Crop Production

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Winter Wheat Production Up 7 Percent from 2018
Orange Production Down 3 Percent from April Forecast

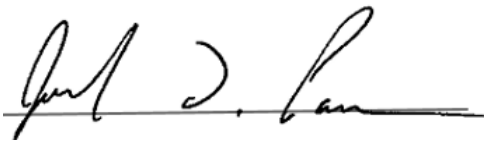
Winter wheat production is forecast at 1.27 billion bushels, up 7 percent from 2018. As of May 1, the United States yield is forecast at 50.3 bushels per acre, up 2.4 bushels from last year's average yield of 47.9 bushels per acre.

Hard Red Winter production, at 780 million bushels, is up 18 percent from a year ago. Soft Red Winter, at 265 million bushels, is down 7 percent from 2018. White Winter, at 224 million bushels, is down 5 percent from last year. Of the White Winter production, 22.3 million bushels are Hard White and 201 million bushels are Soft White.

The United States all orange forecast for the 2018-2019 season is 5.30 million tons, down 3 percent from last month but up 35 percent from the 2017-2018 final utilization. The Florida all orange forecast, at 72.4 million boxes (3.26 million tons), is down 5 percent from last month but up 61 percent from last season's final utilization. Early, midseason, and Navel varieties in Florida are forecast at 30.4 million boxes (1.37 million tons), down slightly from last month but up 60 percent from last season's final utilization. The Florida Valencia orange forecast, at 42.0 million boxes (1.89 million tons), is down 9 percent from last month but up 61 percent from last season's final utilization. The California and Texas orange production forecasts were carried forward from the previous month.

This report was approved on May 10, 2019.

Secretary of Agriculture
Designate
Robert Johansson



Agricultural Statistics Board
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Winter Wheat Area Harvested, Yield, and Production – States and United States: 2018 and Forecasted May 1, 2019

State	Area harvested		Yield per acre		Production	
	2018	2019	2018	2019	2018	2019
	(1,000 acres)	(1,000 acres)	(bushels)	(bushels)	(1,000 bushels)	(1,000 bushels)
Arkansas	95	60	55.0	61.0	5,225	3,660
California	110	120	77.0	72.0	8,470	8,640
Colorado	1,950	2,150	36.0	41.0	70,200	88,150
Idaho	680	690	90.0	87.0	61,200	60,030
Illinois	560	560	66.0	67.0	36,960	37,520
Indiana	260	260	71.0	73.0	18,460	18,980
Kansas	7,300	6,600	38.0	49.0	277,400	323,400
Kentucky	300	340	66.0	75.0	19,800	25,500
Maryland	200	165	63.0	67.0	12,600	11,055
Michigan	470	520	76.0	76.0	35,720	39,520
Mississippi	30	20	49.0	55.0	1,470	1,100
Missouri	520	470	59.0	61.0	30,680	28,670
Montana	1,570	1,750	50.0	43.0	78,500	75,250
Nebraska	1,010	1,000	49.0	50.0	49,490	50,000
North Carolina	370	225	57.0	54.0	21,090	12,150
North Dakota	70	75	43.0	46.0	3,010	3,450
Ohio	450	420	75.0	69.0	33,750	28,980
Oklahoma	2,500	3,000	28.0	35.0	70,000	105,000
Oregon	695	710	67.0	58.0	46,565	41,180
South Dakota	660	720	48.0	54.0	31,680	38,880
Tennessee	285	225	65.0	65.0	18,525	14,625
Texas	1,750	2,350	32.0	33.0	56,000	77,550
Virginia	155	115	60.0	62.0	9,300	7,130
Washington	1,650	1,650	76.0	68.0	125,400	112,200
Wisconsin	200	170	71.0	71.0	14,200	12,070
Other States [1]	902	849	53.5	51.6	48,244	43,771
United States	24,742	25,214	47.9	50.3	1,183,939	1,268,461

[1] For 2018, Other States include Alabama, Arizona, Delaware, Florida, Georgia, Iowa, Louisiana, Minnesota, Nevada, New Jersey, New Mexico, New York, Pennsylvania, South Carolina, Utah, West Virginia, and Wyoming. For 2019, Other States include Alabama, Delaware, Georgia, New Jersey, New Mexico, New York, Pennsylvania, South Carolina, Utah, and Wyoming. Individual State level estimates will be published in the *Small Grains 2019 Summary* report.

Durum Wheat Area Harvested, Yield, and Production – States and United States: 2018 and Forecasted May 1, 2019

[Area harvested for the United States and remaining States will be published in the *Acreage* report released June 2019. Yield and production will be published in the *Crop Production* report released July 2019. Blank data cells indicate estimation period has not yet begun]

State	Area harvested		Yield per acre		Production	
	2018	2019	2018	2019	2018	2019
	(1,000 acres)	(1,000 acres)	(bushels)	(bushels)	(1,000 bushels)	(1,000 bushels)
Arizona	70	39	106.0	107.0	7,420	4,173
California	33	38	95.0	105.0	3,135	3,990
Idaho	11		85.0		935	
Montana	775		30.0		23,250	
North Dakota	1,075		39.5		42,463	
South Dakota [1]	3	(NA)	28.0	(NA)	84	(NA)
United States	1,967		39.3		77,287	

(NA) Not available.

[1] Estimates discontinued in 2019.

Wheat Production by Class – United States: 2018 and Forecasted May 1, 2019

[Wheat class estimates are based on the latest available data including both surveys and administrative data. The previous end-of-year season class percentages are used throughout the forecast season for States that do not have survey or administrative data available. Blank data cells indicate estimation period has not yet begun]

Crop	2018	2019
	(1,000 bushels)	(1,000 bushels)
Winter		
Hard red	662,249	780,375
Soft red	285,558	264,565
Hard white	19,347	22,260
Soft white	216,785	201,261
Spring		
Hard red	587,007	
Hard white	13,510	
Soft white	22,715	
Durum	77,287	
Total	1,884,458	

Hay Stocks on Farms – States and United States: December 1 and May 1, 2017-2019

State	December 1		May 1	
	2017	2018	2018	2019
	(1,000 tons)	(1,000 tons)	(1,000 tons)	(1,000 tons)
Alabama	1,550	1,750	275	200
Arizona	235	190	35	35
Arkansas	1,950	1,570	390	190
California	1,850	1,400	150	270
Colorado	1,750	1,750	700	300
Connecticut	54	51	12	6
Delaware	25	17	4	2
Florida	490	570	65	80
Georgia	1,240	1,180	200	265
Idaho	2,200	2,400	660	400
Illinois	1,100	850	140	175
Indiana	1,150	820	100	130
Iowa	2,280	2,060	360	345
Kansas	4,500	4,300	800	630
Kentucky	3,750	3,450	650	500
Louisiana	660	500	80	55
Maine	153	163	25	22
Maryland	320	330	70	78
Massachusetts	60	65	16	12
Michigan	1,000	900	260	180
Minnesota	2,590	2,040	560	280
Mississippi	970	840	165	100
Missouri	5,100	4,200	580	480
Montana	3,650	4,200	500	1,100
Nebraska	4,180	4,500	700	1,070
Nevada	640	710	130	65
New Hampshire	45	53	6	6
New Jersey	125	94	22	16
New Mexico	400	250	50	105
New York	1,430	1,400	355	260
North Carolina	880	1,360	215	235
North Dakota	3,250	4,000	720	1,000
Ohio	1,470	1,400	260	180
Oklahoma	4,550	4,400	690	740
Oregon	1,650	1,650	320	170
Pennsylvania	2,300	1,813	440	290
Rhode Island	5	4	1	1
South Carolina	390	430	115	95
South Dakota	5,150	5,350	1,240	1,200
Tennessee	2,850	3,120	480	485
Texas	6,900	4,850	1,160	1,550
Utah	1,170	980	200	280
Vermont	120	175	42	48
Virginia	2,050	1,850	250	270
Washington	1,150	1,100	230	290
West Virginia	890	770	125	75
Wisconsin	2,650	1,750	480	330
Wyoming	1,550	1,450	320	310
United States	84,422	79,055	15,348	14,906

