



# Crop Production

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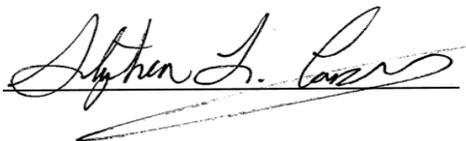
Released February 11, 2020, by the National Agricultural Statistics Service (NASS), Agricultural Statistics Board, United States Department of Agriculture (USDA).

## Orange Production Down 2 Percent from January Forecast

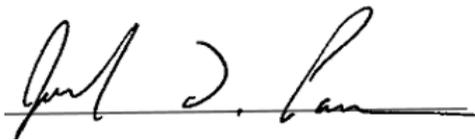
**The United States all orange** forecast for the 2019-2020 season is 5.31 million tons, down 2 percent from the previous forecast and down slightly from the 2018-2019 final utilization. The Florida all orange forecast, at 72.0 million boxes (3.24 million tons), is down 3 percent from the previous forecast but up slightly from last season's final utilization. In Florida, early, midseason, and Navel varieties are forecast at 31.0 million boxes (1.40 million tons), down 3 percent from the previous forecast but up 2 percent from last season's final utilization. The Florida Valencia orange forecast, at 41.0 million boxes (1.85 million tons), is down 2 percent from the previous forecast and 1 percent below last season's final utilization. California and Texas orange production forecasts were carried forward from the previous forecast.

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This report was approved on February 11, 2020.



Secretary of Agriculture  
Designate  
Stephen L. Censky



Agricultural Statistics Board  
Chairperson  
Joseph L. Parsons

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## Utilized Production of Citrus Fruits by Crop – States and United States: 2018-2019 and Forecasted February 1, 2020

[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 <sup>1</sup>		Utilized production ton equivalent	
	2018-2019 (1,000 boxes)	2019-2020 (1,000 boxes)	2018-2019 (1,000 tons)	2019-2020 (1,000 tons)
<b>Oranges</b>				
California, all <sup>2</sup> .....	49,800	49,000	1,992	1,960
Early, mid, and Navel <sup>3</sup> .....	40,800	40,000	1,632	1,600
Valencia .....	9,000	9,000	360	360
Florida, all .....	71,750	72,000	3,229	3,240
Early, mid, and Navel <sup>3</sup> .....	30,400	31,000	1,368	1,395
Valencia .....	41,350	41,000	1,861	1,845
Texas, all <sup>2</sup> .....	2,500	2,560	106	109
Early, mid, and Navel <sup>3</sup> .....	2,210	1,950	94	83
Valencia .....	290	610	12	26
United States, all .....	124,050	123,560	5,327	5,309
Early, mid, and Navel <sup>3</sup> .....	73,410	72,950	3,094	3,078
Valencia .....	50,640	50,610	2,233	2,231
<b>Grapefruit</b>				
California <sup>2</sup> .....	3,200	4,100	128	164
Florida, all .....	4,510	5,900	192	251
Red .....	3,740	5,000	159	213
White .....	770	900	33	38
Texas <sup>2</sup> .....	6,100	6,200	244	248
United States .....	13,810	16,200	564	663
<b>Tangerines and mandarins <sup>4</sup></b>				
California <sup>2</sup> .....	26,000	22,000	1,040	880
Florida .....	990	1,050	47	50
United States .....	26,990	23,050	1,087	930
<b>Lemons <sup>2</sup></b>				
Arizona .....	1,350	1,400	54	56
California .....	22,800	19,000	912	760
United States .....	24,150	20,400	966	816

<sup>1</sup> 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.

<sup>2</sup> Estimates for current year carried forward from an earlier forecast.

<sup>3</sup> Navel and miscellaneous varieties in California. Early (including Navel) and midseason varieties in Florida and Texas.

<sup>4</sup> Includes tangelos and tangors.

