Crop Production

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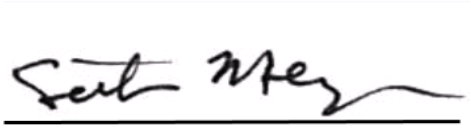
Winter Wheat Production Up 10 Percent from 2020
Orange Production Unchanged from April Forecast

Winter wheat production is forecast at 1.28 billion bushels, up 10 percent from 2020. As of May 1, the United States yield is forecast at 52.1 bushels per acre, up 1.2 bushels from last year's average yield of 50.9 bushels per acre. Area expected to be harvested for grain is forecast at 24.6 million acres, up 7 percent from last year.

Hard Red Winter production, at 731 million bushels, is up 11 percent from a year ago. Soft Red Winter, at 332 million bushels, is up 25 percent from 2020. White Winter, at 220 million bushels, is down 10 percent from last year. Of the White Winter production, 14.2 million bushels are Hard White and 206 million bushels are Soft White.

The United States all orange forecast for the 2020-2021 season is 4.45 million tons, unchanged from the previous forecast but down 15 percent from the 2019-2020 final utilization. The Florida all orange forecast, at 51.7 million boxes (2.33 million tons), is unchanged from the previous forecast but down 23 percent from last season's final utilization. In Florida, early, midseason, and Navel varieties are forecast at 22.7 million boxes (1.02 million tons), unchanged from the previous forecast but down 23 percent from last season's final utilization. The Florida Valencia orange forecast, at 29.0 million boxes (1.31 million tons), is unchanged from the previous forecast but down 23 percent from last season's final utilization. California and Texas orange production forecasts were carried forward from the previous forecast.

This report was approved on May 12, 2021.



Secretary of Agriculture
Designate
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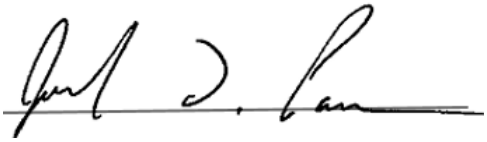

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Winter Wheat Area Harvested, Yield, and Production – States and United States: 2020 and Forecasted May 1, 2021

State	Area harvested		Yield per acre		Production	
	2020	2021	2020	2021	2020	2021
	(1,000 acres)	(1,000 acres)	(bushels)	(bushels)	(1,000 bushels)	(1,000 bushels)
Arkansas	75	120	55.0	50.0	4,125	6,000
California	80	70	75.0	75.0	6,000	5,250
Colorado	1,520	1,700	27.0	34.0	41,040	57,800
Idaho	660	680	101.0	95.0	66,660	64,600
Illinois	520	650	68.0	74.0	35,360	48,100
Indiana	250	300	70.0	74.0	17,500	22,200
Kansas	6,250	6,900	45.0	48.0	281,250	331,200
Kentucky	340	365	63.0	75.0	21,420	27,375
Maryland	150	155	73.0	73.0	10,950	11,315
Michigan	450	520	75.0	82.0	33,750	42,640
Mississippi	20	60	48.0	52.0	960	3,120
Missouri	370	480	62.0	68.0	22,940	32,640
Montana	1,490	1,650	51.0	49.0	75,990	80,850
Nebraska	830	780	41.0	47.0	34,030	36,660
North Carolina	350	360	60.0	53.0	21,000	19,080
North Dakota	33	55	49.0	40.0	1,617	2,200
Ohio	490	530	71.0	75.0	34,790	39,750
Oklahoma	2,600	2,700	40.0	40.0	104,000	108,000
Oregon	725	705	64.0	56.0	46,400	39,480
South Dakota	600	630	58.0	54.0	34,800	34,020
Tennessee	230	320	59.0	70.0	13,570	22,400
Texas	2,050	1,900	30.0	32.0	61,500	60,800
Virginia	130	130	60.0	62.0	7,800	8,060
Washington	1,750	1,690	76.0	64.0	133,000	108,160
Wisconsin	125	220	69.0	70.0	8,625	15,400
Other States [1]	936	942	55.5	59.3	51,945	55,825
United States	23,024	24,612	50.9	52.1	1,171,022	1,282,925

[1] 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 2021 Summary* report.

Durum Wheat Area Harvested, Yield, and Production – States and United States: 2020 and Forecasted May 1, 2021

[Area harvested for the United States and remaining States will be published in the *Acreage* report released June 2021. Yield and production will be published in the *Crop Production* report released July 2021. Blank data cells indicate estimation period has not yet begun]

State	Area harvested		Yield per acre		Production	
	2020	2021	2020	2021	2020	2021
	(1,000 acres)	(1,000 acres)	(bushels)	(bushels)	(1,000 bushels)	(1,000 bushels)
Arizona	43	44	99.0	100.0	4,257	4,400
California	20	20	87.0	91.0	1,740	1,820
Idaho	9		89.0		801	
Montana	685		39.0		26,715	
North Dakota	905		39.0		35,295	
United States	1,662		41.4		68,808	

Wheat Production by Class – United States: 2020 and Forecasted May 1, 2021

[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	2020	2021
	(1,000 bushels)	(1,000 bushels)
Winter		
Hard red	658,640	730,833
Soft red	266,235	331,594
Hard white	12,179	14,239
Soft white	233,968	206,259
Spring		
Hard red	530,152	
Hard white	10,687	
Soft white	45,151	
Durum	68,808	
Total	1,825,820	

Hay Stocks on Farms – States and United States: December 1 and May 1, 2019-2021

State	December 1		May 1	
	2019	2020	2020	2021
	(1,000 tons)	(1,000 tons)	(1,000 tons)	(1,000 tons)
Alabama	1,100	1,800	120	300
Arizona	280	300	45	20
Arkansas	2,000	1,800	340	240
California	1,350	1,640	420	220
Colorado	2,000	1,700	410	230
Connecticut	43	30	8	6
Delaware	16	10	2	2
Florida	540	520	80	60
Georgia	1,110	1,210	170	290
Idaho	2,400	2,500	490	410
Illinois	750	1,000	220	270
Indiana	730	800	140	150
Iowa	2,180	2,430	510	430
Kansas	5,300	5,000	1,420	910
Kentucky	3,000	3,825	625	950
Louisiana	660	660	120	160
Maine	115	150	30	21
Maryland	315	290	60	57
Massachusetts	55	60	8	9
Michigan	930	900	220	190
Minnesota	1,690	2,240	360	400
Mississippi	960	1,050	130	170
Missouri	6,900	6,000	1,410	1,000
Montana	5,100	4,800	1,040	970
Nebraska	4,200	4,200	1,380	1,000
Nevada	935	400	80	90
New Hampshire	30	36	7	5
New Jersey	70	90	29	10
New Mexico	330	210	50	40
New York	1,600	1,000	350	290
North Carolina	1,300	1,120	180	190
North Dakota	4,200	3,700	1,290	950
Ohio	1,250	1,300	220	210
Oklahoma	4,200	4,100	1,350	1,150
Oregon	1,900	1,600	400	290
Pennsylvania	1,650	1,410	350	275
Rhode Island	4	4	1	1
South Carolina	360	400	75	125
South Dakota	6,250	5,800	2,350	2,200
Tennessee	2,900	2,930	425	570
Texas	5,600	6,400	1,950	1,200
Utah	1,300	1,250	300	170
Vermont	165	145	36	35
Virginia	1,800	2,050	310	480
Washington	1,050	1,100	160	220
West Virginia	660	770	95	145
Wisconsin	1,770	1,790	310	570
Wyoming	1,440	1,500	350	325
United States	84,488	84,020	20,426	18,006