Utilized Production of Citrus Fruits by Crop – States and United States: 2017-2018 and Forecasted May 1, 2019

[The crop year begins with the bloom of the first year shown and ends with the completion of harvest the following year]

Crop and State	Utilized production boxes [1]		Utilized production ton equivalent	
	2017-2018	2018-2019	2017-2018	2018-2019
	(1,000 boxes)	(1,000 boxes)	(1,000 tons)	(1,000 tons)
Oranges				
California, all [2]	45,400	49,000	1,816	1,960
Early, mid, and Navel [3]	35,900	40,000	1,436	1,600
Valencia	9,500	9,000	380	360
Florida, all	45,050	72,400	2,028	3,258
Early, mid, and Navel [3]	18,950	30,400	853	1,368
Valencia	26,100	42,000	1,175	1,890
Texas, all [2]	1,880	1,875	80	79
Early, mid, and Navel [3]	1,530	1,300	65	55
Valencia	350	575	15	24
United States, all	92,330	123,275	3,924	5,297
Early, mid, and Navel [3]	56,380	71,700	2,354	3,023
Valencia	35,950	51,575	1,570	2,274
Grapefruit				
California [2]	4,000	4,000	160	160
Florida, all	3,880	4,580	165	195
Red	3,180	3,800	135	162
White	700	780	30	33
Texas [2]	4,800	6,300	192	252
United States	12,680	14,880	517	607
Tangerines and mandarins [4]				
California [2]	19,200	22,000	768	880
Florida	750	1,000	36	48
United States	19,950	23,000	804	928
Lemons [2]				
Arizona	1,000	1,300	40	52
California	21,200	20,000	848	800
United States	22,200	21,300	888	852

[1] Net pounds per box: oranges in California-80, Florida-90, Texas-85; grapefruit in California-80, Florida-85, Texas-80; tangerines and mandarins in California-80, Florida-95; lemons-80.

[2] Estimates for current year carried forward from an earlier forecast.

[3] Navel and miscellaneous varieties in California. Early (including Navel) and midseason varieties in Florida and Texas.

[4] Includes tangelos and tangors.

Peach Production by Type – California: 2018 and Forecasted May 1, 2019

Type	Total production	
	2018	2019
	(tons)	(tons)
Freestone	245,000	230,000
Clingstone	265,000	250,000
Total	510,000	480,000

Almonds Utilized Production – State and United States: 2018 and Forecasted May 1, 2019

State	Utilized production (shelled basis)	
	2018	2019
	(1,000 pounds)	(1,000 pounds)
California	2,280,000	2,500,000
United States	2,280,000	2,500,000

Cotton Area Planted, Harvested, and Yield by Type – States and United States: 2017 and 2018

Type and State	Area planted		Area harvested		Yield per acre	
	2017	2018	2017	2018	2017	2018
	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)	(pounds)	(pounds)
Upland						
Alabama	435.0	510.0	430.0	497.0	902	858
Arizona	160.0	160.0	159.0	159.0	1,464	1,319
Arkansas	445.0	485.0	438.0	480.0	1,177	1,133
California	88.0	48.0	87.0	47.0	1,297	1,910
Florida	99.0	117.0	98.0	93.0	759	532
Georgia	1,280.0	1,430.0	1,270.0	1,305.0	841	719
Kansas	93.0	165.0	90.0	152.0	1,051	1,077
Louisiana	220.0	195.0	217.0	189.0	894	1,067
Mississippi	630.0	620.0	625.0	615.0	1,038	1,141
Missouri	305.0	325.0	297.0	322.0	1,212	1,373
New Mexico	66.0	77.0	46.0	56.0	1,179	977
North Carolina	375.0	430.0	367.0	415.0	969	812
Oklahoma	590.0	780.0	555.0	550.0	882	595
South Carolina	250.0	300.0	248.0	275.0	912	733
Tennessee	345.0	360.0	340.0	355.0	1,033	1,041
Texas	7,000.0	7,750.0	5,500.0	4,350.0	809	756
Virginia	84.0	98.0	83.0	97.0	1,110	896
United States	12,465.0	13,850.0	10,850.0	9,957.0	895	847
American Pima						
Arizona	15.0	14.5	15.0	14.5	966	943
California	216.0	211.0	215.0	210.0	1,407	1,662
New Mexico	7.5	6.8	7.4	6.8	863	812
Texas	14.0	18.0	13.0	17.5	960	933
United States	252.5	250.3	250.4	248.8	1,341	1,545
All						
Alabama	435.0	510.0	430.0	497.0	902	858
Arizona	175.0	174.5	174.0	173.5	1,421	1,288
Arkansas	445.0	485.0	438.0	480.0	1,177	1,133
California	304.0	259.0	302.0	257.0	1,375	1,707
Florida	99.0	117.0	98.0	93.0	759	532
Georgia	1,280.0	1,430.0	1,270.0	1,305.0	841	719
Kansas	93.0	165.0	90.0	152.0	1,051	1,077
Louisiana	220.0	195.0	217.0	189.0	894	1,067
Mississippi	630.0	620.0	625.0	615.0	1,038	1,141
Missouri	305.0	325.0	297.0	322.0	1,212	1,373
New Mexico	73.5	83.8	53.4	62.8	1,135	959
North Carolina	375.0	430.0	367.0	415.0	969	812
Oklahoma	590.0	780.0	555.0	550.0	882	595
South Carolina	250.0	300.0	248.0	275.0	912	733
Tennessee	345.0	360.0	340.0	355.0	1,033	1,041
Texas	7,014.0	7,768.0	5,513.0	4,367.5	809	757
Virginia	84.0	98.0	83.0	97.0	1,110	896
United States	12,717.5	14,100.3	11,100.4	10,205.8	905	864

Cotton Production and Bales Ginned by Type – States and United States: 2017 and 2018