## Sugarcane Area Harvested, Yield, and Production by Use – States and United States: 2018 and 2019

Use and State	Area harvested		Yield per acre <sup>1</sup>		Production <sup>1</sup>	
	2018 (1,000 acres)	2019 (1,000 acres)	2018 (tons)	2019 (tons)	2018 (1,000 tons)	2019 (1,000 tons)
<b>For sugar</b>						
Florida .....	397.0	397.0	41.7	42.3	16,555	16,793
Louisiana <sup>2</sup> .....	425.0	442.0	35.3	28.5	15,003	12,597
Texas <sup>2</sup> .....	37.6	31.5	36.6	36.3	1,376	1,143
United States .....	859.6	870.5	38.3	35.1	32,934	30,533
<b>For seed</b>						
Florida .....	15.3	13.8	45.8	47.8	701	660
Louisiana <sup>2</sup> .....	23.5	28.4	36.5	32.5	858	923
Texas <sup>2</sup> .....	1.3	1.9	37.9	39.4	49	75
United States .....	40.1	44.1	40.1	37.6	1,608	1,658
<b>For sugar and seed</b>						
Florida .....	412.3	410.8	41.9	42.5	17,256	17,453
Louisiana <sup>2</sup> .....	448.5	470.4	35.4	28.7	15,861	13,520
Texas <sup>2</sup> .....	38.9	33.4	36.6	36.5	1,425	1,218
United States .....	899.7	914.6	38.4	35.2	34,542	32,191

<sup>1</sup> Net tons.

<sup>2</sup> Estimates are carried forward from an earlier estimate.

**Crop Area Planted and Harvested, Yield, and Production in Domestic Units – United States: 2019 and 2020**

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

Crop	Area planted		Area harvested	
	2019	2020	2019	2020
	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)
<b>Grains and hay</b>				
Barley .....	2,721		2,182	
Corn for grain <sup>1</sup> .....	89,700		81,482	
Corn for silage .....	(NA)		6,587	
Hay, all .....	(NA)		52,425	
Alfalfa .....	(NA)		16,743	
All other .....	(NA)		35,682	
Oats .....	2,810		826	
Proso millet .....	506		465	
Rice .....	2,540		2,472	
Rye .....	1,865		310	
Sorghum for grain <sup>1</sup> .....	5,265		4,675	
Sorghum for silage .....	(NA)		339	
Wheat, all .....	45,158		37,162	
Winter .....	31,159	30,804	24,327	
Durum .....	1,339		1,175	
Other spring .....	12,660		11,660	
<b>Oilseeds</b>				
Canola .....	2,040.0		1,910.0	
Cottonseed .....	(X)		(X)	
Flaxseed .....	374		319	
Mustard seed .....	98.0		90.0	
Peanuts .....	1,427.7		1,391.7	
Rapeseed .....	11.3		10.4	
Safflower .....	165.8		152.7	
Soybeans for beans .....	76,100		75,021	
Sunflower .....	1,350.6		1,244.5	
<b>Cotton, tobacco, and sugar crops</b>				
Cotton, all .....	13,737.8		11,804.5	
Upland .....	13,508.0		11,580.0	
American Pima .....	229.8		224.5	
Sugarbeets .....	1,132.0		979.3	
Sugarcane .....	(NA)		914.6	
Tobacco .....	(NA)		227.1	
<b>Dry beans, peas, and lentils</b>				
Chickpeas .....	451.4		404.0	
Dry edible beans .....	1,287.4		1,176.5	
Dry edible peas .....	1,103.0		1,052.0	
Lentils .....	486.0		431.0	
<b>Potatoes and miscellaneous</b>				
Hops .....	(NA)		56.5	
Maple syrup .....	(NA)		(NA)	
Mushrooms .....	(NA)		(NA)	
Peppermint oil .....	(NA)		52.4	
Potatoes .....	968.3		942.2	
Spearmint oil .....	(NA)		18.5	

See footnote(s) at end of table.

