average pace throughout the spring. Nationally, producers had sown 95 percent of the spring wheat crop by May 22, equal to the previous year but 18 percentage points ahead of the 5-year average. Seventy-four percent of the spring wheat was at or beyond the heading stage by July 3, six percentage points ahead of the previous year and 29 percentage points ahead of the 5-year average. Spring wheat development ran well ahead of normal in the Pacific Northwest and Northern Great Plains in 2016. Nationally, 91 percent of the spring wheat crop was harvested by September 4, one percentage point behind the previous year but 16 percentage points ahead of the 5-year average.

Durum wheat: Production for 2016 is estimated at 104 million bushels, up 24 percent from the revised 2015 total of 84.0 million bushels. Grain area harvested totaled 2.37 million acres, up 24 percent from the previous year. The United States yield is estimated at a record high of 44.0 bushels per acre, equal to the 2015 average yield. Production in North Dakota, the largest Durum-producing State, is up 37 percent from 2015. Durum wheat production in Montana for 2016 represents a record high for the State. Record high yields are estimated in both Montana and North Dakota for 2016.

Favorable conditions throughout the growing season advanced crop development ahead of normal in Montana and North Dakota, the two largest Durum-producing States. As a result, harvest progress in these two States as of September 4, was well ahead of the 5-year average pace.

Rye: Production for 2016 is estimated at 13.5 million bushels, up 16 percent from the revised 2015 total of 11.6 million bushels. Harvested area totaled 1.89 million acres, up 307,000 acres from 2015. The United States yield, at 32.5 bushels per acre, is up 0.7 bushel from the previous year.

Estimates began in 2016 for Maine, Maryland, New Jersey, and Virginia.

Statistical Methodology

Survey procedures: Objective yield and farm operator surveys were conducted to gather information on small grain acreage, yield, and production. The objective yield survey was conducted in 10 States that accounted for over 73 percent of the 2016 winter wheat production. Early in the growing season, farm operators were interviewed to seek permission to randomly locate two sample plots in selected winter wheat fields. Throughout the growing season, counts such as number of stalks, heads in late boot, and number of emerged heads were collected from these plots. The plots were revisited each month until crop maturity when the heads were clipped, threshed, and weighed. After the farm operator harvested the sample field, enumerators revisited the sample to collect data in order to measure harvesting loss.

Data from operators was collected by mail, internet, telephone, or personal interview to obtain information on crop acreage, yield and production for the 2016 crop year. Approximately 66,400 producers were interviewed during the first two weeks of September and asked questions pertaining to planted and harvested area as well as yield and production.

Estimating Procedures: National and State level objective yield and grower reported data were reviewed for reasonableness and consistency with historical estimates. The survey data were also reviewed considering weather patterns and crop progress compared with previous years. Each Regional Field Office submits an estimate and written analysis for their State to the Agricultural Statistics Board (ASB). The ASB uses the survey data, administrative data, and the State analysis to prepare the estimates published in this report.

Revision Policy: Estimates contained in this report may be revised in the *Crop Production Annual Summary* report published in January should new information become available. Previous year acreage, yield, and production estimates can be revised in the *Small Grain Summary* published the following year, if new information is available that would justify a change. Estimates will also be reviewed after data for the 5-year Census of Agriculture are available. No revisions will be made after that date.

Reliability: The surveys used to make the acreage, yield, and production estimates contained in this report are subject to sampling and non-sampling type errors that are common to all surveys. Reliability of the objective yield and farmer survey must be treated separately because the survey designs for the two surveys are different. The objective yield indications are subject to sampling variability because all acres of winter wheat are not included in the sample.

The farm operator survey indications are also subject to sampling variability because all operations with small grains are not included in the sample. This variability, as measured by the relative standard error at the National level, is approximately 1.7 percent for winter wheat, 5.5 percent for Durum wheat, and 3.0 percent for other spring wheat. This means that chances are approximately 95 out of 100 that survey estimates for production will be within plus or minus 3.4 percent for winter wheat, 11.0 percent for Durum wheat, and 6.0 percent for other spring wheat of the value that could be developed by averaging the estimates produced from all possible samples selected from the same population and surveyed using the same procedures. The relative standard errors for barley, oats, and rye are 3.6, 5.6, and 4.4 percent, respectively.

Survey indications are also subject to non-sampling errors such as omission, duplication, imputation for missing data, and mistakes in reporting, recording, and processing the data. These errors cannot be measured directly, but they are minimized through rigid quality controls in the data collection process and a careful review of all reported data for consistency and reasonableness.

Information Contacts

Listed below are the commodity statisticians in the Crops Branch of the National Agricultural Statistics Service to contact for additional information. E-mail inquiries may be sent to nass@nass.usda.gov

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Scott Matthews – Crop Weather, Barley.....	(202) 720-7621
Jean Porter – Rye, Wheat	(202) 720-8068
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- Both national and state specific reports are available via a free e-mail subscription. To set-up this free subscription, visit www.nass.usda.gov and click on “National” or “State” in upper right corner above “search” box to create an account and select the reports you would like to receive.

For more information on NASS surveys and reports, call the NASS Agricultural Statistics Hotline at (800) 727-9540, 7:30 a.m. to 4:00 p.m. ET, or e-mail: nass@nass.usda.gov.

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USDA NASS Data Users' Meeting

Tuesday, October 18, 2016

Embassy Suites by Hilton Chicago Downtown Magnificent Mile
511 North Columbus Drive
Chicago, IL 60611
312-836-5900

USDA's National Agricultural Statistics Service will hold an open forum for users of U.S. domestic and international agriculture data. NASS is organizing the 2016 Data Users' Meeting in cooperation with five other USDA agencies – Agricultural Marketing Service, Economic Research Service, Farm Service Agency, Foreign Agricultural Service, and World Agricultural Outlook Board – and the Census Bureau's Foreign Trade Division. Agency representatives will provide updates on recent and pending changes in statistical and information programs important to agriculture, answer questions, and welcome comments and input from data users.

For registration details or additional information about the Data Users' Meeting, see the meeting page on the NASS website (https://www.nass.usda.gov/Education_and_Outreach/Meeting/index.php). Or contact Tina Hall (NASS) at 202-720-3896 or at tina.hall@nass.usda.gov.

The Data Users' Meeting precedes the Industry Outlook Conference at the same location on Wednesday, October 19, 2016. The outlook meeting brings together analysts from various commodity sectors to discuss developments and trends. For registration details or additional information about the Industry Outlook Conference, see the conference page on the LMIC website (<http://lmic.info/page/meetings>). Or contact James Robb at (303) 716-9933.