Type and State	Production in 480-pound net weight bales [1]		Lint seed ratio [2]		Bales ginned in 480-pound net weight bales [3]	
	2017	2018	2017	2018	2017	2018
	(1,000 bales)	(1,000 bales)	(ratio)	(ratio)	(bales)	(bales)
Upland						
Alabama	808.0	888.0	(NA)	(NA)	795,050	843,450
Arizona	485.0	437.0	(NA)	(NA)	471,500	418,900
Arkansas	1,074.0	1,133.0	(NA)	(NA)	1,148,600	1,298,450
California	235.0	187.0	(NA)	(NA)	248,650	205,800
Florida	155.0	103.0	(NA)	(NA)	123,050	84,750
Georgia	2,225.0	1,955.0	(NA)	(NA)	2,257,900	2,003,650
Kansas	197.0	341.0	(NA)	(NA)	201,100	333,150
Louisiana	404.0	420.0	(NA)	(NA)	414,650	429,250
Mississippi	1,351.0	1,462.0	(NA)	(NA)	1,313,300	1,429,950
Missouri	750.0	921.0	(NA)	(NA)	696,450	769,000
New Mexico	113.0	114.0	(NA)	(NA)	44,150	34,800
North Carolina	741.0	702.0	(NA)	(NA)	791,700	729,200
Oklahoma	1,020.0	682.0	(NA)	(NA)	943,300	613,150
South Carolina	471.0	420.0	(NA)	(NA)	416,800	376,200
Tennessee	732.0	770.0	(NA)	(NA)	737,750	781,500
Texas	9,270.0	6,850.0	(NA)	(NA)	9,385,950	6,984,350
Virginia	192.0	181.0	(NA)	(NA)	187,850	188,950
United States	20,223.0	17,566.0	(NA)	(NA)	20,177,750	17,524,500
American Pima						
Arizona	30.2	28.5	(NA)	(NA)	30,950	29,400
California	630.0	727.0	(NA)	(NA)	629,200	725,800
New Mexico	13.3	11.5	(NA)	(NA)	14,700	12,750
Texas	26.0	34.0	(NA)	(NA)	24,050	31,900
United States	699.5	801.0	(NA)	(NA)	698,900	799,850
All						
Alabama	808.0	888.0	(NA)	(NA)	795,050	843,450
Arizona	515.2	465.5	(NA)	(NA)	502,450	448,300
Arkansas	1,074.0	1,133.0	0.423	0.426	1,148,600	1,298,450
California	865.0	914.0	(NA)	(NA)	877,850	931,600
Florida	155.0	103.0	(NA)	(NA)	123,050	84,750
Georgia	2,225.0	1,955.0	0.455	0.462	2,257,900	2,003,650
Kansas	197.0	341.0	(NA)	(NA)	201,100	333,150
Louisiana	404.0	420.0	0.433	0.427	414,650	429,250
Mississippi	1,351.0	1,462.0	0.429	0.438	1,313,300	1,429,950
Missouri	750.0	921.0	(NA)	(NA)	696,450	769,000
New Mexico	126.3	125.5	(NA)	(NA)	58,850	47,550
North Carolina	741.0	702.0	0.450	0.430	791,700	729,200
Oklahoma	1,020.0	682.0	(NA)	(NA)	943,300	613,150
South Carolina	471.0	420.0	(NA)	(NA)	416,800	376,200
Tennessee	732.0	770.0	(NA)	(NA)	737,750	781,500
Texas	9,296.0	6,884.0	0.439	0.441	9,410,000	7,016,250
Virginia	192.0	181.0	(NA)	(NA)	187,850	188,950
United States	20,922.5	18,367.0	(NA)	(NA)	20,876,650	18,324,350

(NA) Not available.

[1] Production ginned and to be ginned.

[2] Estimates available only for the 6 States shown.

[3] Equivalent 480-pound net weight bales ginned, not adjusted for cross-state movement.

Cottonseed Production and Farm Disposition – States and United States: 2017 and 2018

State	Production		Farm disposition				Seed for planting [2]	
			Sales to oil mills		Other [1]			
	2017	2018	2017	2018	2017	2018	2017	2018
	(1,000 tons)	(1,000 tons)	(1,000 tons)	(1,000 tons)	(1,000 tons)	(1,000 tons)	(1,000 tons)	(1,000 tons)
Alabama	204.0	254.0	26.0	43.0	178.0	211.0	2.6	3.1
Arizona	171.0	156.0	-	3.0	171.0	153.0	1.3	1.1
Arkansas	351.0	366.0	238.0	268.0	113.0	98.0	3.0	3.7
California	323.0	342.0	84.0	62.0	239.0	280.0	2.3	2.0
Florida	44.0	27.0	35.0	26.0	9.0	1.0	0.6	0.5
Georgia	638.0	546.0	279.0	202.0	359.0	344.0	7.2	6.5
Kansas	58.0	106.0	12.0	-	46.0	106.0	0.7	0.9
Louisiana	127.0	135.0	108.0	107.0	19.0	28.0	1.1	1.6
Mississippi	432.0	451.0	295.0	240.0	137.0	211.0	3.9	4.4
Missouri	255.0	310.0	179.0	150.0	76.0	160.0	1.9	2.1
New Mexico	40.0	42.0	-	-	40.0	42.0	0.5	0.5
North Carolina	217.0	224.0	7.0	10.0	210.0	214.0	2.8	3.1
Oklahoma	294.0	197.0	190.0	124.0	104.0	73.0	3.7	4.0
South Carolina	134.0	117.0	44.0	30.0	90.0	87.0	1.6	1.5
Tennessee	230.0	219.0	184.0	175.0	46.0	44.0	2.2	2.3
Texas	2,852.0	2,088.0	1,378.0	995.0	1,474.0	1,093.0	40.7	41.6
Virginia	52.0	51.0	-	-	52.0	51.0	0.5	0.6
United States	6,422.0	5,631.0	3,059.0	2,435.0	3,363.0	3,196.0	76.6	79.5

- Represents zero.
[1] Includes planting seed, feed, exports, inter-farm sales, shrinkage, losses, and other uses.
[2] Included in "other" farm disposition. Seed for planting is produced in crop year shown, but used in the following year.

Cotton Objective Yield Data

The National Agricultural Statistics Service conducted objective yield surveys in six cotton-producing States during 2018. Randomly selected plots in cotton fields were visited monthly from August through harvest to obtain specific counts and measurements. Data in these tables are actual field counts from this survey.

Cotton Harvest Loss per Acre – Selected States: 2014-2018

State	2014	2015	2016	2017	2018
	(pounds)	(pounds)	(pounds)	(pounds)	(pounds)
Arkansas	176	69	131	80	100
Georgia	184	197	138	127	342
Louisiana	149	83	102	79	165
Mississippi	103	80	100	59	87
North Carolina	109	163	123	65	174
Texas	43	36	53	60	59
6 State	85	74	76	72	123

Cotton Cumulative Boll Counts – Selected States: 2014-2018

[Includes small bolls (less than one inch in diameter), large unopened bolls (at least one inch in diameter), open bolls, partially opened bolls, and burrs per 40 feet of row. November, December, and Final exclude small bolls]

State and month	2014	2015	2016	2017	2018
	(number)	(number)	(number)	(number)	(number)
Arkansas					
September	910	763	800	911	891
October	741	769	769	839	910
November	771	856	779	825	892
December	773	856	779	825	892
Final	773	856	779	825	892
Georgia					
September	660	645	562	593	605
October	660	630	668	608	737
November	717	748	719	680	712
December	718	759	725	684	719
Final	719	759	725	684	713
Louisiana					
September	745	676	654	648	759
October	876	776	760	667	734
November	877	794	784	665	739
December	877	793	784	665	739
Final	877	793	784	665	739
Mississippi					
September	843	887	953	904	871
October	808	839	942	810	895
November	861	898	974	804	846
December	861	898	974	797	846
Final	861	898	974	797	846
North Carolina					
September	604	551	558	637	601
October	629	620	599	705	641
November	765	624	660	769	714
December	764	632	660	769	719
Final	764	632	660	769	719
Texas					
September	485	566	467	592	570
October	373	442	474	602	576
November	453	481	528	603	553
December	461	492	547	615	583
Final	482	495	546	614	582
6-State					
September	564	601	532	633	627
October	487	518	554	635	661
November	561	571	604	649	640
December	566	581	618	656	659
Final	587	583	618	656	657

Crop Area Planted and Harvested, Yield, and Production in Domestic Units – United States: 2018 and 2019

[Data are the latest estimates available, either from the current report or from previous reports. Current year estimates are for the full 2019 crop year. Blank data cells indicate estimation period has not yet begun]

