



United States  
Department of  
Agriculture

National  
Agricultural  
Statistics  
Service



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# Small Grains 2018 Summary

## September 2018

# USDA





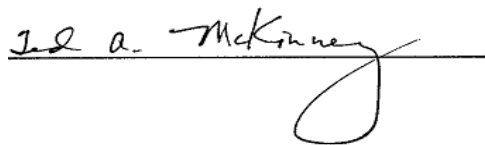
**All wheat** production totaled 1.88 billion bushels in 2018, up 8 percent from the revised 2017 total of 1.74 billion bushels. Area harvested for grain totaled 39.6 million acres, up 5 percent from the previous year. The United States yield was estimated at 47.6 bushels per acre, up 1.3 bushels from the previous year. The levels of production and changes from 2017 by type were: winter wheat, 1.18 billion bushels, down 7 percent; other spring wheat, 623 million bushels, up 50 percent; and Durum wheat, 77.3 million bushels, up 41 percent.

**Oat** production was estimated at 56.1 million bushels, up 14 percent from 2017. Yield was estimated at 64.9 bushels per acre, up 3.2 bushels from the previous year. Harvested area, at 865,000 acres, was 8 percent above last year.

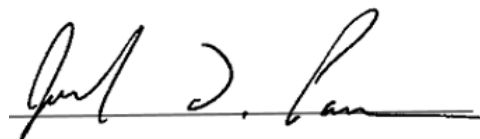
**Barley** production was estimated at 153 million bushels, up 8 percent from the 2017 total of 142 million bushels. Average yield per acre, at 77.4 bushels, was up 4.8 bushels from the previous year. Producers seeded 2.54 million acres in 2018, up 2 percent from last year. Harvested area, at 1.98 million acres, was up 1 percent from 2017.

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This report was approved on September 28, 2018.



Secretary of Agriculture  
Designate  
Ted A. McKinney



Agricultural Statistics Board  
Chairperson  
Joseph L. Parsons

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**Oat Area Planted and Harvested, Yield, and Production – States and United States: 2016-2018**

State	Area planted <sup>1</sup>			Area harvested		
	2016 (1,000 acres)	2017 (1,000 acres)	2018 (1,000 acres)	2016 (1,000 acres)	2017 (1,000 acres)	2018 (1,000 acres)
Alabama .....	50	40	40	20	10	15
Arkansas .....	11	11	10	8	8	7
California .....	110	110	110	11	10	6
Colorado .....	55	50	95	10	9	7
Georgia .....	45	50	60	15	15	15
Idaho .....	55	50	40	15	10	10
Illinois .....	45	35	40	20	20	25
Iowa .....	120	115	135	43	42	33
Kansas .....	120	100	120	30	25	18
Maine .....	25	21	21	24	20	19
Michigan .....	65	55	75	30	40	50
Minnesota .....	210	170	180	120	95	105
Missouri .....	45	30	35	19	13	16
Montana .....	60	70	70	28	18	23
Nebraska .....	135	110	125	25	35	22
New York .....	90	55	69	60	35	43
North Carolina .....	35	35	30	9	10	11
North Dakota .....	290	295	300	110	80	105
Ohio .....	50	60	55	25	20	30
Oklahoma .....	65	45	50	8	16	10
Oregon .....	30	25	20	10	10	5
Pennsylvania .....	85	70	65	50	40	35
South Carolina .....	17	20	19	7	8	7
South Dakota .....	295	290	290	110	60	95
Texas .....	470	455	450	60	60	50
Washington .....	18	16	17	7	3	4
Wisconsin .....	210	180	200	100	85	90
Wyoming .....	23	25	25	7	4	9
United States .....	2,829	2,588	2,746	981	801	865

See footnote(s) at end of table.

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**Oat Area Planted and Harvested, Yield, and Production – States and United States:  
2016-2018 (continued)**

State	Yield			Production		
	2016 (bushels)	2017 (bushels)	2018 (bushels)	2016 (1,000 bushels)	2017 (1,000 bushels)	2018 (1,000 bushels)
Alabama .....	55.0	60.0	63.0	1,100	600	945
Arkansas .....	73.0	85.0	75.0	584	680	525
California .....	65.0	65.0	70.0	715	650	420
Colorado .....	80.0	65.0	50.0	800	585	350
Georgia .....	58.0	49.0	71.0	870	735	1,065
Idaho .....	83.0	71.0	84.0	1,245	710	840
Illinois .....	81.0	79.0	83.0	1,620	1,580	2,075
Iowa .....	76.0	77.0	63.0	3,268	3,234	2,079
Kansas .....	57.0	54.0	49.0	1,710	1,350	882
Maine .....	71.0	67.0	67.0	1,704	1,340	1,273
Michigan .....	58.0	54.0	63.0	1,740	2,160	3,150
Minnesota .....	68.0	75.0	59.0	8,160	7,125	6,195
Missouri .....	60.0	65.0	45.0	1,140	845	720
Montana .....	47.0	47.0	43.0	1,316	846	989
Nebraska .....	60.0	49.0	69.0	1,500	1,715	1,518
New York .....	55.0	55.0	54.0	3,300	1,925	2,322
North Carolina .....	60.0	66.0	66.0	540	660	726
North Dakota .....	66.0	58.0	82.0	7,260	4,640	8,610
Ohio .....	74.0	70.0	65.0	1,850	1,400	1,950
Oklahoma .....	43.0	42.0	48.0	344	672	480
Oregon .....	90.0	83.0	99.0	900	830	495
Pennsylvania .....	67.0	58.0	46.0	3,350	2,320	1,610
South Carolina .....	46.0	51.0	62.0	322	408	434
South Dakota .....	82.0	70.0	82.0	9,020	4,200	7,790
Texas .....	50.0	45.0	50.0	3,000	2,700	2,500
Washington .....	61.0	42.0	46.0	427	126	184
Wisconsin .....	66.0	59.0	61.0	6,600	5,015	5,490
Wyoming .....	55.0	85.0	57.0	385	340	513
United States .....	66.0	61.7	64.9	64,770	49,391	56,130

<sup>1</sup> Includes area planted in preceding fall.

