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Orange Production Down 2 Percent from March Forecast

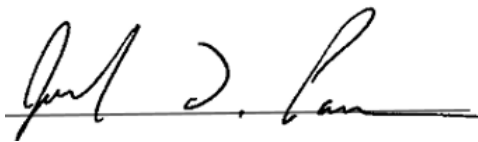
The United States all orange forecast for the 2022-2023 season is 2.57 million tons, down 2 percent from the previous forecast and down 25 percent from the 2021- 2022 revised utilization. The Florida all orange forecast, at 16.1 million boxes (725,000 tons), is unchanged from the previous forecast but down 61 percent from last season's revised utilization. In Florida, early, midseason, and Navel varieties are forecast at 6.10 million boxes (275,000 tons), unchanged from the previous forecast but down 67 percent from last season's revised utilization. The Florida Valencia orange forecast, at 10.0 million boxes (450,000 tons), is unchanged from the previous forecast but down 56 percent from last season's revised utilization.

The California all orange forecast is 45.1 million boxes (1.80 million tons), is down 2 percent from previous forecast but up 15 percent from last season's revised utilization. The California Navel orange forecast is 37.0 million boxes (1.48 million tons), down 3 percent from the previous forecast but up 17 percent from last season's revised utilization. The California Valencia orange forecast is 8.10 million boxes (324,000 tons), unchanged from the previous forecast but up 7 percent from last season's revised utilization. The Texas all orange forecast, at 1.05 million boxes (45,000 tons) down 9 percent from the previous forecast but up significantly from last season's revised utilization.

This report was approved on April 11, 2023.



Secretary of Agriculture
Designate
Seth Meyer



Agricultural Statistics Board
Chairperson
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Utilized Production of Citrus Fruits by Crop – States and United States: 2021-2022 and Forecasted April 1, 2023

[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	
	2021-2022 (1,000 boxes)	2022-2023 (1,000 boxes)	2021-2022 (1,000 tons)	2022-2023 (1,000 tons)
Oranges				
California, all	39,100	45,100	1,564	1,804
Early, mid, and Navel ²	31,500	37,000	1,260	1,480
Valencia	7,600	8,100	304	324
Florida, all	41,200	16,100	1,854	725
Early, mid, and Navel ²	18,250	6,100	821	275
Valencia	22,950	10,000	1,033	450
Texas, all	200	1,050	8	45
Early, mid, and Navel ²	170	700	7	30
Valencia	30	350	1	15
United States, all	80,500	62,250	3,426	2,574
Early, mid, and Navel ²	49,920	43,800	2,088	1,785
Valencia	30,580	18,450	1,338	789
Grapefruit				
California	4,100	4,200	164	168
Florida	3,330	1,700	142	72
Texas	1,700	2,400	68	96
United States	9,130	8,300	374	336
Tangerines and mandarins ³				
California	17,500	21,000	700	840
Florida	750	500	36	24
United States	18,250	21,500	736	864
Lemons				
Arizona	1,250	1,700	50	68
California	25,200	23,000	1,008	920
United States	26,450	24,700	1,058	988

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

³ Includes tangelos and tangors.

**Crop Area Planted and Harvested, Yield, and Production in Domestic Units – United States:
2022 and 2023**

[Data are the latest estimates available, either from the current report or from previous reports. Current year estimates are for the full 2023 crop year. Blank data cells indicate estimation period has not yet begun]