Utilized Production of Citrus Fruits by Crop – States and United States: 2019-2020 and Forecasted May 1, 2021

[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	
	2019-2020	2020-2021	2019-2020	2020-2021
	(1,000 boxes)	(1,000 boxes)	(1,000 tons)	(1,000 tons)
Oranges				
California, all [2]	54,100	52,000	2,164	2,080
Early, mid, and Navel [3]	43,300	42,000	1,732	1,680
Valencia	10,800	10,000	432	400
Florida, all	67,400	51,700	3,033	2,327
Early, mid, and Navel [3]	29,650	22,700	1,334	1,022
Valencia	37,750	29,000	1,699	1,305
Texas, all [2]	1,340	1,050	57	45
Early, mid, and Navel [3]	1,150	1,000	49	43
Valencia	190	50	8	2
United States, all	122,840	104,750	5,254	4,452
Early, mid, and Navel [3]	74,100	65,700	3,115	2,745
Valencia	48,740	39,050	2,139	1,707
Grapefruit				
California [2]	4,700	4,200	188	168
Florida, all	4,850	4,200	207	179
Red [4]	4,060	(NA)	173	(NA)
White [4]	790	(NA)	34	(NA)
Texas [2]	4,400	2,400	176	96
United States	13,950	10,800	571	443
Tangerines and mandarins [5]				
California [2]	22,400	23,000	896	920
Florida	1,020	900	48	43
United States	23,420	23,900	944	963
Lemons [2]				
Arizona	1,800	1,800	72	72
California	25,300	22,000	1,012	880
United States	27,100	23,800	1,084	952

(NA) Not available.

[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] Estimates discontinued in 2020-2021.

[5] Includes tangelos and tangors.

Peach Production by Type – California: 2020 and Forecasted May 1, 2021

Type	Total production	
	2020	2021
	(tons)	(tons)
Freestone	220,000	240,000
Clingstone	248,000	240,000
Total	468,000	480,000

Almonds Production – State and United States: 2020 and Forecasted May 1, 2021

State	Total production (shelled basis)	
	2020	2021
	(1,000 pounds)	(1,000 pounds)
California	3,115,000	3,200,000
United States	3,115,000	3,200,000

Cotton Area Planted, Harvested, and Yield by Type – States and United States: 2019 and 2020

Type and State	Area planted		Area harvested		Yield per acre	
	2019	2020	2019	2020	2019	2020
	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)	(pounds)	(pounds)
Upland						
Alabama	540.0	450.0	532.0	446.0	928	790
Arizona	160.0	125.0	158.0	123.0	1,154	1,179
Arkansas	620.0	525.0	610.0	520.0	1,185	1,179
California	54.0	34.0	53.0	33.5	1,576	2,006
Florida	112.0	98.0	110.0	93.0	895	532
Georgia	1,400.0	1,190.0	1,380.0	1,180.0	953	887
Kansas	175.0	195.0	149.0	184.0	902	783
Louisiana	280.0	170.0	268.0	165.0	1,042	986
Mississippi	710.0	530.0	700.0	525.0	1,112	1,079
Missouri	380.0	295.0	368.0	287.0	1,193	1,144
New Mexico	63.0	43.0	44.0	26.0	840	1,052
North Carolina	510.0	360.0	500.0	330.0	998	759
Oklahoma	640.0	525.0	450.0	435.0	703	702
South Carolina	300.0	190.0	295.0	179.0	809	802
Tennessee	410.0	280.0	405.0	275.0	1,138	1,066
Texas	7,050.0	6,800.0	5,150.0	3,200.0	589	686
Virginia	103.0	80.0	102.0	79.0	1,144	772
United States	13,507.0	11,890.0	11,274.0	8,080.5	819	835
American Pima						
Arizona	7.5	6.5	7.5	6.5	800	1,034
California	204.0	147.0	201.0	146.0	1,545	1,562
New Mexico	5.2	10.5	4.9	10.5	882	663
Texas	12.0	38.0	10.0	31.0	816	666
United States	228.7	202.0	223.4	194.0	1,473	1,352
All						
Alabama	540.0	450.0	532.0	446.0	928	790
Arizona	167.5	131.5	165.5	129.5	1,138	1,171
Arkansas	620.0	525.0	610.0	520.0	1,185	1,179
California	258.0	181.0	254.0	179.5	1,551	1,645
Florida	112.0	98.0	110.0	93.0	895	532
Georgia	1,400.0	1,190.0	1,380.0	1,180.0	953	887
Kansas	175.0	195.0	149.0	184.0	902	783
Louisiana	280.0	170.0	268.0	165.0	1,042	986
Mississippi	710.0	530.0	700.0	525.0	1,112	1,079
Missouri	380.0	295.0	368.0	287.0	1,193	1,144
New Mexico	68.2	53.5	48.9	36.5	844	940
North Carolina	510.0	360.0	500.0	330.0	998	759
Oklahoma	640.0	525.0	450.0	435.0	703	702
South Carolina	300.0	190.0	295.0	179.0	809	802
Tennessee	410.0	280.0	405.0	275.0	1,138	1,066
Texas	7,062.0	6,838.0	5,160.0	3,231.0	589	685
Virginia	103.0	80.0	102.0	79.0	1,144	772
United States	13,735.7	12,092.0	11,497.4	8,274.5	831	847

Cotton Production and Bales Ginned by Type – States and United States: 2019 and 2020