**Barley Area Planted and Harvested, Yield, and Production – States and United States: 2016-2018**

State	Area planted <sup>1</sup>			Area harvested		
	2016 (1,000 acres)	2017 (1,000 acres)	2018 (1,000 acres)	2016 (1,000 acres)	2017 (1,000 acres)	2018 (1,000 acres)
Alaska .....	(X)	(X)	5	(X)	(X)	4
Arizona .....	17	20	12	16	17	9
California .....	85	70	65	60	28	26
Colorado .....	80	70	58	75	68	52
Delaware .....	35	32	25	25	16	14
Idaho .....	600	530	550	580	510	530
Kansas <sup>2</sup> .....	(NA)	(NA)	17	(NA)	(NA)	6
Maine <sup>2</sup> .....	(NA)	(NA)	17	(NA)	(NA)	16
Maryland .....	50	50	45	34	27	24
Michigan <sup>2</sup> .....	(NA)	(NA)	20	(NA)	(NA)	5
Minnesota .....	95	80	80	79	68	67
Montana .....	990	770	790	780	565	600
New York <sup>2</sup> .....	(NA)	(NA)	10	(NA)	(NA)	8
North Carolina <sup>2</sup> .....	(NA)	(NA)	11	(NA)	(NA)	8
North Dakota .....	740	520	470	640	395	385
Oregon .....	45	47	43	32	38	26
Pennsylvania .....	55	60	45	38	45	33
South Dakota <sup>2</sup> .....	(NA)	(NA)	48	(NA)	(NA)	13
Utah .....	29	25	21	19	18	16
Virginia .....	33	30	30	12	11	9
Washington .....	110	95	85	93	85	67
Wisconsin <sup>2</sup> .....	(NA)	(NA)	25	(NA)	(NA)	10
Wyoming .....	95	82	71	82	63	50
United States <sup>3</sup> .....	3,059	2,481	2,543	2,565	1,954	1,978

See footnote(s) at end of table.

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**Barley Area Planted and Harvested, Yield, and Production – States and United States:  
2016-2018 (continued)**

State	Yield			Production		
	2016 (bushels)	2017 (bushels)	2018 (bushels)	2016 (1,000 bushels)	2017 (1,000 bushels)	2018 (1,000 bushels)
Alaska .....	(X)	(X)	43.0	(X)	(X)	172
Arizona .....	128.0	131.0	100.0	2,048	2,227	900
California .....	75.0	50.0	69.0	4,500	1,400	1,794
Colorado .....	129.0	132.0	145.0	9,675	8,976	7,540
Delaware .....	76.0	85.0	78.0	1,900	1,360	1,092
Idaho .....	107.0	95.0	101.0	62,060	48,450	53,530
Kansas <sup>2</sup> .....	(NA)	(NA)	31.0	(NA)	(NA)	186
Maine <sup>2</sup> .....	(NA)	(NA)	73.0	(NA)	(NA)	1,168
Maryland .....	72.0	76.0	70.0	2,448	2,052	1,680
Michigan <sup>2</sup> .....	(NA)	(NA)	43.0	(NA)	(NA)	215
Minnesota .....	66.0	76.0	76.0	5,214	5,168	5,092
Montana .....	60.0	51.0	56.0	46,800	28,815	33,600
New York <sup>2</sup> .....	(NA)	(NA)	58.0	(NA)	(NA)	464
North Carolina <sup>2</sup> .....	(NA)	(NA)	80.0	(NA)	(NA)	640
North Dakota .....	67.0	63.0	74.0	42,880	24,885	28,490
Oregon .....	67.0	62.0	53.0	2,144	2,356	1,378
Pennsylvania .....	75.0	70.0	63.0	2,850	3,150	2,079
South Dakota <sup>2</sup> .....	(NA)	(NA)	55.0	(NA)	(NA)	715
Utah .....	82.0	75.0	86.0	1,558	1,350	1,376
Virginia .....	67.0	73.0	70.0	804	803	630
Washington .....	77.0	53.0	73.0	7,161	4,505	4,891
Wisconsin <sup>2</sup> .....	(NA)	(NA)	45.0	(NA)	(NA)	450
Wyoming .....	96.0	102.0	100.0	7,872	6,426	5,000
United States <sup>3</sup> .....	77.9	72.6	77.4	199,914	141,923	153,082

(NA) Not available.

(X) Not applicable.

<sup>1</sup> Includes area planted in preceding fall.

<sup>2</sup> Estimates began in 2018.

<sup>3</sup> Beginning in 2018, United States total includes data for Alaska. For 2016 and 2017, Alaska data is not included in United States total.

## All Wheat Area Planted and Harvested, Yield, and Production – States and United States: 2016-2018

State	Area planted <sup>1</sup>			Area harvested		
	2016 (1,000 acres)	2017 (1,000 acres)	2018 (1,000 acres)	2016 (1,000 acres)	2017 (1,000 acres)	2018 (1,000 acres)
Alabama .....	230	150	160	170	100	110
Arizona .....	111	115	91	103	107	74
Arkansas .....	195	200	175	115	125	95
California .....	480	420	420	217	182	143
Colorado .....	2,361	2,260	2,260	2,200	2,029	1,954
Delaware .....	70	75	75	65	69	45
Florida .....	25	20	15	17	14	10
Georgia .....	180	160	200	110	70	70
Idaho .....	1,190	1,175	1,191	1,125	1,109	1,136
Illinois .....	520	500	600	470	470	560
Indiana .....	330	290	310	280	240	260
Iowa .....	25	16	16	17	8	6
Kansas .....	8,500	7,600	7,700	8,200	6,950	7,300
Kentucky .....	510	480	450	400	310	300
Louisiana .....	25	20	15	20	13	10
Maryland .....	360	410	360	260	185	200
Michigan .....	610	480	510	570	425	470
Minnesota .....	1,321	1,170	1,621	1,268	1,135	1,575
Mississippi .....	65	45	55	50	25	30
Missouri .....	690	640	740	570	540	520
Montana .....	5,130	5,140	5,390	4,975	4,665	5,165
Nebraska .....	1,370	1,120	1,100	1,310	1,020	1,010
Nevada .....	15	29	23	9	10	8
New Jersey .....	25	23	18	21	17	15
New Mexico .....	345	330	315	210	135	105
New York .....	120	140	110	115	125	95
North Carolina .....	420	450	460	355	375	370
North Dakota .....	7,590	6,680	7,735	7,405	6,260	7,635
Ohio .....	580	460	490	560	435	450
Oklahoma .....	5,000	4,500	4,400	3,500	2,900	2,500
Oregon .....	810	775	800	797	763	770
Pennsylvania .....	190	210	195	150	150	145
South Carolina .....	60	90	80	50	75	65
South Dakota .....	2,270	1,887	1,883	2,157	1,196	1,628
Tennessee .....	400	370	380	335	275	285
Texas .....	5,000	4,700	4,500	2,800	2,350	1,750
Utah .....	129	134	130	120	120	103
Virginia .....	210	210	230	175	145	155
Washington .....	2,240	2,195	2,220	2,200	2,140	2,165
West Virginia .....	7	8	7	4	4	3
Wisconsin .....	270	210	240	250	170	200
Wyoming .....	140	135	130	125	105	115
United States .....	50,119	46,022	47,800	43,850	37,541	39,605

See footnote(s) at end of table.