Crop	Area planted		Area harvested	
	2022	2023	2022	2023
	(1,000 acres)	(1,000 acres)	(1,000 acres)	(1,000 acres)
Grains and hay				
Barley	2,945	2,922	2,433	
Corn for grain ¹	88,579	91,996	79,207	
Corn for silage	(NA)		6,860	
Hay, all	(NA)	(NA)	49,546	50,645
Alfalfa	(NA)		14,913	
All other	(NA)		34,633	
Oats	2,581	2,667	890	
Proso millet	637		507	
Rice	2,222	2,583	2,172	
Rye	2,175		341	
Sorghum for grain ¹	6,325	5,975	4,570	
Sorghum for silage	(NA)		525	
Wheat, all	45,738	49,855	35,480	
Winter	33,271	37,505	23,459	
Durum	1,632	1,780	1,581	
Other spring	10,835	10,570	10,440	
Oilseeds				
Canola	2,213.0	2,270.0	2,169.0	
Cottonseed	(X)		(X)	
Flaxseed	263	175	244	
Mustard seed	221.0		182.0	
Peanuts	1,450.3	1,547.0	1,385.4	
Rapeseed	10.9		10.4	
Safflower	150.2		135.3	
Soybeans for beans	87,450	87,505	86,336	
Sunflower	1,693.0	1,361.0	1,607.0	
Cotton, tobacco, and sugar crops				
Cotton, all	13,763.0	11,256.0	7,440.7	
Upland	13,580.0	11,102.0	7,262.5	
American Pima	183.0	154.0	178.2	
Sugarbeets	1,159.5	1,110.8	1,137.1	
Sugarcane	(NA)		930.2	
Tobacco	(NA)	(NA)	201.8	197.1
Dry beans, peas, and lentils				
Chickpeas	353.1	340.5	341.9	
Dry edible beans	1,250.0	1,226.0	1,223.0	
Dry edible peas	919.0	1,000.0	862.0	
Lentils	660.0	519.0	602.0	
Potatoes and miscellaneous				
Hops	(NA)		59.8	
Maple syrup	(NA)		(NA)	
Mushrooms	(NA)		(NA)	
Peppermint oil	(NA)		34.0	
Potatoes	901.0		895.6	
Spearmint oil	(NA)		13.7	

See footnote(s) at end of table.

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**Crop Area Planted and Harvested, Yield, and Production in Domestic Units – United States:
2022 and 2023 (continued)**

[Data are the latest estimates available, either from the current report or from previous reports. Current year estimates are for the full 2023 crop year. Blank data cells indicate estimation period has not yet begun]

Crop	Yield per acre		Production	
	2022	2023	2022	2023
			(1,000)	(1,000)
Grains and hay				
Barley	bushels	71.7	174,333	
Corn for grain	bushels	173.3	13,729,719	
Corn for silage	tons	18.7	128,567	
Hay, all	tons	2.28	112,801	
Alfalfa	tons	3.22	47,958	
All other	tons	1.87	64,843	
Oats	bushels	64.8	57,655	
Proso millet	bushels	18.5	9,403	
Rice ²	cwt	7,383	160,368	
Rye	bushels	36.1	12,301	
Sorghum for grain	bushels	41.1	187,785	
Sorghum for silage	tons	10.8	5,662	
Wheat, all	bushels	46.5	1,649,878	
Winter	bushels	47.0	1,103,707	
Durum	bushels	40.5	63,981	
Other spring	bushels	46.2	482,190	
Oilseeds				
Canola	pounds	1,762	3,821,810	
Cottonseed	tons	(X)	4,455.0	
Flaxseed	bushels	17.6	4,304	
Mustard seed	pounds	557	101,290	
Peanuts	pounds	4,019	5,568,150	
Rapeseed	pounds	1,863	19,380	
Safflower	pounds	1,213	164,054	
Soybeans for beans	bushels	49.5	4,276,123	
Sunflower	pounds	1,750	2,812,540	
Cotton, tobacco, and sugar crops				
Cotton, all ²	bales	947	14,680.0	
Upland ²	bales	939	14,206.0	
American Pima ²	bales	1,277	474.0	
Sugarbeets	tons	28.6	32,574	
Sugarcane	tons	37.3	34,671	
Tobacco	pounds	2,217	447,367	
Dry beans, peas, and lentils				
Chickpeas ²	cwt	1,070	3,658	
Dry edible beans ²	cwt	2,113	25,847	
Dry edible peas ²	cwt	1,751	15,092	
Lentils ²	cwt	912	5,489	
Potatoes and miscellaneous				
Hops	pounds	1,694	101,286.3	
Maple syrup	gallons	(NA)	5,028	
Mushrooms	pounds	(NA)	702,391	
Peppermint oil	pounds	99	3,349	
Potatoes	cwt	438	392,243	
Spearmint oil	pounds	120	1,648	