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**Crop Area Planted and Harvested, Yield, and Production in Domestic Units – United States:  
2019 and 2020 (continued)**

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

Crop	Yield per acre		Production	
	2019	2020	2019 (1,000)	2020 (1,000)
<b>Grains and hay</b>				
Barley .....	bushels	77.7	169,566	
Corn for grain .....	bushels	168.0	13,691,561	
Corn for silage .....	tons	20.2	132,807	
Hay, all .....	tons	2.46	128,864	
Alfalfa .....	tons	3.28	54,875	
All other .....	tons	2.07	73,989	
Oats .....	bushels	64.3	53,148	
Proso millet .....	bushels	35.7	16,608	
Rice <sup>2</sup> .....	cwt	7,471	184,675	
Rye .....	bushels	34.3	10,622	
Sorghum for grain .....	bushels	73.0	341,460	
Sorghum for silage .....	tons	11.9	4,019	
Wheat, all .....	bushels	51.7	1,920,139	
Winter .....	bushels	53.6	1,304,003	
Durum .....	bushels	45.7	53,756	
Other spring .....	bushels	48.2	562,380	
<b>Oilseeds</b>				
Canola .....	pounds	1,781	3,402,000	
Cottonseed .....	tons	(X)	6,232.0	
Flaxseed .....	bushels	20.0	6,395	
Mustard seed .....	pounds	706	63,580	
Peanuts .....	pounds	3,949	5,496,087	
Rapeseed .....	pounds	2,160	22,464	
Safflower .....	pounds	1,272	194,295	
Soybeans for beans .....	bushels	47.4	3,558,281	
Sunflower .....	pounds	1,562	1,943,435	
<b>Cotton, tobacco, and sugar crops</b>				
Cotton, all <sup>2</sup> .....	bales	817	20,102.0	
Upland <sup>2</sup> .....	bales	803	19,380.0	
American Pima <sup>2</sup> .....	bales	1,544	722.0	
Sugarbeets .....	tons	29.2	28,600	
Sugarcane .....	tons	35.2	32,191	
Tobacco .....	pounds	2,060	467,956	
<b>Dry beans, peas, and lentils</b>				
Chickpeas <sup>2</sup> .....	cwt	1,544	6,237	
Dry edible beans <sup>2</sup> .....	cwt	1,769	20,811	
Dry edible peas <sup>2</sup> .....	cwt	2,124	22,346	
Lentils <sup>2</sup> .....	cwt	1,250	5,388	
<b>Potatoes and miscellaneous</b>				
Hops .....	pounds	1,981	112,041.2	
Maple syrup .....	gallons	(NA)	4,240	
Mushrooms .....	pounds	(NA)	846,491	
Peppermint oil .....	pounds	104	5,452	
Potatoes .....	cwt	449	422,890	
Spearmint oil .....	pounds	130	2,413	

(NA) Not available.

(X) Not applicable.

<sup>1</sup> Area planted for all purposes.

<sup>2</sup> Yield in pounds.