Type and State	Production in 480-pound net weight bales [1]		Lint seed ratio		Bales ginned in 480-pound net weight bales [2]	
	2019	2020	2019	2020	2019	2020
	(1,000 bales)	(1,000 bales)	(ratio)	(ratio)	(bales)	(bales)
Upland						
Alabama	1,028.0	734.0	(NA)	(NA)	1,002,300	715,850
Arizona	380.0	302.0	(NA)	(NA)	366,400	303,100
Arkansas	1,506.0	1,277.0	(NA)	(NA)	1,599,500	1,348,350
California	174.0	140.0	(NA)	(NA)	188,200	140,400
Florida	205.0	103.0	(NA)	(NA)	166,750	91,600
Georgia	2,740.0	2,180.0	(NA)	(NA)	2,798,300	2,207,950
Kansas	280.0	300.0	(NA)	(NA)	240,250	204,650
Louisiana	582.0	339.0	(NA)	(NA)	592,650	352,400
Mississippi	1,621.0	1,180.0	(NA)	(NA)	1,576,300	1,147,100
Missouri	915.0	684.0	(NA)	(NA)	846,300	633,150
New Mexico	77.0	57.0	(NA)	(NA)	32,100	26,700
North Carolina	1,040.0	522.0	(NA)	(NA)	1,098,400	559,450
Oklahoma	659.0	636.0	(NA)	(NA)	554,600	515,000
South Carolina	497.0	299.0	(NA)	(NA)	436,850	260,000
Tennessee	960.0	611.0	(NA)	(NA)	962,300	602,400
Texas	6,320.0	4,570.0	(NA)	(NA)	6,497,150	4,798,550
Virginia	243.0	127.0	(NA)	(NA)	235,550	123,450
United States	19,227.0	14,061.0	(NA)	(NA)	19,193,900	14,030,100
American Pima						
Arizona	12.5	14.0	(NA)	(NA)	12,800	13,100
California	647.0	475.0	(NA)	(NA)	646,100	474,250
New Mexico	9.0	14.5	(NA)	(NA)	10,200	17,150
Texas	17.0	43.0	(NA)	(NA)	15,350	40,550
United States	685.5	546.5	(NA)	(NA)	684,450	545,050
All						
Alabama	1,028.0	734.0	(NA)	(NA)	1,002,300	715,850
Arizona	392.5	316.0	(NA)	(NA)	379,200	316,200
Arkansas	1,506.0	1,277.0	0.433	0.432	1,599,500	1,348,350
California	821.0	615.0	(NA)	(NA)	834,300	614,650
Florida	205.0	103.0	(NA)	(NA)	166,750	91,600
Georgia	2,740.0	2,180.0	0.458	0.460	2,798,300	2,207,950
Kansas	280.0	300.0	(NA)	(NA)	240,250	204,650
Louisiana	582.0	339.0	(NA)	(NA)	592,650	352,400
Mississippi	1,621.0	1,180.0	0.436	0.431	1,576,300	1,147,100
Missouri	915.0	684.0	(NA)	(NA)	846,300	633,150
New Mexico	86.0	71.5	(NA)	(NA)	42,300	43,850
North Carolina	1,040.0	522.0	(NA)	(NA)	1,098,400	559,450
Oklahoma	659.0	636.0	(NA)	(NA)	554,600	515,000
South Carolina	497.0	299.0	(NA)	(NA)	436,850	260,000
Tennessee	960.0	611.0	(NA)	(NA)	962,300	602,400
Texas	6,337.0	4,613.0	0.444	0.433	6,512,500	4,839,100
Virginia	243.0	127.0	(NA)	(NA)	235,550	123,450
United States	19,912.5	14,607.5	(NA)	(NA)	19,878,350	14,575,150

(NA) Not available.

[1] Production ginned and to be ginned.

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

Cottonseed Production and Farm Disposition – States and United States: 2019 and 2020

State	Production		Farm disposition				Seed for planting [2]	
			Sales to oil mills		Other [1]			
	2019	2020	2019	2020	2019	2020	2019	2020
	(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	267.0	205.0	46.0	20.0	221.0	185.0	3.0	2.6
Arizona	136.0	171.0	-	-	136.0	171.0	1.0	0.8
Arkansas	472.0	402.0	280.0	292.0	192.0	110.0	3.7	3.0
California	290.0	294.0	69.0	77.0	221.0	217.0	1.8	1.0
Florida	57.0	28.0	39.0	20.0	18.0	8.0	0.6	0.6
Georgia	778.0	613.0	296.0	253.0	482.0	360.0	6.2	5.7
Kansas	85.0	99.0	-	-	85.0	99.0	1.1	1.0
Louisiana	192.0	109.0	121.0	63.0	71.0	46.0	1.4	0.7
Mississippi	503.0	373.0	265.0	195.0	238.0	178.0	4.3	3.1
Missouri	253.0	210.0	117.0	52.0	136.0	158.0	2.2	2.1
New Mexico	26.0	29.0	-	-	26.0	29.0	0.5	0.3
North Carolina	308.0	121.0	4.0	-	304.0	121.0	3.3	2.6
Oklahoma	191.0	189.0	132.0	123.0	59.0	66.0	3.7	2.8
South Carolina	116.0	84.0	41.0	-	75.0	84.0	1.5	1.0
Tennessee	301.0	101.0	255.0	65.0	46.0	36.0	2.3	1.9
Texas	1,902.0	1,448.0	910.0	590.0	992.0	858.0	39.3	40.8
Virginia	68.0	33.0	-	-	68.0	33.0	0.6	0.5
United States	5,945.0	4,509.0	2,575.0	1,750.0	3,370.0	2,759.0	76.5	70.5

- 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 four cotton-producing States during 2020. Randomly selected plots in cotton fields are visited monthly from September 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: 2016-2020

State	2016	2017	2018	2019	2020
	(pounds)	(pounds)	(pounds)	(pounds)	(pounds)
Arkansas	131	80	100	73	53
Georgia	138	127	342	269	236
Louisiana [1]	102	79	165	(NA)	(NA)
Mississippi	100	59	87	104	97
North Carolina [1]	123	65	174	(NA)	(NA)
Texas	53	60	59	43	58
4-State [2]	76	72	123	90	100

(NA) Not available.
[1] Objective yield survey discontinued in 2019.
[2] 6-State total prior to 2019.

Cotton Cumulative Boll Counts – Selected States: 2016-2020

[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	2016	2017	2018	2019	2020
	(number)	(number)	(number)	(number)	(number)
Arkansas					
September	800	911	891	900	994
October	769	839	910	896	849
November	779	825	892	925	820
December	779	825	892	900	820
Final	779	825	892	900	820
Georgia					
September	562	593	605	598	606
October	668	608	737	783	747
November	719	680	712	790	761
December	725	684	719	799	784
Final	725	684	713	803	785
Louisiana [1]					
September	654	648	759	(NA)	(NA)
October	760	667	734	(NA)	(NA)
November	784	665	739	(NA)	(NA)
December	784	665	739	(NA)	(NA)
Final	784	665	739	(NA)	(NA)
Mississippi					
September	953	904	871	944	900
October	942	810	895	895	867
November	974	804	846	904	877
December	974	797	846	901	875
Final	974	797	846	901	875
North Carolina [1]					
September	558	637	601	(NA)	(NA)
October	599	705	641	(NA)	(NA)
November	660	769	714	(NA)	(NA)
December	660	769	719	(NA)	(NA)
Final	660	769	719	(NA)	(NA)
Texas					
September	467	592	570	458	576
October	474	602	576	438	581
November	528	603	553	456	595
December	547	615	583	459	608
Final	546	614	582	461	608
4-State [2]					
September	532	633	627	551	645
October	554	635	661	562	661
November	604	649	640	579	671
December	618	656	659	580	683
Final	618	656	657	593	693

(NA) Not available.