Crop	Area planted		Area harvested	
	2018	2019	2018	2019
	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)
Grains and hay				
Barley	2,543	2,550	1,978	
Corn for grain [1]	89,129	92,792	81,740	
Corn for silage	(NA)		6,113	
Hay, all	(NA)	(NA)	52,839	53,090
Alfalfa	(NA)		16,608	
All other	(NA)		36,231	
Oats	2,746	2,555	865	
Proso millet	443		403	
Rice	2,946	2,870	2,915	
Rye	2,011		273	
Sorghum for grain [1]	5,690	5,135	5,061	
Sorghum for silage	(NA)		264	
Wheat, all	47,800	45,754	39,605	
Winter	32,535	31,504	24,742	25,214
Durum	2,065	1,420	1,967	
Other spring	13,200	12,830	12,896	
Oilseeds				
Canola	1,990.7	1,904.0	1,943.5	
Cottonseed	(X)		(X)	
Flaxseed	208	345	198	
Mustard seed	102.5		97.5	
Peanuts	1,425.5	1,449.0	1,368.5	
Rapeseed	5.7		5.4	
Safflower	167.5		156.4	
Soybeans for beans	89,196	84,617	88,110	
Sunflower	1,301.0	1,349.0	1,222.5	
Cotton, tobacco, and sugar crops				
Cotton, all	14,100.3	13,780.0	10,205.8	
Upland	13,850.0	13,525.0	9,957.0	
American Pima	250.3	255.0	248.8	
Sugarbeets	1,113.1	1,120.2	1,095.4	
Sugarcane	(NA)		899.7	
Tobacco	(NA)	(NA)	291.4	244.0
Dry beans, peas, and lentils				
Austrian winter peas [2]	16.4	(NA)	10.9	(NA)
Chickpeas [3]	859.6	519.0	842.8	
Dry edible beans [3]	2,081.0	1,237.0	2,016.0	
Dry edible peas [2]	856.5	881.0	807.9	
Lentils	780.0	555.0	718.0	
Wrinkled seed peas [2]	(NA)	(NA)	(NA)	(NA)
Potatoes and miscellaneous				
Hops	(NA)		55.0	
Maple syrup	(NA)		(NA)	
Mushrooms	(NA)		(NA)	
Peppermint oil	(NA)		58.5	
Potatoes	1,033.2		1,023.3	
Spearmint oil	(NA)		20.8	
Taro (Hawaii) [4]	(NA)	(NA)	0.3	(NA)

See footnote(s) at end of table.

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Crop Area Planted and Harvested, Yield, and Production in Domestic Units – United States: 2018 and 2019 (continued)

[Data are the latest estimates available, either from the current report or from previous reports. Current year estimates are for the full 2019 crop year. Blank data cells indicate estimation period has not yet begun]

Crop		Yield per acre		Production	
		2018	2019	2018	2019
				(1,000)	(1,000)
Grains and hay					
Barley	bushels	77.4		153,082	
Corn for grain	bushels	176.4		14,420,101	
Corn for silage	tons	19.9		121,361	
Hay, all	tons	2.34		123,600	
Alfalfa	tons	3.17		52,634	
All other	tons	1.96		70,966	
Oats	bushels	64.9		56,130	
Proso millet	bushels	29.8		11,991	
Rice [5]	cwt	7,692		224,211	
Rye	bushels	30.9		8,432	
Sorghum for grain	bushels	72.1		364,986	
Sorghum for silage	tons	12.6		3,326	
Wheat, all	bushels	47.6		1,884,458	
Winter	bushels	47.9	50.3	1,183,939	1,268,461
Durum	bushels	39.3		77,287	
Other spring	bushels	48.3		623,232	
Oilseeds					
Canola	pounds	1,861		3,616,560	
Cottonseed	tons	(X)		5,631.0	
Flaxseed	bushels	22.6		4,466	
Mustard seed	pounds	750		73,078	
Peanuts	pounds	3,991		5,461,600	
Rapeseed	pounds	1,524		8,230	
Safflower	pounds	1,511		236,380	
Soybeans for beans	bushels	51.6		4,543,883	
Sunflower	pounds	1,731		2,116,410	
Cotton, tobacco, and sugar crops					
Cotton, all [5]	bales	864		18,367.0	
Upland [5]	bales	847		17,566.0	
American Pima [5]	bales	1,545		801.0	
Sugarbeets	tons	30.3		33,145	
Sugarcane	tons	38.4		34,542	
Tobacco	pounds	1,830		533,241	
Dry beans, peas, and lentils					
Austrian winter peas [2 5]	cwt	1,138	(NA)	124	(NA)
Chickpeas, all [3 5]	cwt	1,512		12,742	
Dry edible beans [3 5]	cwt	1,860		37,494	
Dry edible peas [2 5]	cwt	1,972		15,929	
Lentils [5]	cwt	1,171		8,408	
Wrinkled seed peas [2]	cwt	(NA)	(NA)	389	(NA)
Potatoes and miscellaneous					
Hops	pounds	1,943		106,906.7	
Maple syrup	gallons	(NA)		4,159	
Mushrooms	pounds	(NA)		917,235	
Peppermint oil	pounds	92		5,377	
Potatoes	cwt	444		454,314	
Spearmint oil	pounds	124		2,571	
Taro (Hawaii) [4]	pounds	9,630	(NA)	2,985	(NA)

(NA) Not available.
(X) Not applicable.
[1] Area planted for all purposes.
[2] Beginning in 2019, Austrian winter peas and wrinkled seed peas are included in dry edible peas.
[3] Beginning in 2019, chickpeas are excluded from dry edible beans.
[4] Estimates discontinued in 2019.
[5] Yield in pounds.

Crop Area Planted and Harvested, Yield, and Production in Metric Units – United States: 2018 and 2019

[Data are the latest estimates available, either from the current report or from previous reports. Current year estimates are for the full 2019 crop year. Blank data cells indicate estimation period has not yet begun]

Crop	Area planted		Area harvested	
	2018	2019	2018	2019
	(hectares)	(hectares)	(hectares)	(hectares)
Grains and hay				
Barley	1,029,130	1,031,960	800,480	
Corn for grain [1]	36,069,620	37,551,990	33,079,360	
Corn for silage	(NA)		2,473,870	
Hay, all [2]	(NA)	(NA)	21,383,410	21,484,990
Alfalfa	(NA)		6,721,090	
All other	(NA)		14,662,320	
Oats	1,111,280	1,033,980	350,060	
Proso millet	179,280		163,090	
Rice	1,192,220	1,161,460	1,179,670	
Rye	813,830		110,480	
Sorghum for grain [1]	2,302,690	2,078,080	2,048,140	
Sorghum for silage	(NA)		106,840	
Wheat, all [2]	19,344,180	18,516,190	16,027,750	
Winter	13,166,590	12,749,350	10,012,840	10,203,850
Durum	835,680	574,660	796,030	
Other spring	5,341,910	5,192,170	5,218,880	
Oilseeds				
Canola	805,620	770,530	786,520	
Cottonseed	(X)		(X)	
Flaxseed	84,180	139,620	80,130	
Mustard seed	41,480		39,460	
Peanuts	576,890	586,400	553,820	
Rapeseed	2,310		2,190	
Safflower	67,790		63,290	
Soybeans for beans	36,096,730	34,243,650	35,657,240	
Sunflower	526,500	545,930	494,730	
Cotton, tobacco, and sugar crops				
Cotton, all [2]	5,706,250	5,576,630	4,130,190	
Upland	5,604,960	5,473,430	4,029,500	
American Pima	101,290	103,200	100,690	
Sugarbeets	450,460	453,330	443,300	
Sugarcane	(NA)		364,100	
Tobacco	(NA)	(NA)	117,940	98,760
Dry beans, peas, and lentils				
Austrian winter peas [3]	6,640	(NA)	4,410	(NA)
Chickpeas [4]	347,870	210,030	341,070	
Dry edible beans [4]	842,160	500,600	815,860	
Dry edible peas [3]	346,620	356,530	326,950	
Lentils	315,660	224,600	290,570	
Wrinkled seed peas [3]	(NA)	(NA)	(NA)	(NA)
Potatoes and miscellaneous				
Hops	(NA)		22,270	
Maple syrup	(NA)		(NA)	
Mushrooms	(NA)		(NA)	
Peppermint oil	(NA)		23,670	
Potatoes	418,130		414,120	
Spearmint oil	(NA)		8,420	
Taro (Hawaii) [5]	(NA)	(NA)	130	(NA)

See footnote(s) at end of table.