## Crop Area Planted and Harvested, Yield, and Production in Metric Units – United States: 2019 and 2020

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

Crop	Area planted		Area harvested	
	2019	2020	2019	2020
	(hectares)	(hectares)	(hectares)	(hectares)
<b>Grains and hay</b>				
Barley .....	1,101,160		883,030	
Corn for grain <sup>1</sup> .....	36,300,690		32,974,950	
Corn for silage .....	(NA)		2,665,690	
Hay, all <sup>2</sup> .....	(NA)		21,215,870	
Alfalfa .....	(NA)		6,775,720	
All other .....	(NA)		14,440,150	
Oats .....	1,137,180		334,270	
Proso millet .....	204,770		188,180	
Rice .....	1,027,910		1,000,390	
Rye .....	754,750		125,450	
Sorghum for grain <sup>1</sup> .....	2,130,690		1,891,930	
Sorghum for silage .....	(NA)		137,190	
Wheat, all <sup>2</sup> .....	18,274,990		15,039,090	
Winter .....	12,609,740	12,466,070	9,844,890	
Durum .....	541,880		475,510	
Other spring .....	5,123,380		4,718,690	
<b>Oilseeds</b>				
Canola .....	825,570		772,960	
Cottonseed .....	(X)		(X)	
Flaxseed .....	151,350		129,100	
Mustard seed .....	39,660		36,420	
Peanuts .....	577,780		563,210	
Rapeseed .....	4,570		4,210	
Safflower .....	67,100		61,800	
Soybeans for beans .....	30,796,910		30,360,250	
Sunflower .....	546,570		503,640	
<b>Cotton, tobacco, and sugar crops</b>				
Cotton, all <sup>2</sup> .....	5,559,550		4,777,160	
Upland .....	5,466,550		4,686,310	
American Pima .....	93,000		90,850	
Sugarbeets .....	458,110		396,310	
Sugarcane .....	(NA)		370,130	
Tobacco .....	(NA)		91,910	
<b>Dry beans, peas, and lentils</b>				
Chickpeas .....	182,680		163,490	
Dry edible beans .....	521,000		476,120	
Dry edible peas .....	446,370		425,730	
Lentils .....	196,680		174,420	
<b>Potatoes and miscellaneous</b>				
Hops .....	(NA)		22,880	
Maple syrup .....	(NA)		(NA)	
Mushrooms .....	(NA)		(NA)	
Peppermint oil .....	(NA)		21,210	
Potatoes .....	391,860		381,300	
Spearmint oil .....	(NA)		7,490	

See footnote(s) at end of table.

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**Crop Area Planted and Harvested, Yield, and Production in Metric Units – United States:  
2019 and 2020 (continued)**

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

Crop	Yield per hectare		Production	
	2019	2020	2019	2020
	(metric tons)	(metric tons)	(metric tons)	(metric tons)
<b>Grains and hay</b>				
Barley .....	4.18		3,691,860	
Corn for grain .....	10.55		347,781,670	
Corn for silage .....	45.20		120,480,480	
Hay, all <sup>2</sup> .....	5.51		116,903,450	
Alfalfa .....	7.35		49,781,760	
All other .....	4.65		67,121,690	
Oats .....	2.31		771,440	
Proso millet .....	2.00		376,660	
Rice .....	8.37		8,376,720	
Rye .....	2.15		269,810	
Sorghum for grain .....	4.58		8,673,480	
Sorghum for silage .....	26.58		3,645,980	
Wheat, all <sup>2</sup> .....	3.47		52,257,620	
Winter .....	3.60		35,489,150	
Durum .....	3.08		1,463,000	
Other spring .....	3.24		15,305,480	
<b>Oilseeds</b>				
Canola .....	2.00		1,543,120	
Cottonseed .....	(X)		5,653,580	
Flaxseed .....	1.26		162,440	
Mustard seed .....	0.79		28,840	
Peanuts .....	4.43		2,492,980	
Rapeseed .....	2.42		10,190	
Safflower .....	1.43		88,130	
Soybeans for beans .....	3.19		96,840,540	
Sunflower .....	1.75		881,530	
<b>Cotton, tobacco, and sugar crops</b>				
Cotton, all <sup>2</sup> .....	0.92		4,376,690	
Upland .....	0.90		4,219,500	
American Pima .....	1.73		157,200	
Sugarbeets .....	65.47		25,945,480	
Sugarcane .....	78.90		29,203,180	
Tobacco .....	2.31		212,260	
<b>Dry beans, peas, and lentils</b>				
Chickpeas .....	1.73		282,910	
Dry edible beans .....	1.98		943,970	
Dry edible peas .....	2.38		1,013,600	
Lentils .....	1.40		244,400	
<b>Potatoes and miscellaneous</b>				
Hops .....	2.22		50,820	
Maple syrup .....	(NA)		21,200	
Mushrooms .....	(NA)		383,960	
Peppermint oil .....	0.12		2,470	
Potatoes .....	50.31		19,181,970	
Spearmint oil .....	0.15		1,090	

(NA) Not available.