[1] Objective yield survey discontinued in 2019.

[2] 6-State total prior to 2019.

Crop Area Planted and Harvested, Yield, and Production in Domestic Units – United States: 2020 and 2021

[Data are the latest estimates available, either from the current report or from previous reports. Current year estimates are for the full 2021 crop year. Blank data cells indicate estimation period has not yet begun]

Crop	Area planted		Area harvested	
	2020	2021	2020	2021
	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)
Grains and hay				
Barley	2,621	2,590	2,133	
Corn for grain [1]	90,819	91,144	82,467	
Corn for silage	(NA)		6,719	
Hay, all	(NA)	(NA)	52,238	51,714
Alfalfa	(NA)		16,230	
All other	(NA)		36,008	
Oats	2,984	2,488	1,004	
Proso millet	609		484	
Rice	3,036	2,710	2,987	
Rye	1,955		330	
Sorghum for grain [1]	5,880	6,940	5,095	
Sorghum for silage	(NA)		239	
Wheat, all	44,349	46,358	36,746	
Winter	30,415	33,078	23,024	24,612
Durum	1,684	1,540	1,662	
Other spring	12,250	11,740	12,060	
Oilseeds				
Canola	1,825.0	2,115.0	1,789.0	
Cottonseed	(X)		(X)	
Flaxseed	305	400	296	
Mustard seed	97.0		91.4	
Peanuts	1,664.2	1,625.5	1,615.8	
Rapeseed	11.2		10.1	
Safflower	136.0		126.7	
Soybeans for beans	83,084	87,600	82,318	
Sunflower	1,718.7	1,216.0	1,665.7	
Cotton, tobacco, and sugar crops				
Cotton, all	12,092.0	12,036.0	8,274.5	
Upland	11,890.0	11,894.0	8,080.5	
American Pima	202.0	142.0	194.0	
Sugarbeets	1,162.2	1,169.0	1,142.3	
Sugarcane	(NA)		947.6	
Tobacco	(NA)	(NA)	198.1	195.8
Dry beans, peas, and lentils				
Chickpeas	269.8	290.0	262.9	
Dry edible beans	1,740.0	1,540.0	1,676.5	
Dry edible peas	999.0	893.0	973.0	
Lentils	528.0	611.0	514.0	
Potatoes and miscellaneous				
Hops	(NA)		58.6	
Maple syrup	(NA)		(NA)	
Mushrooms	(NA)		(NA)	
Peppermint oil	(NA)		50.1	
Potatoes	921.0		914.1	
Spearmint oil	(NA)		17.7	

See footnote(s) at end of table.

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Crop Area Planted and Harvested, Yield, and Production in Domestic Units – United States: 2020 and 2021 (continued)

[Data are the latest estimates available, either from the current report or from previous reports. Current year estimates are for the full 2021 crop year. Blank data cells indicate estimation period has not yet begun]

Crop		Yield per acre		Production	
		2020	2021	2020	2021
				(1,000)	(1,000)
Grains and hay					
Barley	bushels	77.5		165,324	
Corn for grain	bushels	172.0		14,182,479	
Corn for silage	tons	20.5		137,729	
Hay, all	tons	2.43		126,812	
Alfalfa	tons	3.27		53,067	
All other	tons	2.05		73,745	
Oats	bushels	65.1		65,355	
Proso millet	bushels	19.0		9,210	
Rice [2]	cwt	7,619		227,583	
Rye	bushels	34.9		11,532	
Sorghum for grain	bushels	73.2		372,960	
Sorghum for silage	tons	13.1		3,125	
Wheat, all	bushels	49.7		1,825,820	
Winter	bushels	50.9	52.1	1,171,022	1,282,925
Durum	bushels	41.4		68,808	
Other spring	bushels	48.6		585,990	
Oilseeds					
Canola	pounds	1,931		3,454,950	
Cottonseed	tons	(X)		4,509.0	
Flaxseed	bushels	19.3		5,706	
Mustard seed	pounds	895		81,770	
Peanuts	pounds	3,796		6,133,900	
Rapeseed	pounds	1,971		19,910	
Safflower	pounds	1,167		147,800	
Soybeans for beans	bushels	50.2		4,135,477	
Sunflower	pounds	1,790		2,982,410	
Cotton, tobacco, and sugar crops					
Cotton, all [2]	bales	847		14,607.5	
Upland [2]	bales	835		14,061.0	
American Pima [2]	bales	1,352		546.5	
Sugarbeets	tons	29.4		33,618	
Sugarcane	tons	38.1		36,100	
Tobacco	pounds	1,966		389,413	
Dry beans, peas, and lentils					
Chickpeas [2]	cwt	1,625		4,273	
Dry edible beans [2]	cwt	1,966		32,963	
Dry edible peas [2]	cwt	2,234		21,733	
Lentils [2]	cwt	1,442		7,411	
Potatoes and miscellaneous					
Hops	pounds	1,770		103,810.3	
Maple syrup	gallons	(NA)		4,372	
Mushrooms	pounds	(NA)		816,367	
Peppermint oil	pounds	99		4,984	
Potatoes	cwt	453		414,248	
Spearmint oil	pounds	121		2,134	

(NA) Not available.
(X) Not applicable.
[1] Area planted for all purposes.
[2] Yield in pounds.

Crop Area Planted and Harvested, Yield, and Production in Metric Units – United States: 2020 and 2021

[Data are the latest estimates available, either from the current report or from previous reports. Current year estimates are for the full 2021 crop year. Blank data cells indicate estimation period has not yet begun]

Crop	Area planted		Area harvested	
	2020	2021	2020	2021
	(hectares)	(hectares)	(hectares)	(hectares)
Grains and hay				
Barley	1,060,690	1,048,150	863,200	
Corn for grain [1]	36,753,540	36,885,070	33,373,570	
Corn for silage	(NA)		2,719,110	
Hay, all [2]	(NA)	(NA)	21,140,200	20,928,140
Alfalfa	(NA)		6,568,120	
All other	(NA)		14,572,080	
Oats	1,207,590	1,006,870	406,310	
Proso millet	246,460		195,870	
Rice	1,228,640	1,096,710	1,208,810	
Rye	791,170		133,550	
Sorghum for grain [1]	2,379,580	2,808,550	2,061,900	
Sorghum for silage	(NA)		96,720	
Wheat, all [2]	17,947,600	18,760,620	14,870,740	
Winter	12,308,650	13,386,340	9,317,580	9,960,230
Durum	681,500	623,220	672,590	
Other spring	4,957,450	4,751,060	4,880,560	
Oilseeds				
Canola	738,560	855,920	723,990	
Cottonseed	(X)		(X)	
Flaxseed	123,430	161,880	119,790	
Mustard seed	39,250		36,990	
Peanuts	673,490	657,820	653,900	
Rapeseed	4,530		4,090	
Safflower	55,040		51,270	
Soybeans for beans	33,623,260	35,450,840	33,313,270	
Sunflower	695,540	492,100	674,090	
Cotton, tobacco, and sugar crops				
Cotton, all [2]	4,893,510	4,870,850	3,348,610	
Upland	4,811,760	4,813,380	3,270,100	
American Pima	81,750	57,470	78,510	
Sugarbeets	470,330	473,080	462,280	
Sugarcane	(NA)		383,480	
Tobacco	(NA)	(NA)	80,150	79,240
Dry beans, peas, and lentils				
Chickpeas	109,190	117,360	106,390	
Dry edible beans	704,160	623,220	678,460	
Dry edible peas	404,290	361,390	393,760	
Lentils	213,680	247,270	208,010	
Potatoes and miscellaneous				
Hops	(NA)		23,730	
Maple syrup	(NA)		(NA)	
Mushrooms	(NA)		(NA)	
Peppermint oil	(NA)		20,270	
Potatoes	372,720		369,930	
Spearmint oil	(NA)		7,160	