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**All Wheat Area Planted and Harvested, Yield, and Production – States and United States:  
2016-2018 (continued)**

State	Yield			Production		
	2016 (bushels)	2017 (bushels)	2018 (bushels)	2016 (1,000 bushels)	2017 (1,000 bushels)	2018 (1,000 bushels)
Alabama .....	70.0	77.0	72.0	11,900	7,700	7,920
Arizona .....	97.8	100.8	102.4	10,073	10,789	7,580
Arkansas .....	54.0	52.0	55.0	6,210	6,500	5,225
California .....	79.7	68.2	81.2	17,302	12,404	11,605
Colorado .....	48.2	43.2	36.1	106,000	87,598	70,504
Delaware .....	67.0	73.0	71.0	4,355	5,037	3,195
Florida .....	30.0	37.0	36.0	510	518	360
Georgia .....	46.0	47.0	54.0	5,060	3,290	3,780
Idaho .....	91.4	81.8	91.9	102,795	90,723	104,410
Illinois .....	74.0	76.0	66.0	34,780	35,720	36,960
Indiana .....	81.0	74.0	71.0	22,680	17,760	18,460
Iowa .....	63.0	68.0	58.0	1,071	544	348
Kansas .....	57.0	48.0	38.0	467,400	333,600	277,400
Kentucky .....	80.0	77.0	66.0	32,000	23,870	19,800
Louisiana .....	45.0	46.0	65.0	900	598	650
Maryland .....	64.0	71.0	63.0	16,640	13,135	12,600
Michigan .....	89.0	79.0	76.0	50,730	33,575	35,720
Minnesota .....	59.0	66.9	59.0	74,828	75,935	92,930
Mississippi .....	48.0	58.0	49.0	2,400	1,450	1,470
Missouri .....	70.0	68.0	59.0	39,900	36,720	30,680
Montana .....	42.4	27.3	38.3	210,875	127,430	197,630
Nebraska .....	54.0	46.0	49.0	70,740	46,920	49,490
Nevada .....	72.3	106.0	112.5	651	1,060	900
New Jersey .....	64.0	64.0	62.0	1,344	1,088	930
New Mexico .....	22.0	30.0	15.0	4,620	4,050	1,575
New York .....	74.0	67.0	69.0	8,510	8,375	6,555
North Carolina .....	41.0	55.0	57.0	14,555	20,625	21,090
North Dakota .....	45.0	37.9	47.6	332,978	237,133	363,483
Ohio .....	80.0	74.0	75.0	44,800	32,190	33,750
Oklahoma .....	39.0	34.0	28.0	136,500	98,600	70,000
Oregon .....	50.1	63.0	67.0	39,937	48,069	51,590
Pennsylvania .....	68.0	72.0	65.0	10,200	10,800	9,425
South Carolina .....	43.0	49.0	54.0	2,150	3,675	3,510
South Dakota .....	51.6	34.8	44.4	111,281	41,678	72,294
Tennessee .....	73.0	70.0	65.0	24,455	19,250	18,525
Texas .....	32.0	29.0	32.0	89,600	68,150	56,000
Utah .....	59.9	52.0	52.0	7,184	6,240	5,356
Virginia .....	53.0	66.0	60.0	9,275	9,570	9,300
Washington .....	71.5	66.6	70.8	157,290	142,500	153,210
West Virginia .....	61.0	69.0	46.0	244	276	138
Wisconsin .....	79.0	68.0	71.0	19,750	11,560	14,200
Wyoming .....	34.0	28.0	34.0	4,250	2,940	3,910
United States .....	52.7	46.3	47.6	2,308,723	1,739,645	1,884,458

<sup>1</sup> Includes area planted in preceding fall.

**Winter Wheat Area Planted and Harvested, Yield, and Production – States and United States: 2016-2018**

State	Area planted <sup>1</sup>			Area harvested		
	2016 (1,000 acres)	2017 (1,000 acres)	2018 (1,000 acres)	2016 (1,000 acres)	2017 (1,000 acres)	2018 (1,000 acres)
Alabama .....	230	150	160	170	100	110
Arizona .....	14	25	20	7	18	4
Arkansas .....	195	200	175	115	125	95
California .....	425	385	380	170	155	110
Colorado .....	2,350	2,250	2,250	2,190	2,020	1,950
Delaware .....	70	75	75	65	69	45
Florida .....	25	20	15	17	14	10
Georgia .....	180	160	200	110	70	70
Idaho .....	770	720	720	720	670	680
Illinois .....	520	500	600	470	470	560
Indiana .....	330	290	310	280	240	260
Iowa .....	25	16	16	17	8	6
Kansas .....	8,500	7,600	7,700	8,200	6,950	7,300
Kentucky .....	510	480	450	400	310	300
Louisiana .....	25	20	15	20	13	10
Maryland .....	360	410	360	260	185	200
Michigan .....	610	480	510	570	425	470
Minnesota .....	11	10	11	8	5	5
Mississippi .....	65	45	55	50	25	30
Missouri .....	690	640	740	570	540	520
Montana .....	2,250	1,750	1,650	2,150	1,590	1,570
Nebraska .....	1,370	1,120	1,100	1,310	1,020	1,010
Nevada .....	10	14	13	6	5	5
New Jersey .....	25	23	18	21	17	15
New Mexico .....	345	330	315	210	135	105
New York .....	120	140	110	115	125	95
North Carolina .....	420	450	460	355	375	370
North Dakota .....	130	70	85	120	35	70
Ohio .....	580	460	490	560	435	450
Oklahoma .....	5,000	4,500	4,400	3,500	2,900	2,500
Oregon .....	720	700	720	710	690	695
Pennsylvania .....	190	210	195	150	150	145
South Carolina .....	60	90	80	50	75	65
South Dakota .....	1,180	910	830	1,100	520	660
Tennessee .....	400	370	380	335	275	285
Texas .....	5,000	4,700	4,500	2,800	2,350	1,750
Utah .....	120	120	120	112	108	94
Virginia .....	210	210	230	175	145	155
Washington .....	1,700	1,700	1,700	1,670	1,650	1,650
West Virginia .....	7	8	7	4	4	3
Wisconsin .....	270	210	240	250	170	200
Wyoming .....	140	135	130	125	105	115
United States .....	36,152	32,696	32,535	30,237	25,291	24,742

See footnote(s) at end of table.