(X) Not applicable.

<sup>1</sup> Area planted for all purposes.

<sup>2</sup> Total may not add due to rounding.

## Fruits and Nuts Production in Domestic Units – United States: 2019 and 2020

[Data are the latest estimates available, either from the current report or from previous reports. Current year estimates are for the full 2020 crop year, except citrus which is for the 2019-2020 season. Blank data cells indicate estimation period has not yet begun]

Crop	Production	
	2019	2020
<b>Citrus <sup>1</sup></b>		
Grapefruit ..... 1,000 tons	564	663
Lemons ..... 1,000 tons	966	816
Oranges ..... 1,000 tons	5,327	5,309
Tangerines and mandarins ..... 1,000 tons	1,087	930
<b>Noncitrus</b>		
Apples, commercial ..... million pounds	10,630.0	
Apricots ..... tons	64,500	
Avocados ..... tons		
Blueberries, Cultivated ..... 1,000 pounds		
Blueberries, Wild (Maine) ..... 1,000 pounds		
Cherries, Sweet ..... tons	362,000	
Cherries, Tart ..... million pounds	290.2	
Coffee (Hawaii) ..... 1,000 pounds	26,430	
Cranberries ..... barrel	9,040,000	
Dates ..... tons		
Grapes ..... tons	7,500,000	
Kiwifruit (California) ..... tons		
Nectarines (California) ..... tons		
Olives (California) ..... tons		
Papayas (Hawaii) ..... 1,000 pounds		
Peaches ..... tons	733,500	
Pears ..... tons	805,000	
Plums (California) ..... tons		
Prunes (California) ..... tons	110,000	
Raspberries, all ..... 1,000 pounds		
Strawberries ..... 1,000 cwt		
<b>Nuts and miscellaneous</b>		
Almonds, shelled (California) ..... 1,000 pounds	2,200,000	
Hazelnuts, in-shell (Oregon) ..... tons	49,000	
Macadamias (Hawaii) ..... 1,000 pounds		
Pecans, in-shell ..... 1,000 pounds	264,500	
Pistachios (California) ..... 1,000 pounds		
Walnuts, in-shell (California) ..... tons	630,000	

<sup>1</sup> Production years are 2018-2019 and 2019-2020.

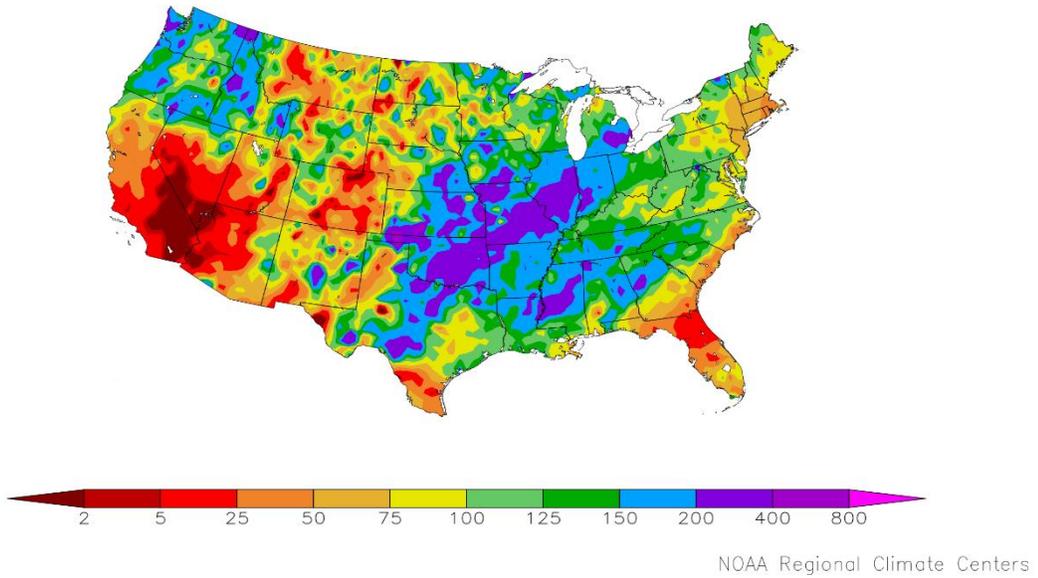
## Fruits and Nuts Production in Metric Units – United States: 2019 and 2020