See footnote(s) at end of table.

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Crop Area Planted and Harvested, Yield, and Production in Metric Units – United States: 2020 and 2021 (continued)

[Data are the latest estimates available, either from the current report or from previous reports. Current year estimates are for the full 2021 crop year. Blank data cells indicate estimation period has not yet begun]

Crop	Yield per hectare		Production	
	2020	2021	2020	2021
	(metric tons)	(metric tons)	(metric tons)	(metric tons)
Grains and hay				
Barley	4.17		3,599,510	
Corn for grain	10.79		360,251,560	
Corn for silage	45.95		124,945,650	
Hay, all [2]	5.44		115,041,910	
Alfalfa	7.33		48,141,570	
All other	4.59		66,900,340	
Oats	2.33		948,630	
Proso millet	1.07		208,880	
Rice	8.54		10,322,990	
Rye	2.19		292,930	
Sorghum for grain	4.59		9,473,620	
Sorghum for silage	29.31		2,834,950	
Wheat, all [2]	3.34		49,690,680	
Winter	3.42	3.51	31,870,000	34,915,500
Durum	2.78		1,872,650	
Other spring	3.27		15,948,030	
Oilseeds				
Canola	2.16		1,567,140	
Cottonseed	(X)		4,090,500	
Flaxseed	1.21		144,940	
Mustard seed	1.00		37,090	
Peanuts	4.25		2,782,290	
Rapeseed	2.21		9,030	
Safflower	1.31		67,040	
Soybeans for beans	3.38		112,549,240	
Sunflower	2.01		1,352,800	
Cotton, tobacco, and sugar crops				
Cotton, all [2]	0.95		3,180,410	
Upland	0.94		3,061,420	
American Pima	1.52		118,990	
Sugarbeets	65.97		30,497,740	
Sugarcane	85.40		32,749,370	
Tobacco	2.20		176,630	
Dry beans, peas, and lentils				
Chickpeas	1.82		193,820	
Dry edible beans	2.20		1,495,180	
Dry edible peas	2.50		985,790	
Lentils	1.62		336,160	
Potatoes and miscellaneous				
Hops	1.98		47,090	
Maple syrup	(NA)		21,860	
Mushrooms	(NA)		370,300	
Peppermint oil	0.11		2,260	
Potatoes	50.79		18,789,970	
Spearmint oil	0.14		970	

(NA) Not available.
(X) Not applicable.
[1] Area planted for all purposes.
[2] Total may not add due to rounding.

Fruits and Nuts Production in Domestic Units – United States: 2020 and 2021

[Data are the latest estimates available, either from the current report or from previous reports. Current year estimates are for the full 2021 crop year, except citrus which is for the 2020-2021 season. Blank data cells indicate estimation period has not yet begun]

Crop	Production	
	2020	2021
Citrus [1]		
Grapefruit ..... 1,000 tons	571	443
Lemons ..... 1,000 tons	1,084	952
Oranges ..... 1,000 tons	5,254	4,452
Tangerines and mandarins ..... 1,000 tons	944	963
Noncitrus		
Apples, commercial ..... million pounds	10,253.0	
Apricots ..... tons	33,400	
Avocados ..... tons	206,610	
Blueberries, Cultivated ..... 1,000 pounds	648,200	
Blueberries, Wild (Maine) ..... 1,000 pounds	47,400	
Cherries, Sweet ..... tons	325,100	
Cherries, Tart ..... million pounds	139.5	
Coffee (Hawaii) ..... 1,000 pounds	23,870	
Cranberries ..... barrel	7,830,000	
Dates ..... tons	62,600	
Grapes ..... tons	5,940,000	
Kiwifruit (California) ..... tons	40,000	
Nectarines (California) ..... tons	122,500	
Olives (California) ..... tons	67,700	
Papayas (Hawaii) ..... 1,000 pounds	8,280	
Peaches ..... tons	617,760	
Pears ..... tons	672,000	
Plums (California) ..... tons	105,000	
Prunes (California) ..... tons	165,880	
Raspberries ..... 1,000 pounds	222,000	
Strawberries ..... 1,000 cwt	23,280.0	
Nuts and miscellaneous		
Almonds, shelled (California) ..... 1,000 pounds	3,115,000	3,200,000
Hazelnuts, in-shell (Oregon) ..... tons	63,000	
Macadamias (Hawaii) ..... 1,000 pounds	39,500	
Pecans, in-shell ..... 1,000 pounds	305,360	
Pistachios (California) ..... 1,000 pounds	1,045,000	
Walnuts, in-shell (California) ..... tons	785,000	

[1] Production years are 2019-2020 and 2020-2021.

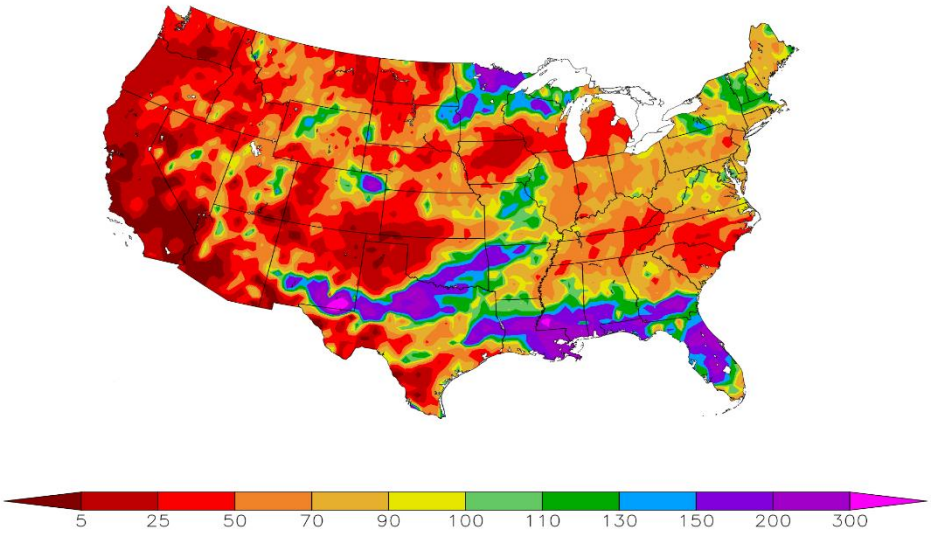
Fruits and Nuts Production in Metric Units – United States: 2020 and 2021