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Crop Area Planted and Harvested, Yield, and Production in Metric Units – United States: 2018 and 2019 (continued)

[Data are the latest estimates available, either from the current report or from previous reports. Current year estimates are for the full 2019 crop year. Blank data cells indicate estimation period has not yet begun]

Crop	Yield per hectare		Production	
	2018	2019	2018	2019
	(metric tons)	(metric tons)	(metric tons)	(metric tons)
Grains and hay				
Barley	4.16		3,332,970	
Corn for grain	11.07		366,287,440	
Corn for silage	44.50		110,096,850	
Hay, all [2]	5.24		112,128,030	
Alfalfa	7.10		47,748,760	
All other	4.39		64,379,270	
Oats	2.33		814,720	
Proso millet	1.67		271,950	
Rice	8.62		10,170,040	
Rye	1.94		214,180	
Sorghum for grain	4.53		9,271,070	
Sorghum for silage	28.24		3,017,300	
Wheat, all [2]	3.20		51,286,540	
Winter	3.22	3.38	32,221,540	34,521,850
Durum	2.64		2,103,410	
Other spring	3.25		16,961,600	
Oilseeds				
Canola	2.09		1,640,440	
Cottonseed	(X)		5,108,360	
Flaxseed	1.42		113,440	
Mustard seed	0.84		33,150	
Peanuts	4.47		2,477,340	
Rapeseed	1.71		3,730	
Safflower	1.69		107,220	
Soybeans for beans	3.47		123,664,230	
Sunflower	1.94		959,990	
Cotton, tobacco, and sugar crops				
Cotton, all [2]	0.97		3,998,940	
Upland	0.95		3,824,550	
American Pima	1.73		174,400	
Sugarbeets	67.83		30,068,640	
Sugarcane	86.06		31,335,980	
Tobacco	2.05		241,870	
Dry beans, peas, and lentils				
Austrian winter peas [3]	1.28	(NA)	5,620	(NA)
Chickpeas [4]	1.69		577,970	
Dry edible beans [4]	2.08		1,700,700	
Dry edible peas [3]	2.21		722,530	
Lentils	1.31		381,380	
Wrinkled seed peas [3]	(NA)	(NA)	17,640	(NA)
Potatoes and miscellaneous				
Hops	2.18		48,490	
Maple syrup	(NA)		20,800	
Mushrooms	(NA)		416,050	
Peppermint oil	0.10		2,440	
Potatoes	49.76		20,607,340	
Spearmint oil	0.14		1,170	
Taro (Hawaii) [5]	10.80	(NA)	1,350	(NA)

(NA) Not available.
(X) Not applicable.
[1] Area planted for all purposes.
[2] Total may not add due to rounding.
[3] Beginning in 2019, Austrian winter peas and wrinkled seed peas are included in dry edible peas.
[4] Beginning in 2019, chickpeas are excluded from dry edible beans.
[5] Estimates discontinued in 2019.

Fruits and Nuts Production in Domestic Units – United States: 2018 and 2019

[Data are the latest estimates available, either from the current report or from previous reports. Current year estimates are for the full 2019 crop year, except citrus which is for the 2018-2019 season. Blank data cells indicate estimation period has not yet begun]

Crop		Production	
		2018	2019
Citrus [1]			
Grapefruit	1,000 tons	517	607
Lemons	1,000 tons	888	852
Oranges	1,000 tons	3,924	5,297
Tangerines and mandarins	1,000 tons	804	928
Noncitrus			
Apples, commercial	million pounds	11,452.2	
Apricots	tons	39,800	
Avocados	tons		
Blueberries, Cultivated	1,000 pounds		
Blueberries, Wild (Maine)	1,000 pounds		
Cherries, Sweet	tons	319,900	
Cherries, Tart	million pounds	352.7	
Coffee (Hawaii)	1,000 pounds		
Cranberries	barrel	8,634,000	
Dates	tons		
Grapes	tons	7,659,000	
Kiwifruit (California)	tons		
Nectarines (California)	tons		
Olives (California)	tons		
Papayas (Hawaii)	1,000 pounds		
Peaches	tons	732,050	
Pears	tons	739,200	
Plums (California)	tons		
Prunes (California)	tons	80,000	
Raspberries, all	1,000 pounds		
Strawberries	1,000 cwt	31,764.9	
Nuts and miscellaneous			
Almonds, shelled (California)	1,000 pounds	2,280,000	2,500,000
Hazelnuts, in-shell (Oregon)	tons	52,000	
Macadamias (Hawaii)	1,000 pounds		
Pecans, in-shell	1,000 pounds	278,900	
Pistachios (California)	1,000 pounds		
Walnuts, in-shell (California)	tons	690,000	

[1] Production years are 2017-2018 and 2018-2019.

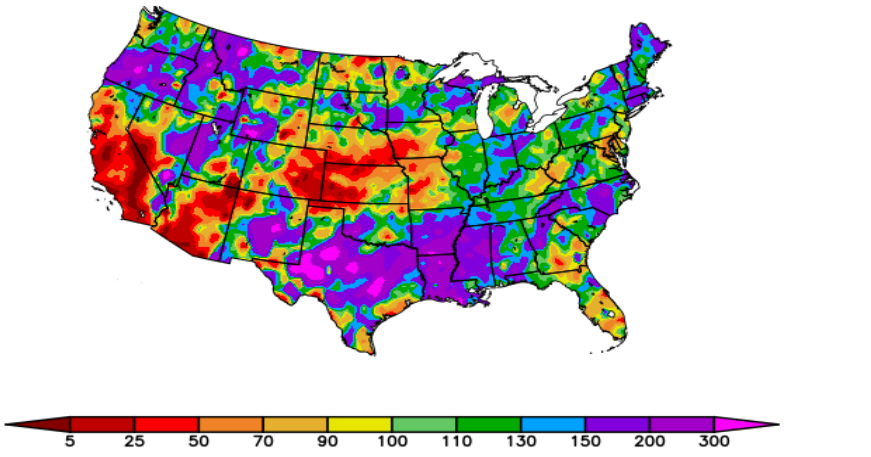
Fruits and Nuts Production in Metric Units – United States: 2018 and 2019

[Data are the latest estimates available, either from the current report or from previous reports. Current year estimates are for the full 2019 crop year, except citrus which is for the 2018-2019 season. Blank data cells indicate estimation period has not yet begun]