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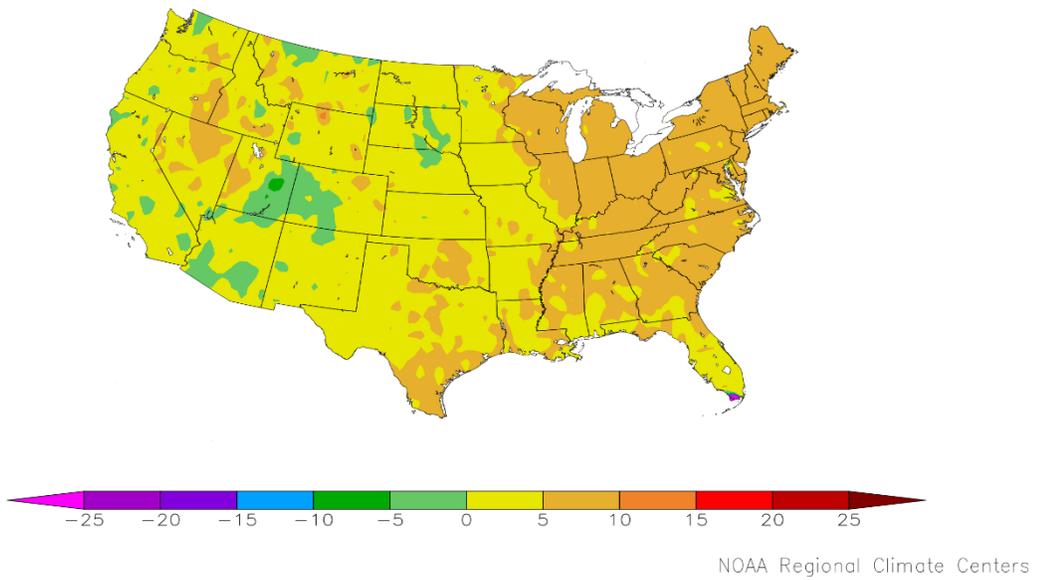
Crop	Production	
	2019 (metric tons)	2020 (metric tons)
<b>Citrus<sup>1</sup></b>		
Grapefruit .....	511,650	601,460
Lemons .....	876,340	740,260
Oranges .....	4,832,570	4,816,240
Tangerines and mandarins .....	986,110	843,680
<b>Noncitrus</b>		
Apples, commercial .....	4,821,690	
Apricots .....	58,510	
Avocados .....		
Blueberries, Cultivated .....		
Blueberries, Wild (Maine) .....		
Cherries, Sweet .....	328,400	
Cherries, Tart .....	131,630	
Coffee (Hawaii) .....	11,990	
Cranberries .....	410,050	
Dates .....		
Grapes .....	6,803,890	
Kiwifruit (California) .....		
Nectarines (California) .....		
Olives (California) .....		
Papayas (Hawaii) .....		
Peaches .....	665,420	
Pears .....	730,280	
Plums (California) .....		
Prunes (California) .....	99,790	
Raspberries, all .....		
Strawberries .....		
<b>Nuts and miscellaneous</b>		
Almonds, shelled (California) .....	997,900	
Hazelnuts, in-shell (Oregon) .....	44,450	
Macadamias (Hawaii) .....		
Pecans, in-shell .....	119,980	
Pistachios (California) .....		
Walnuts, in-shell (California) .....	571,530	

<sup>1</sup> Production years are 2018-2019 and 2019-2020.