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**Winter Wheat Planted and Harvested, Yield, and Production – States and United States:  
2016-2018 (continued)**

State	Yield			Production		
	2016 (bushels)	2017 (bushels)	2018 (bushels)	2016 (1,000 bushels)	2017 (1,000 bushels)	2018 (1,000 bushels)
Alabama .....	70.0	77.0	72.0	11,900	7,700	7,920
Arizona .....	95.0	100.0	40.0	665	1,800	160
Arkansas .....	54.0	52.0	55.0	6,210	6,500	5,225
California .....	78.0	64.0	77.0	13,260	9,920	8,470
Colorado .....	48.0	43.0	36.0	105,120	86,860	70,200
Delaware .....	67.0	73.0	71.0	4,355	5,037	3,195
Florida .....	30.0	37.0	36.0	510	518	360
Georgia .....	46.0	47.0	54.0	5,060	3,290	3,780
Idaho .....	94.0	80.0	90.0	67,680	53,600	61,200
Illinois .....	74.0	76.0	66.0	34,780	35,720	36,960
Indiana .....	81.0	74.0	71.0	22,680	17,760	18,460
Iowa .....	63.0	68.0	58.0	1,071	544	348
Kansas .....	57.0	48.0	38.0	467,400	333,600	277,400
Kentucky .....	80.0	77.0	66.0	32,000	23,870	19,800
Louisiana .....	45.0	46.0	65.0	900	598	650
Maryland .....	64.0	71.0	63.0	16,640	13,135	12,600
Michigan .....	89.0	79.0	76.0	50,730	33,575	35,720
Minnesota .....	61.0	45.0	60.0	488	225	300
Mississippi .....	48.0	58.0	49.0	2,400	1,450	1,470
Missouri .....	70.0	68.0	59.0	39,900	36,720	30,680
Montana .....	49.0	42.0	50.0	105,350	66,780	78,500
Nebraska .....	54.0	46.0	49.0	70,740	46,920	49,490
Nevada .....	75.0	107.0	120.0	450	535	600
New Jersey .....	64.0	64.0	62.0	1,344	1,088	930
New Mexico .....	22.0	30.0	15.0	4,620	4,050	1,575
New York .....	74.0	67.0	69.0	8,510	8,375	6,555
North Carolina .....	41.0	55.0	57.0	14,555	20,625	21,090
North Dakota .....	48.0	37.0	43.0	5,760	1,295	3,010
Ohio .....	80.0	74.0	75.0	44,800	32,190	33,750
Oklahoma .....	39.0	34.0	28.0	136,500	98,600	70,000
Oregon .....	50.0	63.0	67.0	35,500	43,470	46,565
Pennsylvania .....	68.0	72.0	65.0	10,200	10,800	9,425
South Carolina .....	43.0	49.0	54.0	2,150	3,675	3,510
South Dakota .....	58.0	40.0	48.0	63,800	20,800	31,680
Tennessee .....	73.0	70.0	65.0	24,455	19,250	18,525
Texas .....	32.0	29.0	32.0	89,600	68,150	56,000
Utah .....	60.0	52.0	52.0	6,720	5,616	4,888
Virginia .....	53.0	66.0	60.0	9,275	9,570	9,300
Washington .....	78.0	73.0	76.0	130,260	120,450	125,400
West Virginia .....	61.0	69.0	46.0	244	276	138
Wisconsin .....	79.0	68.0	71.0	19,750	11,560	14,200
Wyoming .....	34.0	28.0	34.0	4,250	2,940	3,910
United States .....	55.3	50.2	47.9	1,672,582	1,269,437	1,183,939

<sup>1</sup> Includes area planted in preceding fall.

**Other Spring Wheat Area Planted and Harvested, Yield, and Production – States and United States: 2016-2018**

State	Area planted			Area harvested		
	2016	2017	2018	2016	2017	2018
	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)
Colorado .....	11	10	10	10	9	4
Idaho .....	410	430	460	395	415	445
Minnesota .....	1,310	1,160	1,610	1,260	1,130	1,570
Montana .....	2,100	2,500	2,900	2,060	2,290	2,820
Nevada .....	5	15	10	3	5	3
North Dakota .....	6,000	5,350	6,550	5,850	5,050	6,490
Oregon .....	90	75	80	87	73	75
South Dakota .....	1,080	970	1,050	1,050	670	965
Utah .....	9	14	10	8	12	9
Washington .....	540	495	520	530	490	515
United States .....	11,555	11,019	13,200	11,253	10,144	12,896

State	Yield			Production		
	2016	2017	2018	2016	2017	2018
	(bushels)	(bushels)	(bushels)	(1,000 bushels)	(1,000 bushels)	(1,000 bushels)
Colorado .....	88.0	82.0	76.0	880	738	304
Idaho .....	87.0	85.0	95.0	34,365	35,275	42,275
Minnesota .....	59.0	67.0	59.0	74,340	75,710	92,630
Montana .....	36.0	21.0	34.0	74,160	48,090	95,880
Nevada .....	67.0	105.0	100.0	201	525	300
North Dakota .....	46.0	41.0	49.0	269,100	207,050	318,010
Oregon .....	51.0	63.0	67.0	4,437	4,599	5,025
South Dakota .....	45.0	31.0	42.0	47,250	20,770	40,530
Utah .....	58.0	52.0	52.0	464	624	468
Washington .....	51.0	45.0	54.0	27,030	22,050	27,810
United States .....	47.3	41.0	48.3	532,227	415,431	623,232

## Durum Wheat Area Planted and Harvested, Yield, and Production – States and United States: 2016-2018

State	Area planted			Area harvested		
	2016	2017	2018	2016	2017	2018
	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)
Arizona .....	97	90	71	96	89	70
California .....	55	35	40	47	27	33
Idaho .....	10	25	11	10	24	11
Montana .....	780	890	840	765	785	775
North Dakota .....	1,460	1,260	1,100	1,435	1,175	1,075
South Dakota .....	10	7	3	7	6	3
United States .....	2,412	2,307	2,065	2,360	2,106	1,967
State	Yield			Production		
	2016	2017	2018	2016	2017	2018
	(bushels)	(bushels)	(bushels)	(1,000 bushels)	(1,000 bushels)	(1,000 bushels)
Arizona .....	98.0	101.0	106.0	9,408	8,989	7,420
California .....	86.0	92.0	95.0	4,042	2,484	3,135
Idaho .....	75.0	77.0	85.0	750	1,848	935
Montana .....	41.0	16.0	30.0	31,365	12,560	23,250
North Dakota .....	40.5	24.5	39.5	58,118	28,788	42,463
South Dakota .....	33.0	18.0	28.0	231	108	84
United States .....	44.0	26.0	39.3	103,914	54,777	77,287