Crop	Production	
	2018	2019
	(metric tons)	(metric tons)
Citrus [1]		
Grapefruit	469,010	550,660
Lemons	805,580	772,920
Oranges	3,559,790	4,805,360
Tangerines and mandarins	729,380	841,870
Noncitrus		
Apples, commercial	5,194,630	
Apricots	36,110	
Avocados		
Blueberries, Cultivated		
Blueberries, Wild (Maine)		
Cherries, Sweet	290,210	
Cherries, Tart	159,980	
Coffee (Hawaii)		
Cranberries	391,630	
Dates		
Grapes	6,948,130	
Kiwifruit (California)		
Nectarines (California)		
Olives (California)		
Papayas (Hawaii)		
Peaches	664,100	
Pears	670,590	
Plums (California)		
Prunes (California)	72,570	
Raspberries, all		
Strawberries	1,440,830	
Nuts and miscellaneous		
Almonds, shelled (California)	1,034,190	1,133,980
Hazelnuts, in-shell (Oregon)	47,170	
Macadamias (Hawaii)		
Pecans, in-shell	126,510	
Pistachios (California)		
Walnuts, in-shell (California)	625,960	

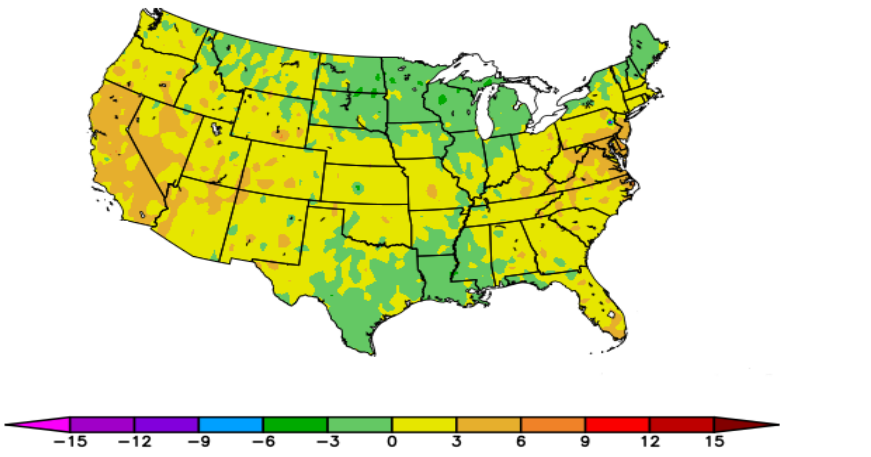
[1] Production years are 2017-2018 and 2018-2019.

Percent of Normal Precipitation (%)
4/1/2019 – 4/30/2019



NOAA Regional Climate Centers

Departure from Normal Temperature (F)
4/1/2019 – 4/30/2019



NOAA Regional Climate Centers

April Weather Summary

Much of the Nation recorded wetter-than-normal weather in April, resulting in soggy soils that disrupted planting activities in many locations, including large sections of the Midwest, the Mississippi Delta, and parts of the Pacific Northwest. In addition, a spring snowstorm significantly delayed spring wheat planting in South Dakota and environs. Runoff from the anomalous rain and melting snow led to widespread lowland flooding, especially in the eastern Dakotas and the Mississippi Valley. According to the U.S. Drought Monitor, drought coverage across the Lower 48 States reached a modern-era record low of 2.28 percent late in the month.

By April 28, only 15 percent of the intended corn acreage had been planted—the slowest early-season planting pace since 2013, when 5 percent had been sown on that date. Meanwhile, spring wheat planting progress was extremely slow for the second year in a row, with just 13 percent of the crop planted by April 28. Other recent years with sluggish April spring wheat planting progress included 2011 (8 percent planted by April 28th), 2018 (9 percent), and 2013 (12 percent).

Only a few regions, such as the central Plains and the lower Southeast, received near- or below-normal April precipitation. In those areas, planting progressed at a slightly faster pace. In California and the Desert Southwest, seasonably dry weather favored an acceleration of fieldwork, following some early-season planting delays.

One of the month's most impressive storms struck the upper Midwest from April 10-12, resulting in blizzard conditions due to wind-driven snow that locally accumulated to a depth of 1 to 2 feet or more. Additional Midwestern snow fell as late as April 27, helping to lower soil temperatures and further delay the onset of widespread spring fieldwork.

Cooler-than-normal conditions lingered for much of the month across the Nation's northern tier, while above-normal April temperatures dominated California, the Great Basin, the Four Corners States, and much of the eastern United States.

April Agricultural Summary

April was cooler than average for much of the Corn Belt, Delta, New England, northern Rocky Mountains, and Texas. In the upper Midwest, average temperatures were 3°F or more below normal in many areas. However, temperatures were slightly warmer in the mid-Atlantic, California, Florida, central Great Plains, Pacific Northwest, and Southwest averaging 3°F or more above normal in some areas. Beneficial rain showers were recorded in the Delta, Pacific Northwest, Southeast, and central Texas during the month. In parts of the Delta, Pacific Northwest, and Texas, 9 or more inches of rain fell during the month. Snow fell across parts of the Great Lakes, northern Great Plains, New England, and Rocky Mountains which caused delays in fieldwork.

By April 7, producers had planted 2 percent of the Nation's corn acreage, equal to both the previous year and the 5-year average. Two weeks later, on April 21, producers had planted 6 percent of the Nation's corn acreage, 1 percentage point ahead of the previous year but 6 percentage points behind the 5-year average. At that time, all States were at or behind their 5-year average pace and planting had not yet begun in Michigan, Minnesota, North Dakota, Pennsylvania, and South Dakota. Planting pace picked up during the week ending April 28, when producers had planted 15 percent of the Nation's corn acreage, equal to the previous year but 12 percentage points behind the 5-year average. Twenty-one percent of Iowa's intended corn acreage was planted by April 28, six percentage points ahead of the previous year but 5 percentage points behind the 5-year average. Three percent of the Nation's corn acreage had emerged by April 28, equal to the previous year but 2 percentage points behind the 5-year average.

One percent of the Nation's soybean acreage was planted by April 21, one percentage point behind both the previous year and the 5-year average. At that time, the Mississippi Delta was the most advanced in planting. By April 28, producers had planted 3 percent of the Nation's soybean acreage, 2 percentage points behind the previous year and 3 percentage points behind the 5-year average. At that time, States with 10 percent or more of the intended acreage planted were Arkansas, Louisiana, and Mississippi, with 10 percent, 24 percent, and 20 percent planted, respectively.

By April 14, six percent of the Nation's winter wheat acreage had reached the headed stage, 2 percentage points behind the previous year and 3 percentage points behind the 5-year average. By April 28, nineteen percent of the Nation's winter wheat acreage had reached the headed stage, 1 percentage point ahead of the previous year but 10 percentage points

behind the 5-year average. On April 28, sixty-four percent of the 2019 winter wheat acreage was reported in good to excellent condition, 31 percentage points above the same time last year. In Kansas, the largest winter wheat-producing State, 58 percent of the winter wheat acreage was rated in good to excellent condition on April 28, compared with 13 percent rated in these two categories at the same time last year.

Nationwide, 6 percent of the cotton acreage was planted by April 7, one percentage point behind the previous year but 1 percentage point ahead of the 5-year average. By April 28, eleven percent of the cotton acreage had been planted, 1 percentage point behind the previous year and 2 percentage points behind the 5-year average. In Texas, 13 percent of the 2019 cotton acreage was planted by April 28, two percentage points behind the previous year but equal to the 5-year average.