(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: 2022 and 2023

[Data are the latest estimates available, either from the current report or from previous reports. Current year estimates are for the full 2023 crop year. Blank data cells indicate estimation period has not yet begun]

Crop	Area planted		Area harvested	
	2022	2023	2022	2023
	(hectares)	(hectares)	(hectares)	(hectares)
Grains and hay				
Barley	1,191,810	1,182,500	984,610	
Corn for grain ¹	35,847,040	37,229,860	32,054,280	
Corn for silage	(NA)		2,776,170	
Hay, all ²	(NA)	(NA)	20,050,770	20,495,530
Alfalfa	(NA)		6,035,140	
All other	(NA)		14,015,630	
Oats	1,044,500	1,079,310	360,170	
Proso millet	257,790		205,180	
Rice	899,220	1,045,310	878,990	
Rye	880,200		138,000	
Sorghum for grain ¹	2,559,660	2,418,020	1,849,430	
Sorghum for silage	(NA)		212,460	
Wheat, all ²	18,509,710	20,175,820	14,358,400	
Winter	13,464,440	15,177,900	9,493,620	
Durum	660,450	720,350	639,810	
Other spring	4,384,820	4,277,570	4,224,960	
Oilseeds				
Canola	895,580	918,650	877,770	
Cottonseed	(X)		(X)	
Flaxseed	106,430	70,820	98,740	
Mustard seed	89,440		73,650	
Peanuts	586,920	626,060	560,660	
Rapeseed	4,410		4,210	
Safflower	60,780		54,750	
Soybeans for beans	35,390,140	35,412,400	34,939,320	
Sunflower	685,140	550,780	650,340	
Cotton, tobacco, and sugar crops				
Cotton, all ²	5,569,750	4,555,190	3,011,180	
Upland	5,495,690	4,492,870	2,939,060	
American Pima	74,060	62,320	72,120	
Sugarbeets	469,240	449,530	460,170	
Sugarcane	(NA)		376,440	
Tobacco	(NA)	(NA)	81,650	79,750
Dry beans, peas, and lentils				
Chickpeas	142,900	137,800	138,360	
Dry edible beans	505,860	496,150	494,940	
Dry edible peas	371,910	404,690	348,840	
Lentils	267,100	210,030	243,620	
Potatoes and miscellaneous				
Hops	(NA)		24,190	
Maple syrup	(NA)		(NA)	
Mushrooms	(NA)		(NA)	
Peppermint oil	(NA)		13,760	
Potatoes	364,630		362,440	
Spearmint oil	(NA)		5,540	

See footnote(s) at end of table.

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**Crop Area Planted and Harvested, Yield, and Production in Metric Units – United States:
2022 and 2023 (continued)**

[Data are the latest estimates available, either from the current report or from previous reports. Current year estimates are for the full 2023 crop year. Blank data cells indicate estimation period has not yet begun]