Percent of Normal Precipitation (%)  
1/1/2020 - 1/31/2020



Departure from Normal Temperature (F)  
1/1/2020 - 1/31/2020



## January Weather Summary

Western weather patterns flipped in January, with wetter conditions developing in the Northwest and a drier regime arriving across California and the Southwest. As a result, Northwestern snowpack dramatically improved to near-normal values by month's end, while little snow accumulated in California's key watershed areas. According to the California Department of Water Resources, the average water equivalency of the Sierra Nevada snowpack increased only 3 inches (from 9 to 12 inches) during the month-and was only about 70 percent of the late-January average.

Meanwhile, most of the central and eastern United States experienced unsettled January weather. Relative to normal, precipitation was particularly heavy in the Midwest, further delaying final harvest efforts. By late January, harvesting of corn and sunflowers was 96 percent complete in South Dakota. In North Dakota, where many areas have experienced continuous snow coverage since late November, the corn and sunflower harvests were just 49 and 67 percent complete, respectively.

Heavy January precipitation from the Midwest southward to the central Gulf Coast also led to a rare, mid-winter flood event. Some of the most significant flooding developed around mid-January from Mississippi to Michigan, fueled by a series of storms. Midwestern basins such as the Illinois and Wabash Rivers experienced mostly minor to moderate flooding. Flooding also affected the lower Mississippi Valley and environs.

Late in the month, topsoil moisture was rated at least 40 percent surplus in many Midwestern States, including Michigan (63 percent), Ohio (59 percent), South Dakota (48 percent), Missouri (45 percent), North Dakota (44 percent), and Illinois (40 percent). In contrast, lingering pockets of drought across the High Plains and the Southwest left topsoil moisture rated 65 percent very short to short in New Mexico, along with 61 percent in Colorado and 32 percent in Kansas. By late January, nearly one-quarter of the winter wheat was rated in very poor to poor condition in Colorado (24 percent) and Kansas (23 percent).

Despite brief cold episodes, near- or above-normal January temperatures dominated the country. Warmth was especially notable east of the Mississippi River, where monthly temperatures averaged as much as 6 to 10°F above normal. For most areas east of the Rockies, the harshest period of cold weather lasted about a week and culminated with a freeze across parts of Florida's peninsula on January 22. During Florida's brief cold outbreak, high winds and temperatures near the freezing mark may have reduced the yield potential of highly sensitive vegetables.

## January Agricultural Summary

January was warmer than average for most of the Nation. Temperatures averaged 5°F or more above normal for most of the eastern States. The western States also experienced above average temperatures in January, except in parts of Arizona, Colorado, and Utah. During the month of January, much of the eastern United States and Pacific Northwest received higher than average precipitation. Portions of Mississippi, Oregon, and Washington received 5 inches of rain or more above normal. In contrast, most of the East Coast, Florida, California, and a large portion of the Rocky Mountain region and the Southwest, saw drier than normal conditions in January.

## Crop Comments

**Grapefruit:** The United States 2019-2020 grapefruit crop is forecast at 663,000 tons, up 3 percent from the previous forecast and up 18 percent from last season's final utilization. In Florida, expected production, at 5.90 million boxes (251,000 tons), is up 9 percent from the previous forecast and up 31 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 930,000 tons, unchanged from the previous forecast but down 14 percent from last season's final utilization. The Florida tangerine and mandarin forecast, at 1.05 million boxes (50,000 ton), is unchanged from the previous forecast but up 6 percent from last year. The California tangerine and mandarin forecast was carried forward from the previous forecast.

**Sugarcane:** Production of sugarcane for sugar and seed in 2019 is forecast at 32.2 million tons, up 1 percent from last month but 7 percent below last year. Producers intend to harvest 914,600 acres for sugar and seed during the 2019 crop year, slightly above last month and up 2 percent from last year. Yields for sugar and seed were expected to average 35.2 tons per acre, up 0.3 ton from last month but down 3.2 tons from 2018.