## Wheat Production by Class – United States: 2016-2018

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

Crop	2016	2017	2018
	(1,000 bushels)	(1,000 bushels)	(1,000 bushels)
<b>Winter</b>			
Hard red .....	1,082,005	750,332	662,249
Soft red .....	345,230	292,156	285,558
Hard white .....	25,478	23,726	19,347
Soft white .....	219,869	203,223	216,785
<b>Spring</b>			
Hard red .....	491,325	384,193	587,007
Hard white .....	7,539	8,730	13,510
Soft white .....	33,363	22,508	22,715
Durum .....	103,914	54,777	77,287
<b>Total</b> .....	2,308,723	1,739,645	1,884,458

## 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 2019 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: 2017 and 2018

State	Hard red		Soft red		Hard white		Soft white	
	2017	2018	2017	2018	2017	2018	2017	2018
	(percent)	(percent)	(percent)	(percent)	(percent)	(percent)	(percent)	(percent)
Alabama .....	-	2	100	98	-	-	-	-
Arizona .....	99	99	-	-	1	1	-	-
Arkansas .....	-	-	100	99	-	1	-	-
California .....	91	88	-	-	5	7	4	5
Colorado .....	89	91	-	-	11	9	-	-
Delaware .....	-	-	100	100	-	-	-	-
Florida .....	1	-	86	92	-	-	13	8
Georgia .....	-	-	100	99	-	-	-	1
Idaho .....	19	20	-	-	-	-	81	80
Illinois .....	-	-	100	100	-	-	-	-
Indiana .....	-	-	100	100	-	-	-	-
Iowa .....	52	48	48	52	-	-	-	-
Kansas .....	97	96	-	1	3	3	-	-
Kentucky .....	-	-	100	100	-	-	-	-
Louisiana .....	-	-	100	100	-	-	-	-
Maryland .....	-	-	100	100	-	-	-	-
Michigan .....	-	-	56	59	-	-	44	41
Minnesota .....	99	100	-	-	1	-	-	-
Mississippi .....	-	-	100	100	-	-	-	-
Missouri .....	1	1	99	99	-	-	-	-
Montana .....	100	100	-	-	-	-	-	-
Nebraska .....	93	93	-	-	7	7	-	-
Nevada .....	25	36	-	-	-	-	75	64
New Jersey .....	-	-	100	99	-	-	-	1
New Mexico .....	100	100	-	-	-	-	-	-
New York .....	4	3	92	94	-	-	4	3
North Carolina .....	-	-	100	100	-	-	-	-
North Dakota .....	99	100	-	-	1	-	-	-
Ohio .....	-	-	100	100	-	-	-	-
Oklahoma .....	99	99	1	1	-	-	-	-
Oregon .....	8	8	-	-	-	-	92	92
Pennsylvania .....	1	1	98	98	-	-	1	1
South Carolina .....	-	-	100	100	-	-	-	-
South Dakota .....	100	100	-	-	-	-	-	-
Tennessee .....	-	-	100	100	-	-	-	-
Texas .....	94	93	6	7	-	-	-	-
Utah .....	75	72	-	-	1	1	24	27
Virginia .....	-	-	100	100	-	-	-	-
Washington .....	15	14	-	-	-	-	85	86
West Virginia .....	5	9	94	90	-	-	1	1
Wisconsin .....	3	3	97	97	-	-	-	-
Wyoming .....	90	86	-	-	10	14	-	-

- Represents zero.



**Other Spring Wheat (excluding Durum) Production Distribution by Class – States: 2017 and 2018**

State	Hard red		Hard white		Soft white	
	2017	2018	2017	2018	2017	2018
	(percent)	(percent)	(percent)	(percent)	(percent)	(percent)
Colorado .....	45	66	14	15	41	19
Idaho .....	52	50	24	31	24	19
Minnesota .....	100	100	-	-	-	-
Montana .....	100	100	-	-	-	-
Nevada .....	-	6	10	4	90	90
North Dakota .....	100	100	-	-	-	-
Oregon .....	55	66	1	1	44	33
South Dakota .....	100	100	-	-	-	-
Utah .....	55	57	10	4	35	39
Washington .....	50	54	-	1	50	45

- Represents zero.

## Winter Wheat Head Population

The National Agricultural Statistics Service conducted objective yield surveys in 10 winter wheat estimating States during 2018. 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: 2014-2018

State	2014	2015	2016	2017	2018
	(number)	(number)	(number)	(number)	(number)
<b>Colorado</b>					
July .....	42.4	51.1	43.0	43.4	40.6
August .....	43.2	49.3	43.6	43.2	41.0
Final .....	43.4	49.3	43.6	43.2	41.0
<b>Illinois</b>					
July .....	63.5	56.7	57.4	56.4	60.9
August .....	63.7	56.9	57.3	56.4	60.9
Final .....	63.7	56.9	57.3	56.4	60.9
<b>Kansas</b>					
July .....	36.4	43.1	54.7	44.3	37.3
August .....	36.4	43.1	54.7	44.6	37.3
Final .....	36.4	43.1	54.7	44.6	37.3
<b>Missouri</b>					
July .....	51.2	52.5	53.7	53.9	53.7
August .....	50.9	52.5	53.7	53.9	53.7
Final .....	50.9	52.5	53.7	53.9	53.7
<b>Montana</b>					
July .....	43.4	48.9	54.6	44.4	44.1
August .....	44.2	47.7	55.2	46.2	44.8
Final .....	44.2	47.7	55.2	46.2	44.7
<b>Nebraska</b>					
July .....	48.2	47.9	60.2	52.5	50.5
August .....	48.2	47.6	60.3	53.3	50.4
Final .....	48.2	47.6	60.3	53.3	50.4
<b>Ohio</b>					
July .....	58.8	51.0	58.0	58.2	70.3
August .....	58.4	51.2	58.0	58.2	70.3
Final .....	58.4	51.2	58.0	58.2	70.3
<b>Oklahoma</b>					
July .....	34.9	39.6	41.8	35.7	32.9
August .....	34.9	39.4	41.8	35.7	32.4
Final .....	34.9	39.4	41.8	35.7	32.4
<b>Texas</b>					
July .....	32.8	34.3	34.4	26.6	30.9
August .....	32.8	34.3	34.4	26.8	30.9
Final .....	33.1	34.2	34.5	26.8	31.1
<b>Washington</b>					
July .....	32.3	31.3	36.1	34.3	41.8
August .....	32.1	31.3	35.3	35.8	42.3
Final .....	32.3	31.3	35.5	35.7	42.3
<b>10 State</b>					
July .....	39.5	42.8	48.3	41.2	40.1
August .....	39.6	42.4	48.4	41.7	40.1
Final .....	39.5	42.4	48.4	41.7	40.2