Crop	Yield per hectare		Production	
	2022	2023	2022	2023
	(metric tons)	(metric tons)	(metric tons)	(metric tons)
Grains and hay				
Barley	3.85		3,795,650	
Corn for grain	10.88		348,750,930	
Corn for silage	42.01		116,634,020	
Hay, all ²	5.10		102,331,350	
Alfalfa	7.21		43,506,770	
All other	4.20		58,824,580	
Oats	2.32		836,860	
Proso millet	1.04		213,260	
Rice	8.28		7,274,170	
Rye	2.26		312,460	
Sorghum for grain	2.58		4,769,960	
Sorghum for silage	24.18		5,136,480	
Wheat, all ²	3.13		44,902,320	
Winter	3.16		30,037,980	
Durum	2.72		1,741,280	
Other spring	3.11		13,123,060	
Oilseeds				
Canola	1.97		1,733,540	
Cottonseed	(X)		4,041,510	
Flaxseed	1.11		109,330	
Mustard seed	0.62		45,940	
Peanuts	4.50		2,525,670	
Rapeseed	2.09		8,790	
Safflower	1.36		74,410	
Soybeans for beans	3.33		116,377,000	
Sunflower	1.96		1,275,750	
Cotton, tobacco, and sugar crops				
Cotton, all ²	1.06		3,196,190	
Upland	1.05		3,092,990	
American Pima	1.43		103,200	
Sugarbeets	64.22		29,550,640	
Sugarcane	83.55		31,453,000	
Tobacco	2.49		202,920	
Dry beans, peas, and lentils				
Chickpeas	1.20		165,920	
Dry edible beans	2.37		1,172,400	
Dry edible peas	1.96		684,560	
Lentils	1.02		248,980	
Potatoes and miscellaneous				
Hops	1.90		45,940	
Maple syrup	(NA)		25,140	
Mushrooms	(NA)		318,600	
Peppermint oil	0.11		1,520	
Potatoes	49.09		17,791,840	
Spearmint oil	0.13		750	

(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: 2022 and 2023

[Data are the latest estimates available, either from the current report or from previous reports. Current year estimates are for the full 2022 crop year, except citrus which is for the 2022-2023 season. Blank data cells indicate estimation period has not yet begun]

Crop	Production	
	2022	2023
Citrus ¹		
Grapefruit 1,000 tons	374	336
Lemons 1,000 tons	1,058	988
Oranges 1,000 tons	3,426	2,574
Tangerines and mandarins 1,000 tons	736	864
Noncitrus		
Apples, commercial million pounds	10,110.0	
Apricots tons	36,200	
Avocados tons		
Blueberries, Cultivated 1,000 pounds		
Blueberries, Wild (Maine) 1,000 pounds		
Cherries, Sweet tons	275,000	
Cherries, Tart million pounds	229.2	
Coffee (Hawaii) 1,000 pounds	26,000	
Cranberries barrel	7,440,000	
Dates tons		
Grapes tons	5,985,000	
Kiwifruit (California) tons		
Nectarines (California) tons		
Olives (California) tons		
Papayas (Hawaii) 1,000 pounds		
Peaches tons	583,500	
Pears tons	690,000	
Plums (California) tons		
Prunes (California) tons		
Raspberries, all 1,000 pounds		
Strawberries 1,000 cwt		
Nuts and miscellaneous		
Almonds, shelled (California) 1,000 pounds	2,600,000	
Hazelnuts, in-shell (Oregon) tons	68,000	
Macadamias (Hawaii) 1,000 pounds		
Pecans, in-shell 1,000 pounds	274,520	
Pistachios (California) 1,000 pounds		
Walnuts, in-shell (California) tons	720,000	

¹ Production years are 2021-2022 and 2022-2023.