By April 7, fourteen percent of the Nation's sorghum acreage was planted, 2 percentage points behind the previous year but equal to the 5-year average. Texas producers had planted 47 percent of the sorghum acreage by April 7, six percentage points behind the previous year but 6 percentage points ahead of the 5-year average. Sixteen percent of the Nation's sorghum acreage was planted by April 14, four percentage points behind the previous year and 3 percentage points behind the 5-year average. Twenty percent of the Nation's sorghum acreage was planted by April 28, six percentage points behind the previous year and 5 percentage points behind the 5-year average. Texas producers had planted 65 percent of the intended sorghum acreage by April 28, sixteen percentage points behind the previous year and 1 percentage point behind the 5-year average.

By April 7, producers had seeded 19 percent of the 2019 rice acreage, 1 percentage point behind the previous year and 2 percentage points behind the 5-year average. At that time, 7 percent of the Nation's rice acreage had emerged, 3 percentage points behind the previous year and 1 percentage point behind the 5-year average. By April 28, producers had seeded 38 percent of the 2019 rice acreage, 16 percentage points behind the previous year and 19 percentage points behind the 5-year average. Louisiana had the largest percentage of acreage planted at that time, with 85 percent seeded, 8 percentage points behind the previous year and 3 percentage points behind the 5-year average. By April 28, twenty-seven percent of the Nation's rice acreage had emerged, 1 percentage point behind the previous year and 10 percentage points behind the 5-year average.

Nationally, oat producers had seeded 27 percent of this year's acreage by April 7, equal to the previous year but 5 percentage points behind the 5-year average. Oat planting progress was behind the 5-year average in 6 of the 9 estimating States. Planting had not yet begun in Minnesota, North Dakota, or South Dakota. Twenty-five percent of the Nation's oat crop had emerged by April 7, equal to the previous year but 1 percentage point behind the 5-year average. Producers had seeded 43 percent of this year's acreage by April 28, five percentage points ahead of the previous year but 18 percentage points behind the 5-year average. Oat planting progress was at or behind the 5-year average in 7 of the 9 estimating States at that time. Thirty-one percent of the Nation's oat acreage had emerged by April 28, two percentage points ahead of the previous year but 10 percentage points behind the 5-year average.

Two percent of the Nation's barley acreage was planted by April 7, one percentage point behind the previous year and 7 percentage points behind the 5-year average. Planting progress was at or behind the historical pace in all estimating States at that time. Only Idaho and Washington reported plantings during the week ending April 7, with 7 percent and 9 percent planted, respectively. By April 28, twenty-eight percent of the Nation's barley was planted, 4 percentage points ahead of the previous year but 13 percentage points behind the 5-year average. Planting progress was behind the 5-year average in all estimating States at that time. Planting had not yet begun in Minnesota. Twenty-three percent of Montana's intended acreage was planted by April 28, six percentage points ahead of the previous year but 18 percentage points behind the 5-year average. Six percent of the Nation's barley acreage had emerged by April 28, equal to the previous year but 9 percentage points behind the 5-year average.

By April 7, one percent of the spring wheat acreage was seeded, 1 percentage point behind the previous year and 4 percentage points behind the 5-year average. By April 28, thirteen percent of the spring wheat acreage was seeded, 4 percentage points ahead of the previous year but 20 percentage points behind the 5-year average. Spring wheat planting progress was behind the 5-year average pace in all estimating States at that time.

By April 21, peanut producers had planted 2 percent of the 2019 peanut acreage, 1 percentage point behind both the previous year and the 5-year average. By April 28, peanut producers had planted 8 percent of the 2019 peanut acreage, equal to both the previous year and the 5-year average. Producers in Florida had planted 23 percent of the 2019 intended acreage by April 28, three percentage points ahead of the previous year and 8 percentage points ahead of the 5-year average.

By April 7, three percent of the sugarbeet crop was planted, 2 percentage points ahead of the previous year but equal to the 5-year average. By April 28, twenty-five percent of the sugarbeet acreage was planted, 3 percentage points ahead of the previous year but 23 percentage points behind the 5-year average.

Crop Comments

Winter wheat: Production is forecast at 1.27 billion bushels, up 7 percent from 2018. As of May 1, the United States yield is forecast at 50.3 bushels per acre, up 2.4 bushels from last year's average yield of 47.9 bushels per acre. Expected grain area is forecast at 25.2 million acres, up 2 percent from last year. If realized, this will represent the second lowest harvested acreage on record for the United States. Hard Red Winter (HRW) harvested acreage is up 5 percent from the previous year. Soft Red Winter (SRW) harvested acreage is expected to be down 9 percent from last year.

As of April 28, sixty-four percent of the winter wheat acreage in the 18 major producing States was rated in good to excellent condition, 31 percentage points higher than at the same time last year. Nationally, 19 percent of the winter wheat acreage was headed by April 28, ten percentage points behind the 5-year average pace. If realized, record low harvested acreage is expected in Ohio and Virginia.

As of April 28, Kansas, Oklahoma, and Texas winter wheat was rated 58 percent, 79 percent, and 61 percent, in good to excellent condition, respectively.

As of April 28, Idaho, Oregon, and Washington winter wheat was rated 66 percent, 65 percent, and 68 percent, in good to excellent condition, respectively. According to the U.S. Drought Monitor as of April 30, 2019, parts of Washington were abnormally dry. Moderate drought ratings were noted in other areas.

Durum wheat: Production of Durum wheat in Arizona and California is forecast at a collective 8.16 million bushels, down 23 percent from 2018. In Arizona, the acreage was 91 percent headed by April 28, two percentage points ahead of previous year. Twenty-one percent of the acreage was mature by April 28, four percentage points behind last year.

Hay stocks on farms: All hay stored on United States farms, as of May 1, 2019, totaled 14.9 million tons, down 3 percent from a year ago. Disappearance from December 1, 2018 - May 1, 2019 totaled 64.1 million tons, compared with 69.1 million tons for the same period a year earlier. This marks the lowest May 1 hay stocks since the drought of 2012 and the second lowest since records began in 1950.

Lower May 1 hay stocks are mainly the result of reduced hay production in 2018 due to the continuing decline in harvested acres of alfalfa and lower yields of other hay compared with the previous 4 years, which were some of the highest on record. Production in 2018 was the lowest since 2012 and second lowest since 1976. Additionally, the January 1, 2019 cattle inventory was the highest since 2008.

May 1 hay stocks levels were record lows in Minnesota, New Hampshire, Rhode Island, and Wisconsin.

Grapefruit: The United States 2018-2019 grapefruit crop is forecast at 607,000 tons, down 2 percent from last month but up 17 percent from last season’s final utilization. In Florida, expected production, at 4.58 million boxes (195,000 tons), is down 7 percent from last month but up 18 percent from last year. California and Texas grapefruit production forecasts were carried forward from the previous month.

Tangerines and mandarins: The United States tangerine and mandarin crop is forecast at 928,000 tons, up slightly from last month and up 15 percent from last season’s final utilization. The Florida forecast, at 1.00 million boxes (48,000 tons), is up 5 percent from last month and up 33 percent from the previous year. The California tangerine and mandarin forecast

was carried forward from the previous month.

Peaches: The California 2019 peach crop is forecast at 480,000 tons, down 6 percent from 2018. The California Freestone crop is forecast at 230,000 tons, down 6 percent from last season. Heavy rain and plenty of chilling hours benefited the crop. As a result, the trees experienced a very good bloom. After bloom, cooler weather caused a slight delay in harvest. Overall, conditions were favorable. The California Clingstone crop is forecast at 250,000 tons, down 6 percent from the previous year. Full bloom occurred on March 18, a few days later than the previous year. Many growers reported they were satisfied with this year's bloom. Colder than normal temperatures resulted in a delay in crop development. Additionally, intermittent rain prompted additional spraying during the spring to help protect the crop.