[Data are the latest estimates available, either from the current report or from previous reports. Current year estimates are for the full 2021 crop year, except citrus which is for the 2020-2021 season. Blank data cells indicate estimation period has not yet begun]

Crop	Production	
	2020	2021
	(metric tons)	(metric tons)
Citrus [1]		
Grapefruit	518,000	401,880
Lemons	983,390	863,640
Oranges	4,766,350	4,038,790
Tangerines and mandarins	856,380	873,620
Noncitrus		
Apples, commercial	4,650,680	
Apricots	30,300	
Avocados	187,430	
Blueberries, Cultivated	294,020	
Blueberries, Wild (Maine)	21,500	
Cherries, Sweet	294,930	
Cherries, Tart	63,280	
Coffee (Hawaii)	10,830	
Cranberries	355,160	
Dates	56,790	
Grapes	5,388,680	
Kiwifruit (California)	36,290	
Nectarines (California)	111,130	
Olives (California)	61,420	
Papayas (Hawaii)	3,760	
Peaches	560,420	
Pears	609,630	
Plums (California)	95,250	
Prunes (California)	150,480	
Raspberries	100,700	
Strawberries	1,055,960	
Nuts and miscellaneous		
Almonds, shelled (California)	1,412,940	1,451,500
Hazelnuts, in-shell (Oregon)	57,150	
Macadamias (Hawaii)	17,920	
Pecans, in-shell	138,510	
Pistachios (California)	474,000	
Walnuts, in-shell (California)	712,140	

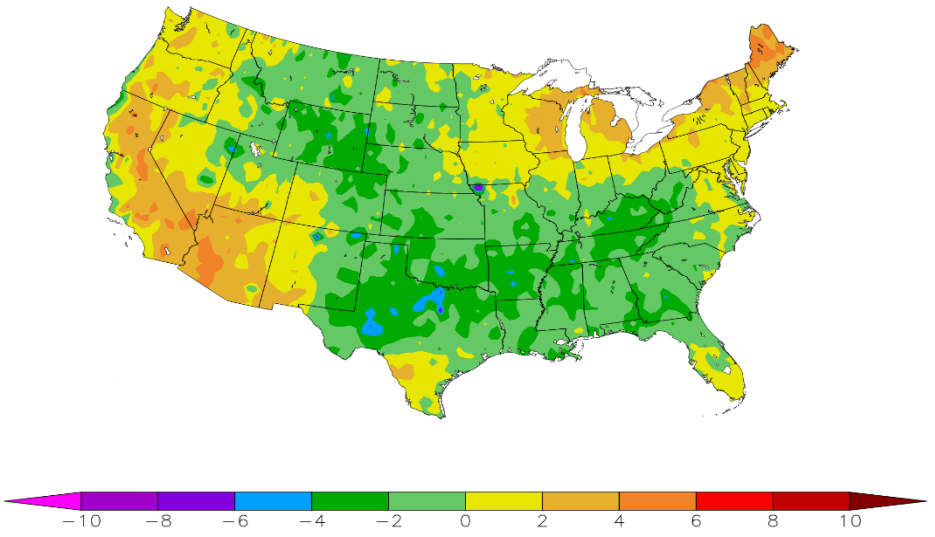
[1] Production years are 2019-2020 and 2020-2021.

Percent of Normal Precipitation (%)
4/1/2021 – 4/30/2021



NOAA Regional Climate Centers

Departure from Normal Temperature (F)
4/1/2021 – 4/30/2021



NOAA Regional Climate Centers

April Weather Summary

Despite periodic April rain and snow showers, drought resolutely persisted across much of the western half of the country, with national coverage increasing from 44 to 48 percent during the 4-week period ending April 27, according to the *United States Drought Monitor*. During the same 4 weeks, drought coverage in the 11-state Western region increased from 75 to 84 percent. In addition, Western coverage of extreme to exceptional drought (D3 to D4) increased by nearly 4 percentage points during April to reach 43 percent.

Across roughly the southern two-thirds of the West, a drought complication was premature melting of high-elevation snowpack, which disrupted the natural hydrological cycle and could potentially extend the wildfire season. By May 2, USDA/NASS reported that rangeland and pastures were rated at least 40 percent in very poor to poor condition in 12 of the 17 states from the Pacific Coast to the Great Plains, led by Arizona (87 percent very poor to poor). In contrast, pastures were rated at least 70 percent in good to excellent condition in 11 states from the Mississippi Valley eastward.

Meanwhile, a pair of April cold snaps threatened a variety of crops and commodities. In the Southeast, early-April freezes caused variable damage to fruits and ornamentals. Several weeks later, more expansive freezes across the Plains and Midwest, as well as parts of the mid-South and interior Southeast, potentially harmed some jointing to heading winter wheat. Other possible adverse freeze impacts from the late-April cold wave included blooming fruits and emerged summer crops.

Despite early-April warmth across the Nation's mid-section, subsequent cold weather helped to push monthly temperatures to near- or below-normal levels. Elsewhere, warmer-than-normal weather generally covered the Pacific Coast States, the Great Basin, and the Desert Southwest, as well as an area stretching from the Great Lakes region into the Northeast.

Elsewhere, pockets of April dryness covered the Midwest, southern High Plains, and the mid-Atlantic, while heavy precipitation was common across the Deep South, including the Gulf Coast region. Across the northern Plains, rain and snow showers were insufficient to significantly boost soil moisture, while cool weather and dry soils locally hampered crop emergence and early-season pasture growth.

April Agricultural Summary

April was cooler than normal for most of the Great Plains, Mississippi Valley, Rockies, Southeast, and Texas. Large parts of these areas recorded temperatures 2°F or more below normal. In contrast, temperatures were warmer than normal for most of California, the Great Lakes, Northeast, Pacific Northwest, and Southwest. Large parts of these areas recorded temperatures 2°F or more above normal for the month. While most of the Nation remained drier than normal for the month, higher than normal precipitation was recorded in parts of Florida, New Mexico, the Great Lakes, Southern Plains, Deep South, and Texas. The most significant amounts of rain fell along the Gulf Coast, where parts of Alabama, Louisiana, and Mississippi received 10 inches or more of rain for the month.