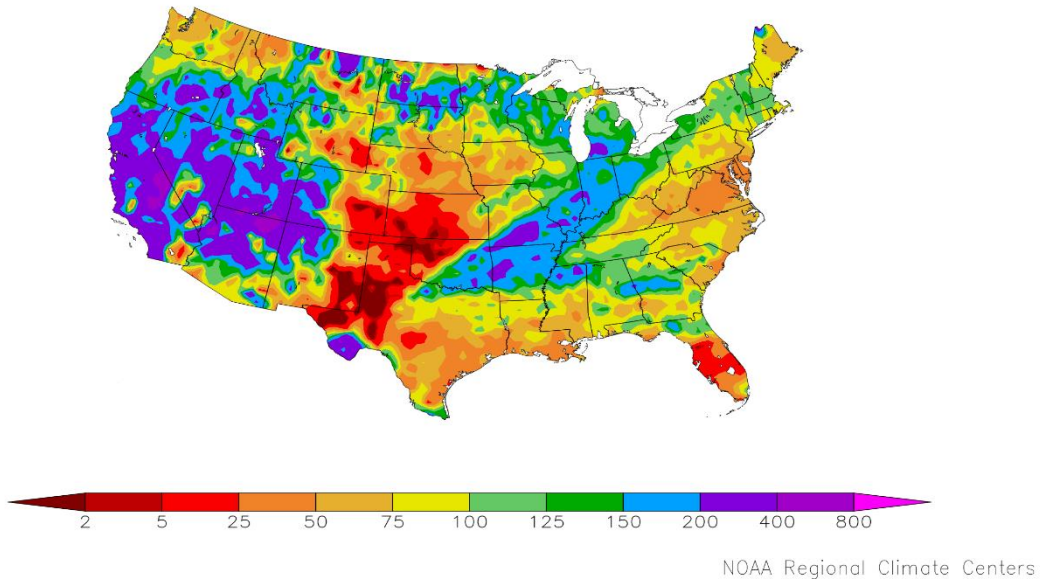
Fruits and Nuts Production in Metric Units – United States: 2022 and 2023

[Data are the latest estimates available, either from the current report or from previous reports. Current year estimates are for the full 2022 crop year, except citrus which is for the 2022-2023 season. Blank data cells indicate estimation period has not yet begun]

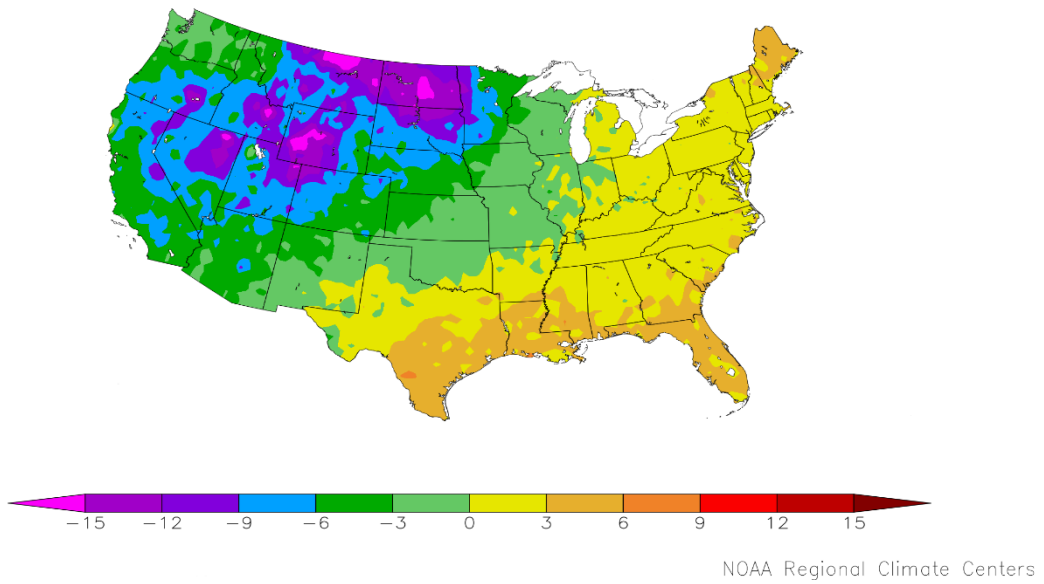
Crop	Production	
	2022	2023
	(metric tons)	(metric tons)
Citrus ¹		
Grapefruit	339,290	304,810
Lemons	959,800	896,300
Oranges	3,108,010	2,335,090
Tangerines and mandarins	667,690	783,810
Noncitrus		
Apples, commercial	4,585,820	
Apricots	32,840	
Avocados		
Blueberries, Cultivated		
Blueberries, Wild (Maine)		
Cherries, Sweet	249,480	
Cherries, Tart	103,960	
Coffee (Hawaii)	11,790	
Cranberries	337,470	
Dates		
Grapes	5,429,500	
Kiwifruit (California)		
Nectarines (California)		
Olives (California)		
Papayas (Hawaii)		
Peaches	529,340	
Pears	625,960	
Plums (California)		
Prunes (California)		
Raspberries, all		
Strawberries		
Nuts and miscellaneous		
Almonds, shelled (California)	1,179,340	
Hazelnuts, in-shell (Oregon)	61,690	
Macadamias (Hawaii)		
Pecans, in-shell	124,520	
Pistachios (California)		
Walnuts, in-shell (California)	653,170	