Almonds: The 2019 California almond production (shelled basis) is forecast at 2.50 billion pounds, up 10 percent from the revised 2018 production of 2.28 billion pounds. If realized, this will be the highest almond production on record. Cool temperatures and ample rain during the bloom phase hindered pollination. However, an extended bloom period compensated for the disruptions and allowed for more overlap between blooming varieties. The rainy weather continued after the bloom period ended and into spring.

2018 Cotton Final: All cotton production was estimated at 18.4 million 480-pound bales, down 12 percent from the 2017 crop. The United States all cotton yield was estimated at 864 pounds per acre, down 41 pounds from the previous year. Record high yields were estimated in California and Missouri.

Upland cotton production was estimated at 17.6 million 480-pound bales, down 13 percent from the 2017 crop. The United States upland cotton yield was estimated at 847 pounds per acre, down 48 pounds from 2017. Record high upland production was estimated in Kansas. Record high upland yields were estimated in California and Missouri.

America Pima production was estimated at 801,000 bales (480-pounds), up 15 percent from 2017. The United States yield was estimated at 1,545 pounds per acre, up 204 pounds from the previous season. A record high yield was estimated in California.

Cottonseed: Cottonseed production in 2018 totaled 5.6 million tons, down 12 percent from the previous year. Sales to oil mills accounted for 43 percent of the disposition. The remaining 57 percent will be used for seed, feed, exports, and various other uses.

Statistical Methodology

Wheat survey procedures: Objective yield and farm operator surveys were conducted between April 24 and May 7 to gather information on expected yield as of May 1. The objective yield survey was conducted in three States (Kansas, Oklahoma, and Texas) where wheat is normally mature enough to make meaningful counts. Farm operators were interviewed to update previously reported acreage data and seek permission to randomly locate two sample plots in selected winter wheat fields. The counts made within each sample plot depended upon the crop's maturity. Counts such as number of stalks, heads in late boot, and number of emerged heads were made to predict the number of heads that would be harvested. The counts are used with similar data from previous years to develop a projected biological yield. The average harvesting loss is subtracted to obtain a net yield. The plots are revisited each month until crop maturity when the heads are clipped, threshed, and weighed. After the farm operator has harvested the sample field, another plot is sampled to obtain current year harvesting loss.

The farm operator survey included a sample of approximately 10,500 producers representing all major production areas. The survey was conducted primarily by telephone with some use of mail, internet and personal interviewers. These producers were selected from an earlier acreage survey and were asked about the probable winter wheat acres for harvest and yield on their operation. These growers will continue to be surveyed throughout the growing season to provide indications of average yields.

Orange survey procedures: The orange objective yield survey for the May 1 forecast was conducted in Florida. In August and September of last year, the number of bearing trees and the number of fruit per tree was determined. In August and subsequent months, fruit size measurement and fruit droppage surveys are conducted, which are combined with the previous components to develop the current forecast of production. California and Texas conduct grower surveys on a quarterly basis in October, January, April, and July. California also conducts objective measurement surveys in September for Navel oranges and in March for Valencia oranges.

Wheat 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 to previous months and previous years. Each Regional Field Office submits their analysis of the current situation to the Agricultural Statistics Board (ASB). The ASB uses the survey data and the State analyses to prepare the published May 1 forecasts.

Orange estimating procedures: State level objective yield indications for Florida oranges were reviewed for errors, reasonableness, and consistency with historical estimates. The Florida Field Office submits its analysis of the current situation to the Agricultural Statistics Board (ASB). The ASB uses the Florida survey data and their analysis to prepare the published May 1 forecast. The May 1 orange production forecasts for California and Texas are carried forward from April.

Revision Policy: The May 1 production forecast will not be revised; instead, a new forecast will be made each month throughout the growing season. End-of-season wheat estimates are made after harvest. At the end of the wheat marketing season, a balance sheet is calculated using carryover stocks, production, exports, millings, feeding, and ending stocks. Revisions are then made if the balance sheet relationships or other administrative data warrant changes. End-of-season orange estimates will be published in the *Citrus Fruits Summary* released in August. The orange production estimates are based on all data available at the end of the marketing season, including information from marketing orders, shipments, and processor records. Allowances are made for recorded local utilization and home use.

Reliability: To assist users in evaluating the reliability of the May 1 production forecast, the "Root Mean Square Error," a statistical measure based on past performance, is computed. The deviation between the May 1 production forecast and the final estimate is expressed as a percentage of the final estimate. The average of the squared percentage deviations for the latest 20-year period is computed. The square root of the average becomes statistically the "Root Mean Square Error." Probability statements can be made concerning expected differences in the current forecast relative to the final end-of-season estimate, assuming that factors affecting this year's forecast are not different from those influencing recent years.

The “Root Mean Square Error” for the May 1 winter wheat production forecast is 6.4 percent. This means that chances are two out of three that the current production forecast will not be above or below the final estimate by more than 6.4 percent. Chances are 9 out of 10 (90 percent confidence level) that the difference will not exceed 11.0 percent. Differences between the May 1 winter wheat production forecast and the final estimate during the past 20 years have averaged 75 million bushels, ranging from 6 million to 245 million bushels. The May 1 forecast has been below the final estimate 9 times and above 11 times. This does not imply that the May 1 winter wheat forecast this year is likely to understate or overstate final production.

The “Root Mean Square Error” for the May 1 orange production forecast is 2.3 percent. However, if you exclude the four abnormal production seasons (one freeze season and three hurricane seasons), the “Root Mean Square Error” is 2.6 percent. This means that chances are 2 out of 3 that the current orange production forecast will not be above or below the final estimates by more than 2.3 percent, or 2.6 percent, excluding abnormal seasons. Chances are 9 out of 10 (90 percent confidence level) that the difference will not exceed 4.0 percent, or 4.4 percent, excluding abnormal seasons.

Changes between the May 1 orange forecast and the final estimates during the past 20 years have averaged 131,000 tons (153,000 tons, excluding abnormal seasons), ranging from 19,000 tons to 441,000 tons (36,000 tons to 441,000 tons, excluding abnormal seasons). The May 1 forecast for oranges has been below the final estimate 11 times and above 9 times (below 8 times and above 8 times, excluding abnormal seasons). This does not imply that the May 1 forecast this year is likely to understate or overstate final production.

USDA, National Agricultural Statistics Service 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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David Colwell – Current Agricultural Industrial Reports ..... (202) 720-3338
Chris Hawthorn – Corn, Flaxseed, Proso Millet ..... (202) 720-9526
James Johanson – County Estimates, Hay ..... (202) 690-8533
Jeff Lemmons – Oats, Soybeans ..... (202) 690-3234
Sammy Neal – Peanuts, Rice ..... (202) 720-7688
Jannety Mosley – Crop Weather, Barley ..... (202) 720-7621
Jean Porter – Rye, Wheat ..... (202) 720-8068
Chris Singh – Cotton, Cotton Ginnings, Sorghum ..... (202) 720-5944
Travis Thorson – Sunflower, Other Oilseeds ..... (202) 720-7369

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Fleming Gibson – Cauliflower, Celery, Citrus, Macadamia, Mushrooms, Olives, Green Peas, Watermelons ..... (202) 720-5412
Greg Lemmons –Cranberries, Cucumbers, Pistachios, Potatoes, Pumpkins, Raspberries, Squash, Strawberries, Sugarbeets, Sugarcane, Sweet Potatoes, Tame Blueberries, Wild Blueberries ..... (202) 720-4285
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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.