## Rye Area Planted and Harvested, Yield, and Production – States and United States: 2016-2018

State	Area planted <sup>1</sup>			Area harvested		
	2016	2017	2018	2016	2017	2018
	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)
Georgia .....	200	210	190	30	15	15
Oklahoma .....	260	260	240	75	45	50
Other States <sup>2</sup> .....	1,431	1,491	1,581	309	226	208
United States .....	1,891	1,961	2,011	414	286	273

State	Yield			Production		
	2016	2017	2018	2016	2017	2018
	(bushels)	(bushels)	(bushels)	(1,000 bushels)	(1,000 bushels)	(1,000 bushels)
Georgia .....	21.0	19.0	26.0	630	285	390
Oklahoma .....	25.0	24.0	22.0	1,875	1,080	1,100
Other States <sup>2</sup> .....	35.4	36.9	33.4	10,946	8,331	6,942
United States .....	32.5	33.9	30.9	13,451	9,696	8,432

<sup>1</sup> Includes area planted in preceding fall.

<sup>2</sup> 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: 2017-2018**

Crop	Area planted		Area harvested	
	2017	2018	2017	2018
	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)
Barley .....	2,481	2,543	1,954	1,978
Oats .....	2,588	2,746	801	865
Rye .....	1,961	2,011	286	273
Wheat, all .....	46,022	47,800	37,541	39,605
Winter .....	32,696	32,535	25,291	24,742
Durum .....	2,307	2,065	2,106	1,967
Other spring .....	11,019	13,200	10,144	12,896
Crop	Yield per acre		Production	
	2017	2018	2017	2018
	(bushels)	(bushels)	(1,000 bushels)	(1,000 bushels)
Barley .....	72.6	77.4	141,923	153,082
Oats .....	61.7	64.9	49,391	56,130
Rye .....	33.9	30.9	9,696	8,432
Wheat, all .....	46.3	47.6	1,739,645	1,884,458
Winter .....	50.2	47.9	1,269,437	1,183,939
Durum .....	26.0	39.3	54,777	77,287
Other spring .....	41.0	48.3	415,431	623,232

**Small Grain Annual Summary Area Planted and Harvested, Yield, and Production in Metric Units – United States: 2017-2018**

Crop	Area planted		Area harvested	
	2017	2018	2017	2018
	(hectares)	(hectares)	(hectares)	(hectares)
Barley .....	1,004,040	1,029,130	790,760	800,480
Oats .....	1,047,340	1,111,280	324,160	350,060
Rye .....	793,600	813,830	115,740	110,480
Wheat, all .....	18,624,640	19,344,180	15,192,470	16,027,750
Winter .....	13,231,740	13,166,590	10,235,010	10,012,840
Durum .....	933,620	835,680	852,280	796,030
Other spring .....	4,459,280	5,341,910	4,105,180	5,218,880
Crop	Yield per hectare		Production	
	2017	2018	2017	2018
	(metric tons)	(metric tons)	(metric tons)	(metric tons)
Barley .....	3.91	4.16	3,090,010	3,332,970
Oats .....	2.21	2.33	716,910	814,720
Rye .....	2.13	1.94	246,290	214,180
Wheat, all .....	3.12	3.20	47,345,380	51,286,540
Winter .....	3.38	3.22	34,548,410	32,221,540
Durum .....	1.75	2.64	1,490,790	2,103,410
Other spring .....	2.75	3.25	11,306,180	16,961,600

## Crop Comments

**Oats:** Production in 2018 was estimated at 56.1 million bushels, up 14 percent from 2017. Yield was estimated at 64.9 bushels per acre, up 3.2 bushels from the previous year. Harvested area, at 865,000 acres, was 8 percent above the previous year. Record low acres were harvested in Arkansas, California, Georgia, Idaho, Iowa, Maine, Oregon, Pennsylvania, and South Carolina.

The largest increases in production from 2017 occurred in the Dakotas where yields were up from the previous year, as a result of last year's drought. A record high yield was estimated in North Dakota.

Nationally, oat producers had seeded 26 percent of this year's acreage by April 1, two percentage points ahead of the previous year but 3 percentage points behind the 5-year average. Producers had seeded 56 percent of the 2018 acreage by May 6, twenty-one percentage points behind the previous year and 18 percentage points behind the 5-year average. Eighty-two percent of the oat acreage was emerged by May 27, eight percentage points behind the previous year and 4 percentage points behind the 5-year average. Heading of the oat acreage advanced to 82 percent complete by July 1, one percentage point behind the previous year but 2 percentage points ahead of the 5-year average. Oat producers had harvested 38 percent of the acreage by July 29, five percentage points ahead of the previous year and 3 percentage points ahead of the 5-year average. At that time, harvest progress was at or ahead of the 5-year average in 6 of the 9 weekly *Crop Progress* estimating States. Eighty-nine percent of the Nation's oat acreage was harvested by August 26, four percentage points ahead of the previous year and 3 percentage points ahead of the 5-year average.

**Barley:** Production was estimated at 153 million bushels, up 8 percent from the 2017 total of 142 million bushels. Average yield, at 77.4 bushels per acre, was up 4.8 bushels from the previous year. Producers seeded 2.54 million acres in 2018, up 2 percent from 2017. Harvested area, at 1.98 million acres, was up 1 percent from 2017.