¹ Production years are 2021-2022 and 2022-2023.

Percent of Normal Precipitation (%)
3/1/2023 – 3/31/2023



Departure from Normal Temperature (F)
3/1/2023 – 3/31/2023



March Weather Summary

Drought continued to disappear at an incredibly fast pace across much of the country, although punishing conditions persisted on the central and southern High Plains. By April 4, drought covered just 28.23 percent of the contiguous United States, according to the *Drought Monitor*, down from 38.46 percent at the end of February and the October 2022 peak of 62.95 percent. A few spots, including much of California's San Joaquin Valley and parts of southeastern Oklahoma, made the transition from exceptional drought (D4) to neither dryness nor drought (D-nothing) over the last 5 months. Still, with worsening conditions gripping portions of the central and southern Plains, extreme to exceptional drought (D3 to D4) covered more than one-half (52 percent) of Kansas on April 4, along with 38 percent of Oklahoma, 33 percent of Nebraska, and 19 percent of Texas.

Most of those severely drought-affected areas endured mostly dry, windy March weather, leading to periods of blowing dust and a chronically elevated wildfire threat. In Oklahoma, several early-spring blazes charred more than 1,000 acres; among them: the Boar Creek Fire near Hominy, which was sparked on March 23, and the Keeler Fire near Burbank, which started on March 29. Meanwhile, Lubbock, Texas, reported peak wind gusts ranging from 45 to 60 mph on 10 days during March. By April 2, USDA/NASS noted more than one-third of the winter wheat was rated in very poor to poor condition in Kansas (57 percent), Texas (47 percent), Oklahoma (40 percent), and Nebraska (38 percent). On the same date, only 28 percent of the Nation's winter wheat was rated in good to excellent condition, lowest since 1996, when the April 7 report showed 27 percent of the crop in those two categories.

USDA/NASS topsoil moisture reports also highlighted the severity of the central and southern Plains' drought. On April 2, topsoil moisture was rated one-half to three-quarters very short to short in Kansas (73 percent), Texas (72 percent), New Mexico (68 percent), Oklahoma (63 percent), and Nebraska (56 percent). Much of Florida's peninsula was also very dry during March, leading to a statewide value of 48 percent very short to short by April 2. In contrast, topsoil moisture on that date was rated 40 to 60 percent surplus in portions of the mid-South, Midwest, and West, including Arkansas, California, Nevada, Utah, and five Midwestern States east of the Mississippi River. Some of the wetness in the South and Midwest was accompanied by severe thunderstorms, especially on March 2-3, 24-26, and 31. Multiple deadly tornadoes occurred on the 24th and 31st.

Although stormy weather covered much of the western and north-central United States during March, there were subtle exceptions. For example, relatively dry weather prevailed along and near portions of the Canadian border, especially from Washington into northwestern Montana. Farther south, however, the average water equivalency of the Sierra Nevada snowpack topped 60 inches, according to the California Department of Water Resources, 235 percent of the normal April 1 value. Snowpack in the southern Sierra Nevada, also greater than 60 inches and roughly three times normal, surpassed the 1982-83 record value. Even with so much moisture still locked into the mountain snowpack, extensive flooding affected parts of California. On March 11, the Pajaro River at Chittenden, California, achieved its highest crest since February 1998. Along the same waterway, extensive levee breaks flooded the northern Monterey County community of Pajaro, as well as neighboring agricultural land. Less than 2 weeks later in the San Joaquin Valley, Tulare Lake basin began to fill, covering pastures, fields, and orchards, while threatening low-lying communities such as Alpaugh and Allensworth. The historic lakebed, normally kept dry by a network of canals and levees, partially floods during and after extremely wet seasons, such as 1968-69 and 1982-83.