## Statistical Methodology

**Survey procedures:** The orange objective yield survey for the February 1 forecast was conducted in Florida. In August and September 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 combined with the previous components are used to develop the current forecast of production. California and Texas conduct grower survey on a quarterly basis in October, January, April, and July. California conducts an objective measurement survey in September for Navel oranges and in March for Valencia oranges.

**Estimating procedures:** State level objective yield estimates for Florida oranges were reviewed for errors, reasonableness, and consistency with historical estimates. Reports from growers in California and Texas were also used for setting estimates. These three States submit their analyses of the current situation to the Agricultural Statistics Board (ASB). The ASB uses the survey data and the State analyses to prepare the published February 1 forecast.

**Revision policy:** The February 1 production forecasts will not be revised. A new forecast will be made each month throughout the growing season. End-of-season estimates will be published in the *Citrus Fruits Summary* released in August. The 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 February 1 production forecasts, the "Root Mean Square Error," a statistical measure based on past performance, is computed. The deviation between the February 1 production forecast and the final estimate is expressed as a percentage of the final estimate. The average of 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 February 1 orange production forecast is 5.1 percent. However, if you exclude the three abnormal production years (three hurricane seasons), the "Root Mean Square Error" is 5.4 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 5.1 percent, or 5.4 percent excluding abnormal seasons. Chances are 9 out of 10 (90 percent confidence level) that the difference will not exceed 8.8 percent, or 9.3 percent excluding abnormal seasons.

Changes between the February 1 orange forecast and the final estimates during the past 20 years have averaged 313,000 tons (329,000 tons excluding abnormal seasons), ranging from 18,000 tons to 843,000 tons regardless of exclusions. The February 1 forecast for oranges has been below the final estimate 8 times and above 12 times (below 8 times and above 9 times, excluding abnormal seasons). The difference does not imply that the February 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@usda.gov](mailto:nass@usda.gov)

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David Colwell – Current Agricultural Industrial Reports .....	(202) 720-8800
Chris Hawthorn – Corn, Flaxseed, Proso Millet .....	(202) 720-2127
James Johanson – County Estimates, Hay .....	(202) 690-8533
Jeff Lemmons – Oats, Soybeans .....	(202) 690-3234
Irwin Anolik – Crop Weather.....	(202) 720-7621
Chris Hawthorn – Peanuts, Rice.....	(202) 720-2127
Jean Porter – Rye, Wheat .....	(202) 720-8068
Chris Singh – Cotton, Cotton Ginnings, Sorghum .....	(202) 720-5944
Travis Thorson – Barley, Sunflower, Other Oilseeds .....	(202) 720-7369
Jorge Garcia-Pratts, Head, Fruits, Vegetables and Special Crops Section.....	(202) 720-2127
Joshua Bates – Almonds, Apples, Apricots, Asparagus, Carrots, Coffee, Onions, Plums, Prunes, Sweet Corn, Tobacco .....	(202) 720-4288
Fleming Gibson – Cauliflower, Celery, Grapefruit, Lemons, Macadamia, Mandarins and tangerines, Mushrooms, Olives, Oranges .....	(202) 720-5412
Greg Lemmons – Cranberries, Cucumbers, Pistachios, Potatoes, Pumpkins, Raspberries, Squash, Strawberries, Sugarbeets, Sugarcane, Sweet Potatoes, Tame Blueberries, Wild Blueberries.....	(202) 720-4285
Dan Norris – Artichokes, Cantaloupes, Dry Edible Peas, Green Peas, Lentils, Nectarines, Papayas, Peaches, Snap Beans, Spinach, Walnuts, Watermelons .....	(202) 720-3250
Krishna Rizal – Dry Beans, Garlic, Hazelnuts, Honeydews, Kiwifruit, Lettuce, Maple Syrup, Mint, Pears, Sweet Cherries, Tart Cherries, Tomatoes .....	(202) 720-2157
Dawn Smoker – Avocados, Bell Peppers, Broccoli, Cabbage, Chickpeas, Chile Peppers, Dates, Floriculture, Grapes, Hops, Pecans .....	(202) 720-4215

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