By April 4, producers had planted 2 percent of the Nation's corn crop, equal to both last year and the 5-year average. At that time, Texas was the furthest advanced in planting progress with 55 percent planted. By April 18, producers had planted 8 percent of the Nation's corn crop, 2 percentage points ahead of last year but equal to the 5-year average. Two percent of the Nation's corn acreage had emerged by April 18, one percentage point ahead of both last year and the 5-year average. The planting pace picked up during the week ending May 2, when producers had planted 46 percent of the Nation's corn crop, 2 percentage points behind last year but 10 percentage points ahead of the 5-year average. Sixty-nine percent of Iowa's intended corn acreage was planted by May 2, three percentage points behind last year but 24 percentage points ahead of the 5-year average. Eight percent of the Nation's corn acreage had emerged by May 2, one percentage point ahead of the previous year but 1 percentage point behind the 5-year average.

Three percent of the Nation's soybean acreage was planted by April 18, one percentage point ahead of both last year and the 5-year average. At that time, the Mississippi Delta was the most advanced in planting progress. Twenty-four percent of the Nation's soybean acreage was planted by May 2, three percentage points ahead of last year and 13 percentage

points ahead of the 5-year average. At that time, soybean planting progress was ahead of the 5-year average in 16 of the 18 estimating States.

By April 4, four percent of the Nation's winter wheat crop was headed, 1 percentage point ahead of both last year and the 5-year average. By April 18, ten percent of the Nation's winter wheat crop was headed, 3 percentage points behind the previous year and 4 percentage points behind the 5-year average. By May 2, twenty-seven percent of the Nation's winter wheat crop was headed, 3 percentage points behind the previous year and 7 percentage points behind the 5-year average. On May 2, forty-eight percent of the 2021 winter wheat crop was reported in good to excellent condition, 7 percentage points below the same time last year. In Kansas, the largest winter wheat-producing State, 55 percent of the winter wheat acreage was rated in good to excellent condition.

Nationwide, 6 percent of the cotton crop was planted by April 4, one percentage point behind the previous year but 1 percentage point ahead of the 5-year average. By April 18, eleven percent of the cotton crop was planted, equal to the previous year but 2 percentage points ahead of the 5-year average. By May 2, sixteen percent of the cotton crop was planted, one percentage point behind the previous year but equal to the 5-year average. At that time, planting progress was furthest advanced in California and Arizona with 65 percent and 63 percent planted, respectively.

By April 4, fourteen percent of the Nation's sorghum acreage was planted, one percentage point behind the previous year but equal to the 5-year average. Fifteen percent of the Nation's sorghum acreage was planted by April 18, four percentage points behind both the previous year and the 5-year average. Twenty percent of the Nation's sorghum acreage was planted by May 2, two percentage points behind the previous year and 4 percentage points behind the 5-year average. Texas had planted 66 percent of its sorghum acreage by May 2, three percentage points behind last year and 4 percentage points behind the 5-year average.

By April 4, producers had seeded 14 percent of the 2021 rice acreage, 2 percentage points behind the previous year and 4 percentage points behind the 5-year average. By April 4, eight percent of the Nation's rice acreage had emerged, 1 percentage point behind last year but equal to the 5-year average. By April 18, producers had seeded 33 percent of the Nation's 2021 rice acreage, 4 percentage points ahead of the previous year but 8 percentage points behind the 5-year average. At that time, planting progress was furthest advanced in Texas and Louisiana with 79 percent and 74 percent planted, respectively. By April 18, sixteen percent of the Nation's rice acreage had emerged, 2 percentage points behind last year and 5 percentage points behind the 5-year average. By May 2, producers had seeded 64 percent of the Nation's 2021 rice acreage, 16 percentage points ahead of the previous year and 4 percentage points ahead of the 5-year average. Planting progress was furthest advanced in Texas and Louisiana with 91 percent and 84 percent planted, respectively. By May 2, thirty-eight percent of the Nation's rice acreage had emerged, 7 percentage points ahead of last year but 5 percentage points behind the 5-year average.

Nationally, oat producers had seeded 23 percent of this year's acreage by April 4, three percentage points behind the previous year and 5 percentage points behind the 5-year average. Eighteen percent of the Nation's oat acreage was emerged by April 4, six percentage points behind the previous year and 7 percentage points behind the 5-year average. Nationally, oat producers had seeded 50 percent of this year's acreage by April 18, twelve percentage points ahead of the previous year and 8 percentage points ahead of the 5-year average. Thirty-one percent of the Nation's oat acreage had emerged by April 18, five percentage points ahead of last year and 3 percentage points ahead of the 5-year average. Nationally, oat producers had seeded 72 percent of this year's acreage by May 2, seven percentage points ahead of the previous year and 10 percentage points ahead of the 5-year average. Oat planting progress was at or ahead of the 5-year average in all 9 estimating States at that time. Forty-seven percent of the Nation's oat acreage had emerged by May 2, five percentage points ahead of last year and 4 percentage points ahead of the 5-year average.

Five percent of the Nation's barley crop was planted by April 4, one percentage point ahead of both last year and the 5-year average. Twenty-six percent of the Nation's barley crop was planted by April 18, eleven percentage points ahead of last year and 8 percentage points ahead of the 5-year average. At that time, planting progress was furthest advanced in Washington and Idaho with 74 percent and 46 percent planted, respectively. Fifty-three percent of the Nation's barley crop was planted by May 2, fourteen percentage points ahead of last year and 12 percentage points ahead of the 5-year average. Planting progress was furthest advanced in Idaho and Washington with 84 percent and 82 percent planted,

respectively. Seventeen percent of the Nation's barley crop had emerged by May 2, six percentage points ahead of the previous year and 1 percentage point ahead of the 5-year average.

By April 4, three percent of the spring wheat crop was seeded, equal to last year but 1 percentage point ahead of the 5-year average. By April 18, nineteen percent of the Nation's spring wheat crop was seeded, 12 percentage points ahead of last year and 7 percentage points ahead of the 5-year average. At that time, planting progress was furthest advanced in Washington with 71 percent planted. By May 2, forty-nine percent of the Nation's spring wheat crop was seeded, 22 percentage points ahead of last year and 17 percentage points ahead of the 5-year average. At that time, planting progress was ahead of the 5-year average in 5 of the 6 estimating States. By May 2, fourteen percent of the Nation's spring wheat crop had emerged, 8 percentage points ahead of the previous year and 4 percentage points ahead of the 5-year average.

Nationally, peanut producers had planted 2 percent of the 2021 peanut acreage by April 18, equal to both the previous year and the 5-year average. Nationally, producers had planted 11 percent of the 2021 peanut acreage by May 2, two percentage points behind the previous year and 4 percentage points behind the 5-year average. Producers in Florida had planted 28 percent of the 2021 intended acreage by May 2, two percentage points ahead of the previous year and 1 percentage point ahead of the 5-year average.