Four percent of the Nation's barley was planted by April 8, four percentage points behind the previous year and 8 percentage points behind the 5-year average. Planting progress was behind the historical pace in all estimating States. Nationwide, barley producers had seeded 26 percent of the Nation's acreage by April 29, five percentage points behind the previous year and 18 percentage points behind the 5-year average. All estimating States remained behind their 5-year average planting pace at the end of April. By April 29, emergence was evident in 7 percent of the Nation's barley acreage, 6 percentage points behind the previous year and 10 percentage points behind the 5-year average. Nationally, 97 percent of the barley acreage was sown by June 3, slightly behind the previous year but 2 percentage points ahead of the 5-year average. Eighty-two percent of the barley acreage had emerged by June 3, one percentage point behind both the previous year and the 5-year average. Heading of the Nation's barley acreage advanced to 50 percent complete by July 1, two percentage points ahead of the previous year but 1 percentage point behind the 5-year average. By July 29, barley producers had harvested 2 percent of the Nation's acreage, 3 percentage points behind the previous year and 4 percentage points behind the 5-year average. Overall, 81 percent of the barley acreage was reported in good to excellent condition on August 12, compared with 49 percent at the same time the previous year. At that time, barley condition ratings in the good and excellent categories were 54 percentage points above the previous year in Washington and 45 percentage points above in Montana. By September 9, ninety-two percent of the barley acreage was harvested, 3 percentage points behind the previous year but equal to the 5-year average.

**Winter wheat:** Winter wheat production for 2018 totaled 1.18 billion bushels, down 7 percent from the 2017 total of 1.27 billion bushels. The United States yield, at 47.9 bushels per acre, was down 2.3 bushels from 2017. Area harvested for grain was estimated at a record low 24.7 million acres, down 2 percent from the previous year. Record high yields were estimated in Louisiana, Montana, and Nevada for 2018.

Harvested acreage was down from 2017 in most of the major Hard Red Winter (HRW) growing States, the primary winter wheat producing area. As a result of the decreased harvested acreage and lower yields in 2018, HRW production totaled 662 million bushels, down 12 percent from 2017.

In the Soft Red Winter (SRW) growing area, planted and harvested acreage decreased from 2017 across the region. SRW production totaled 286 million bushels, down 2 percent from 2017.

White winter production totaled 236 million bushels, up 4 percent from the previous year. Harvested acreage in the Pacific Northwest (Idaho, Oregon, and Washington) was up less than 1 percent from 2017. Yields were up from last year throughout the region.

Planting of the 2018 winter wheat acreage began the first week of September, 2017 with progress limited to Colorado, Kansas, Montana, Nebraska, and Washington. By October 1, producers had sown 36 percent of the Nation's 2018 winter wheat acreage, 5 percentage points behind the previous year and 7 percentage points behind the 5-year average. Nationwide, 12 percent of the winter wheat acreage was emerged by October 1, six percentage points behind the previous year and 4 percentage points behind the 5-year average. Emergence was at or behind the 5-year average in 14 of the 18 *Crop Progress* estimating States as of October 1.

Sixty percent of the 2018 winter wheat acreage was sown by October 15, ten percentage points behind the previous year and 11 percentage points behind the 5-year average. Nationally, emergence had advanced to 37 percent complete by October 15, eight percentage points behind the previous year and 6 percentage points behind the 5-year average. Producers had sown 84 percent of the 2018 winter wheat acreage by October 29, slightly behind the previous year and 3 percentage points behind the 5-year average. Idaho was the first State to complete planting. Fifty-two percent of the acreage was reported to be in good to excellent condition on October 29, six percentage points below the same time the previous year.

Ninety-five percent of the 2018 winter wheat acreage was sown by November 12, slightly ahead of the previous year, but equal to the 5-year average. Nationally, emergence had advanced to 84 percent complete by November 12, slightly ahead of both the previous year and the 5-year average. By November 26, emergence was 92 percent complete, equal to both the previous year and the 5-year average. Fifty percent of the 2018 winter wheat acreage was reported in good to excellent condition for the week ending November 26, compared with 58 percent rated in these two categories during the same week the previous year.

On December 31, the majority of the winter wheat acreage in estimating States was estimated to be in fair to good condition. In Kansas, cold, dry conditions caused 75 percent of the acreage to be reported in fair to good condition, 4 percentage points below the same time the previous year.

During the last week of January, the majority of the winter wheat acreage in estimating States was estimated to be in fair to good condition. Drought conditions in Kansas persisted, leading to 55 percent of the State's winter wheat acreage to be rated in fair to good condition, a decrease of 30 percentage points from December. Only 1 percent of Kansas' winter wheat acreage was rated in excellent condition at that time, down from 3 percent in December. Oklahoma's winter wheat acreage appeared to be in the worst condition, with 79 percent of the 2018 acreage rated in poor to very poor condition.

Throughout February, conditions remained similar to the previous month for most of the United States. Winter wheat conditions in Kansas, as of the last week of February, declined as drought conditions persisted; 50 percent of the Kansas' winter wheat acreage was rated in fair to good condition, a decrease of 5 percentage points from the end of January. Only 1 percent of Kansas' winter wheat acreage was rated in excellent condition, unchanged from the previous month. Oklahoma's winter wheat acreage remained in the worst condition, with 78 percent of the 2018 acreage rated in very poor to poor condition, down 1 percentage point from January.

On April 1, thirty-two percent of the 2018 winter wheat acreage was reported in good to excellent condition, compared with 51 percent at the same time last year. By April 15, nine percent of the Nation's winter wheat acreage had reached the headed stage, 9 percentage points behind the previous year and 1 percentage point behind the 5-year average. At that same time, 31 percent of the 2018 winter wheat acreage was reported in good to excellent condition, 23 percentage points below the same time last year. In Kansas, the largest winter wheat-producing State, 12 percent of the winter wheat acreage was rated in good to excellent condition. By April 29, nineteen percent of the Nation's winter wheat acreage had reached the headed stage, 22 percentage points behind the previous year and 11 percentage points behind the 5-year average. On April 29, thirty-three percent of the 2018 winter wheat acreage was reported in good to excellent condition, 21 percentage points below the previous year.

Sixty-one percent of the Nation's winter wheat acreage had reached the headed stage by May 20, ten percentage points behind the previous year and 3 percentage points behind the 5-year average. By June 3, eighty-three percent of the Nation's winter wheat acreage had reached the heading stage, 3 percentage points behind the previous year but equal to the 5-year average. Five percent of the 2018 winter wheat acreage was harvested by June 3, four percentage points behind the previous year but 1 percentage point ahead of the 5-year average. By June 17, ninety-five percent of the winter wheat acreage had reached the heading stage, 1 percentage point behind the previous year but equal to the 5-year average. Twenty-seven percent of the winter wheat acreage was harvested by June 17, one percentage point ahead of last year and 8 percentage points ahead of the 5-year average.