The West's stormy pattern, which also featured record-setting early-month snowfall in southern California and subsequent recovery efforts, extended to other areas, such as the northern Plains and Midwest. Some locations in the north-central United States, including Bismarck and Grand Forks, North Dakota, reported a continuous snow cover from November 10, 2022, through the end of March 2023. Minneapolis-St. Paul, Minnesota, which had reported at least an inch of snow on the ground each day since November 29, 2022, finally saw its coverage reduced to less than an inch (a trace) by March 26. As late-winter storms continued to move across the northern Plains and upper Midwest, some livestock producers faced challenges during lambing and calving, which in North Dakota was 62 and 39 percent complete, respectively, by April 2.

Elsewhere, March was generally a dry month in the middle and northern Atlantic States, following a nearly snowless winter from the Ohio Valley to the mid-Atlantic Coast. In fact, season-to-date snowfall through March totaled less than an inch in locations such as Washington, D.C. (0.4 inch, or 3 percent of normal); Philadelphia, Pennsylvania (0.3 inch, or 1 percent), and Baltimore, Maryland (0.2 inch, or 1 percent). Farther south, a brief but sharp Southeastern cold snap

peaked on March 20-21, with freezes occurring as far south as the Gulf Coast in Alabama, Mississippi, and western Florida. Readings below 10°F had been reported a few days earlier as far south as the central Plains. Overall, March was a warm month in the Deep South and along the Atlantic Seaboard, with temperatures averaging up to 5°F above normal across peninsular Florida, but was unusually cold across the Plains, West, and upper Midwest. Monthly temperatures averaged at least 10 to 15°F below normal in numerous locations from the Intermountain West to the northern Plains.

March Agricultural Summary

Except for the Midwest, March was warmer than average for most of the eastern half of the Nation. Large parts of New England, and much of the South recorded temperatures 3°F or more above normal. In contrast, most of the western half of the Nation was cooler than normal. Much of the Northern Plains and Rockies, as well as large parts of California, the Great Basin, and Pacific Northwest recorded temperatures, 6°F or more below normal. Large areas in Montana, North Dakota, and Wyoming recorded temperatures 15°F or more below normal. During March, much of the western half of the Nation received higher than normal amounts of precipitation. Large parts of California, the Great Basin, Rockies, and Southwest received at least twice the normal amount of precipitation. Parts of the Northern Plains and Pacific Northwest also recorded twice the normal amount of precipitation. Parts of California received at least 15 inches of rain for the month. In the East, while much of Florida, the Gulf Coast, and Mid-Atlantic remained drier than normal, parts of the Midwest and Mississippi Valley received at least twice the normal amount of precipitation.

By April 2, six percent of the Nation's winter wheat crop was headed, 2 percentage points ahead of last year and 4 percentage points ahead of the 5-year average. On April 2, twenty-eight percent of the 2023 winter wheat crop was reported in good to excellent condition, 2 percentage points below last year.

Crop Comments

Grapefruit: The United States 2022-2023 grapefruit crop is forecast at 336,000 tons, up 2 percent from the previous forecast but down 10 percent from last season's revised utilization. The California forecast, at 4.20 million boxes (168,000 tons), is down 2 percent from previous forecast but up 2 percent from the last seasons revised total.

Tangerines and mandarins: The United States tangerine and mandarin crop is forecast at 864,000 tons, down 4 percent from the previous forecast but up 17 percent from the last season's revised utilization. The California tangerine and mandarin forecast at 21.0 million boxes (840,000 tons) is down 5 percent from the previous forecast but up 20 percent from last season revised total.