By April 4, four percent of the sugarbeet crop was planted, 1 percentage point ahead of last year and 2 percentage points ahead of the 5-year average. By April 18, twenty-five percent of the Nation's sugarbeet crop was planted, 8 percentage points ahead of last year and 4 percentage points ahead of the 5-year average. By May 2, eighty-one percent of the Nation's sugarbeet crop was planted, 34 percentage points ahead of last year and 30 percentage points ahead of the 5-year average. Planting progress was furthest advanced in Michigan and Idaho with 95 percent and 93 percent planted, respectively.

Crop Comments

Winter wheat: Production is forecast at 1.28 billion bushels, up 10 percent from 2020. As of May 1, the United States yield is forecast at 52.1 bushels per acre, up 1.2 bushels from last year's average yield of 50.9 bushels per acre. Area expected to be harvested for grain is forecast at 24.6 million acres, up 7 percent from last year. If realized, the 2021 United States winter wheat yield will be the third highest on record. Hard Red Winter (HRW) harvested acreage is up about 6 percent from 2020. Soft Red Winter (SRW) harvested acreage is expected to be up 17 percent from last year.

As of May 2, forty-eight percent of the winter wheat acreage in the 18 major producing States was rated in good to excellent condition, 7 percentage points lower than at the same time last year. Nationally, 27 percent of the winter wheat crop was headed by May 2, seven percentage points lower than the 5-year average pace.

As of May 2, Kansas, Oklahoma, and Texas winter wheat was rated in good to excellent condition at 55 percent, 54 percent, and 24 percent, respectively. A late-April freeze may have hurt conditions in Kansas, Oklahoma, and northern Texas. These late cold temperatures also impacted winter wheat development through the middle Mississippi Valley. Winter wheat fields were being prepared for harvest as of May 2 in areas of south Texas.

As of May 2, Idaho, Oregon, and Washington winter wheat crop was rated in good to excellent condition at 58 percent, 39 percent, and 57 percent, respectively.

Durum wheat: Production of Durum wheat in Arizona and California is forecast at a collective 6.22 million bushels, up 4 percent from last year.

Hay stocks on farms: All hay stored on United States farms as of May 1, 2021 totaled 18.0 million tons, down 12 percent from May 1, 2020. Disappearance from December 1, 2020 - May 1, 2021 totaled 66.0 million tons, up 3 percent from the same period a year earlier.

Record low May 1 hay stock levels were estimated in New Hampshire and Rhode Island.

Grapefruit: The United States 2020-2021 grapefruit crop is forecast at 443,000 tons, down 1 percent from the previous forecast and down 22 percent from last season's final utilization. In Florida, expected production, at 4.20 million boxes (179,000 tons), is down 2 percent from the previous forecast and down 13 percent from last year. California and Texas grapefruit production forecasts were carried forward from the previous forecast.

Tangerines and mandarins: The United States tangerine and mandarin crop is forecast at 963,000 tons, down slightly from the previous forecast but up 2 percent from last season's final utilization. The Florida tangerine and mandarin forecast, at 900,000 boxes (43,000 tons), is down 5 percent from the previous forecast and down 12 percent from last season. The California tangerine and mandarin forecast was carried forward from the previous forecast.

Peaches: The California 2021 peach crop production is forecast at 480,000 tons, up 3 percent from 2020. The California Freestone crop is forecasted at 240,000 tons, up 9 percent from last season. Freestone peaches experienced adequate chilling hours and favorable weather conditions. The California Clingstone crop is forecast at 240,000 tons, down 3 percent from the previous season. Clingstone full bloom occurred on March 7, four days later than last year. Chilling hours in each growing area were higher than the previous year. Growers were able to apply bloom strays in a timely manner due to mild weather conditions. Throughout the state, both Clingstone and Freestone, bloom was reported to be good and many growers began irrigating earlier this year due to below average rainfall.

Almonds: The 2021 California almond production (shelled basis) is forecast at 3.20 billion pounds, up 3 percent from the previous year. If realized, this will be the highest total production on a shelled basis on record.

The 2021 almond crop experienced a mostly dry winter throughout California. Snowpack and water levels are well below normal even with several scattered storms and a few instances of hail. Warm temperatures provided excellent bloom conditions, with peak bloom occurring in late February and early March. There were reports of good pollination activity. Excellent growing conditions in April benefited the crop's development.

2020 Cotton Final: All cotton production is estimated at 14.6 million 480-pound bales, 27 percent lower than the 2019 crop. The United States yield for all cotton is estimated at 847 pounds per acre, up 16 pounds from the previous year.

Upland cotton production is estimated at 14.1 million 480-pound bales, down 27 percent from the 2019 crop. The United States yield for upland cotton is estimated at 835 pounds per acre, up 16 pounds from 2019.

American Pima production is estimated at 546,500 bales (480-pounds), down 20 percent from 2019. The United States yield is estimated at 1,352 pounds per acre, down 121 pounds from the previous season.

Cottonseed: Cottonseed production in 2020 totaled 4.5 million tons, down 24 percent from the previous year. Sales to oil mills accounted for 39 percent of the disposition. The remaining 61 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 23 and May 6 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 September. 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. For example, 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 11.1 percent.

Also, shown in the following table is a 20-year record for selected crops of the differences between the May 1 forecast and the final estimate. Using winter wheat again as an example, changes between the May 1 forecast and final estimate during the last 20 years have averaged 74 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.

Reliability of May 1 Crop Production Forecasts

[Based on data for the past twenty years]

Crop	Root mean square error	90 percent confidence interval	Difference between forecast and final estimate				
			Production			Years	
			Average	Smallest	Largest	Below final	Above final
	(percent)	(percent)	(millions)	(millions)	(millions)	(number)	(number)
Oranges [1] .....tons	2.4	4.1	134	18	441	11	9
Wheat							
Winter wheat ..... bushels	6.4	11.1	74	6	245	9	11

[1] Quantity is in thousands of units.

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@usda.gov

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- David Colwell – Current Agricultural Industrial Reports ..... (202) 720-8800
- Becky Sommer – Cotton, Cotton Ginnings, Sorghum ..... (202) 720-5944
- James Johanson – Barley, County Estimates, Hay ..... (202) 690-8533
- Greg Lemmons – Corn, Flaxseed, Proso Millet ..... (202) 720-9526
- James Johanson – Rye, Wheat ..... (202) 720-8068
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- Anastasiya Osborne – Almonds, Apples, Asparagus, Carrots, Coffee, Onions Plums, Prunes, Sweet Corn, Tobacco ..... (202) 720-4288
- Krishna Rizal – Artichokes, Cauliflower, Celery, Grapefruit, Garlic, Hazelnuts, Kiwifruit, Lemons, Mandarins and tangerines, Mint, Mushrooms, Olives, Oranges ..... (202) 720-5412
- Fleming Gibson – Avocados, Bell Peppers, Broccoli, Cabbage, Chickpeas, Chile Peppers, Dates, Floriculture, Grapes, Hops, Pecans ..... (202) 720-2127
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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@usda.gov.