Fifty-one percent of the winter wheat acreage was harvested by July 1, equal to the previous year but 2 percentage points ahead of the 5-year average. In Kansas, 71 percent of the State's winter wheat acreage was harvested by July 1, two percentage points ahead of the previous year and 8 percentage points ahead of the 5-year average. On July 1, thirty-seven percent of the winter wheat acreage was reported in good to excellent condition, 11 percentage points below the same time last year. Sixty-three percent of the 2018 winter wheat acreage was harvested by July 8, two percentage points behind last year but 2 percentage points ahead of the 5-year average. In Kansas, 92 percent of the State's winter wheat acreage was harvested by July 8, two percentage points ahead of last year and 7 percentage points ahead of the 5-year average. Seventy-four percent of the 2018 winter wheat acreage was harvested by July 15, equal to last year but 3 percentage points ahead of the 5-year average. With drier conditions across the Nation during the week ending July 15, winter wheat harvest advanced 20 percentage points or more in California, Colorado, Michigan, and Nebraska. By July 29, producers had harvested 85 percent of the 2018 winter wheat acreage, 2 percentage points behind last year and 1 percentage point behind the 5-year average. Winter wheat harvest was complete or nearing completion in 11 of the 18 *Crop Progress* estimating States by the end of July.

Ninety percent of the 2018 winter wheat acreage was harvested by August 5, three percentage points behind last year and 2 percentage points behind the 5-year average. Winter wheat harvest progressed quickly in Idaho, Montana, Oregon, and Washington, advancing 21 percentage points or more during the week ending August 5. Only 4 of the 18 *Crop Progress* estimating States had harvested less than 90 percent of the winter wheat acreage by August 5. Ninety-four percent of the 2018 winter wheat acreage was harvested by August 12, three percentage points behind last year and 2 percentage points behind the 5-year average. Winter wheat harvest was complete or nearing completion in all estimating States, except Idaho, Montana, and Washington. Ninety-seven percent of the 2018 winter wheat acreage was harvested by August 19, one percentage point behind both last year and the 5-year average. Winter wheat harvest was nearing completion in all States, except Montana and Washington. These two States were behind their 5-year average pace by 6 and 5 percentage points, respectively.

**Other spring wheat:** Production for 2018 was estimated at 623 million bushels, up 50 percent from the revised 2017 total of 415 million bushels. Harvested area totaled 12.9 million acres, up 27 percent from 2017. The United States yield was estimated at a record high 48.3 bushels per acre, 7.3 bushels above 2017. Record high yields were estimated in Idaho and North Dakota for 2018. Of the total production, 587 million bushels were Hard Red Spring wheat, up 53 percent from the revised 2017 total.

Seeding of the 2018 spring wheat acreage began in early April. By April 29, ten percent of the spring wheat acreage was seeded, 20 percentage points behind the previous year and 26 percentage points behind the 5-year average. Spring wheat planting progress was behind the 5-year average pace in all estimating States, except Washington, which had planted 78 percent of the intended acreage by April 29, thirty-one percentage points ahead of the previous year and 1 percentage point ahead of the 5-year average.

Four percent of the Nation's spring wheat acreage had emerged by May 6, fifteen percentage points behind the previous year and 18 percentage points behind the 5-year average. By June 3, ninety-seven percent of the spring wheat acreage was seeded, 2 percentage points behind the previous year but 3 percentage points ahead of the 5-year average. Eighty-one percent of the Nation's spring wheat had emerged by June 3, seven percentage points behind the previous year and 1 percentage point behind the 5-year average. Seventy percent of the Nation's spring wheat acreage was rated in good to excellent condition on June 3, fifteen percentage points above the same time last year.

By June 17, nine percent of the spring wheat acreage was headed, 5 percentage points behind the previous year and 3 percentage points behind the 5-year average. By July 1, fifty-eight percent of the spring wheat acreage had reached the heading stage, 2 percentage points ahead of the previous year and 10 percentage points ahead of the 5-year average. Seventy-seven percent of the Nation's spring wheat was rated in good to excellent condition on July 1, forty percentage points above the same time last year.

By July 22, ninety-six percent of the Nation's spring wheat acreage was at or beyond the heading stage, 1 percentage point ahead of the previous year and 3 percentage points ahead of the 5-year average. Four percent of the spring wheat acreage was harvested by July 29, four percentage points behind last year but equal to the 5-year average. In South Dakota, 35 percent of the 2018 spring wheat was harvested, 8 percentage points behind last year but 14 percentage points ahead of the 5-year average. Seventy-eight percent of the spring wheat acreage was reported in good to excellent condition on July 29, forty-seven percentage points above the same time last year.

By August 19, sixty percent of the Nation's spring wheat acreage was harvested, 5 percentage points ahead of last year and 16 percentage points ahead of the 5-year average. Seventy-four percent of the spring wheat acreage was reported in good to excellent condition as of August 19, forty percentage points above the same time last year. As of September 2, eighty-seven percent of the Nation's spring wheat acreage was harvested, equal to last year but 12 percentage points ahead of the 5-year average.

**Durum wheat:** Production for 2018 was estimated at 77.3 million bushels, up 41 percent from the revised 2017 total of 54.8 million bushels. Area harvested for grain totaled 1.97 million acres, down 7 percent from the previous year. The United States yield was estimated at 39.3 bushels per acre, up 13.3 bushels from the 2017 yield. Production in North Dakota, the largest Durum-producing State, was up 48 percent from 2017. By late July, harvest in Montana was underway. Producers in North Dakota had harvested 9 percent of the State's acreage by August 12.

**Rye:** Production for 2018 was estimated at 8.43 million bushels, down 13 percent from the 2017 total of 9.70 million bushels. Harvested area totaled 273,000 acres, down 13,000 acres from 2017. The United States yield, at 30.9 bushels per acre, was down 3.0 bushels from the previous year.



## 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 70 percent of the 2018 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 2018 crop year. Approximately 66,300 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, 6.1 percent for Durum wheat, and 3.4 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, 12.2 percent for Durum wheat, and 6.8 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 5.2, 5.4, and 6.4 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](mailto:nass@nass.usda.gov)

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James Johanson – County Estimates, Hay .....	(202) 690-8533
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Sammy Neal – Peanuts, Rice .....	(202) 720-7688
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Bianca Pruneda – Cotton, Cotton Ginnings, Sorghum.....	(202) 720-5944
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