Lemons: The 2022-2023 United States lemon crop is forecast at 988,000 tons, up 5 percent from previous forecast but down 7 percent from last season's revised utilization. The California forecast, at 23.0 million boxes (920,000 tons), is up 5 percent from the previous forecast but down 9 percent from the revised 2021-2022 season. The Arizona forecast, at 1.70 million boxes (68,000 tons), is up 13 percent from the previous forecast and up 36 percent from the revised 2021-2022 season.

Statistical Methodology

Survey procedures: The orange objective yield survey for the April 1 forecast was conducted in Florida. In August and September of last year, the number of bearing trees and number of fruit per tree is 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.

Estimating procedures: State level objective yield estimates 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 analyses to prepare the published April 1 forecast. 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 April 1 forecast.

Revision policy: The April 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 April 1 production forecasts, the "Root Mean Square Error," a statistical measure based on past performance, is computed. The deviation between the April 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. For example, the "Root Mean Square Error" for the April 1 orange production forecast is 3.8 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 3.8 percent. Chances are 9 out of 10 (90 percent confidence level) that the difference will not exceed 6.6 percent.

Also, shown in the following table is a 20-year record for selected crops of the differences between the April 1 forecast and the final estimate. Using oranges again as an example, changes between the April 1 orange forecast and the final estimates during the past 20-years have averaged 163,000 tons, ranging from 0 ton to 502,000 tons. The April 1 forecast for oranges has been below the final estimate 8 times, above 11 times and equal 1 time. The difference does not imply that the April 1 forecasts this year are likely to understate or overstate final production.

Reliability of April 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
Oranges ¹ tons	(percent) 3.8	(percent) 6.6	(millions) 163	(millions) 0	(millions) 502	(number) 8	(number) 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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Joshua Bates – Hemp, Oats, Soybeans	(202) 690-3234
Natasha Bruton – Barley, Cotton System Consumption and Stocks, Grain Crushings.....	(202) 690-1042
David Colwell – Fats and Oils, Flour Milling Products	(202) 720-8800
Michelle Harder – County Estimates, Hay.....	(202) 690-8533
James Johanson – Rye, Wheat	(202) 720-8068
Chris Hawthorn – Corn, Flaxseed, Proso Millet	(202) 720-2127
Becky Sommer – Cotton, Cotton Ginnings, Sorghum	(202) 720-5944
Travis Thorson – Sunflower, Other Oilseeds	(202) 720-7369
Lihan Wei – Peanuts, Rice	(202) 720-7688
Fleming Gibson, Head, Fruits, Vegetables and Special Crops Section.....	(202) 720-2127
Deonne Holiday – Almonds, Asparagus, Carrots, Coffee, Cranberries, Onions, Plums, Prunes, Sweet Corn, Tobacco	(202) 720-4288
Robert Little – Apricots, Dry Beans, Lettuce, Macadamia, Maple Syrup, Nectarines, Pears, Snap Beans, Spinach, Tomatoes	(202) 720-3250
Krishna Rizal – Artichokes, Cauliflower, Celery, Garlic, Grapefruit, Kiwifruit, Lemons, Mandarins and tangerines, Mint, Mushrooms, Olives, Oranges, Pistachios	(202) 720-5412
Chris Singh – Apples, Blueberries, Cucumbers, Hazelnuts, Potatoes, Pumpkins, Raspberries, Squash, Strawberries, Sugarbeets, Sugarcane, Sweet Potatoes.....	(202) 720-4285
Antonio Torres – Cantaloupes, Dry Edible Peas, Green Peas, Honeydews, Lentils, Papayas, Peaches, Sweet Cherries, Tart Cherries, Walnuts, Watermelons.....	(202) 720-2157
Chris Wallace – Avocados, Bell Peppers, Broccoli, Cabbage, Chickpeas, Chile Peppers, Dates, Floriculture, Grapes, Hops, Pecans	(202) 720-4215

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