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## December Milk Production up 1.2 Percent

**Milk production** in the 23 major States during December totaled 17.0 billion pounds, up 1.2 percent from December 2016. November revised production at 16.2 billion pounds, was up 1.0 percent from November 2016. The November revision represented a decrease of 24 million pounds or 0.1 percent from last month's preliminary production estimate.

**Production per cow** in the 23 major States averaged 1,943 pounds for December, 11 pounds above December 2016. This is the highest production per cow for the month of December since the 23 State series began in 2003.

**The number of milk cows** on farms in the 23 major States was 8.74 million head, 54,000 head more than December 2016, and 3,000 head more than November 2017.

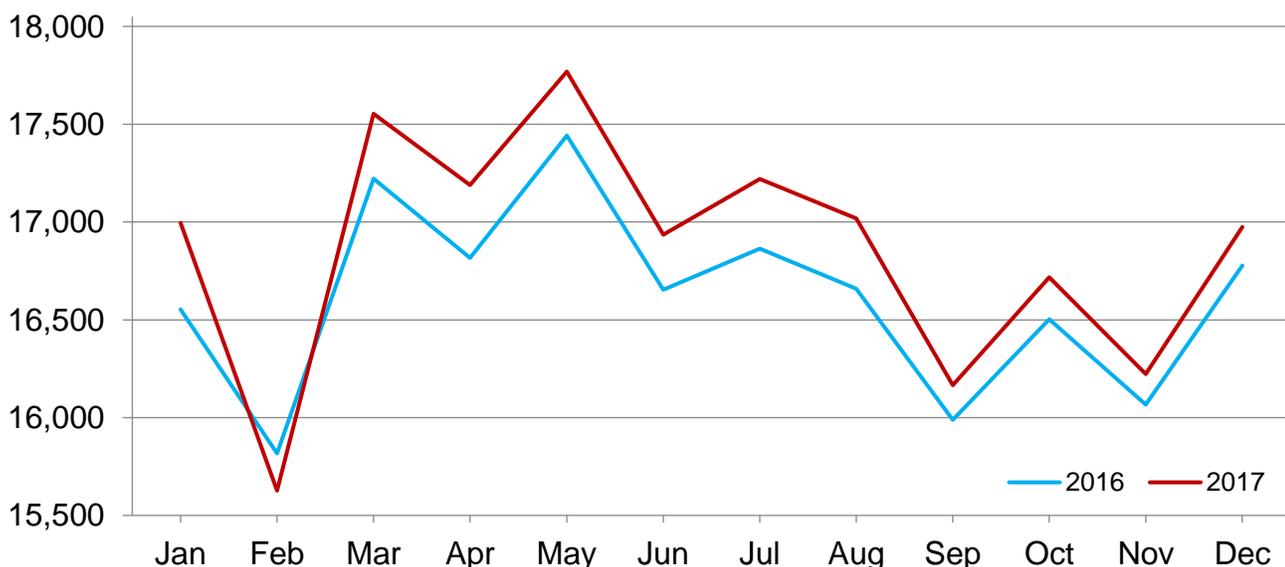
## October-December Milk Production up 1.1 Percent

**Milk production** in the United States during the October - December quarter totaled 53.1 billion pounds, up 1.1 percent from the October - December quarter last year.

**The average number of milk cows** in the United States during the quarter was 9.40 million head, 3,000 head less than the July - September quarter, but 55,000 head more than the same period last year.

## Monthly Milk Production – 23 Selected States

Million pounds



## Milk Cows and Production by Quarter – United States: 2016-2017

[May not add due to rounding]

Quarter	Milk cows <sup>1</sup>		Milk per cow <sup>2</sup>		Milk production <sup>2</sup>		
	2016	2017	2016	2017	2016	2017	Change from 2016
	(1,000 head)	(1,000 head)	(pounds)	(pounds)	(million pounds)	(million pounds)	(percent)
January-March .....	9,312	9,370	5,691	5,717	52,998	53,568	1.1
April-June .....	9,323	9,398	5,828	5,886	54,331	55,314	1.8
July-September .....	9,331	9,402	5,636	5,688	52,590	53,478	1.7
October-December .....	9,344	9,399	5,620	5,646	52,517	53,071	1.1
Annual .....	9,328	9,392	22,774	22,938	212,436	215,431	1.4

<sup>1</sup> Includes dry cows. Excludes heifers not yet fresh.

<sup>2</sup> Excludes milk sucked by calves.

## Milk Cows and Production by Month – 23 Selected States: 2016-2017

[May not add due to rounding]

Month	Milk cows <sup>1</sup>		Milk per cow <sup>2</sup>		Milk production <sup>2</sup>		
	2016	2017	2016	2017	2016	2017	Change from 2016
	(1,000 head)	(1,000 head)	(pounds)	(pounds)	(million pounds)	(million pounds)	(percent)
January .....	8,621	8,691	1,920	1,955	16,553	16,995	2.7
February .....	8,628	8,694	1,833	1,797	15,817	15,627	-1.2
March .....	8,637	8,711	1,994	2,015	17,222	17,554	1.9
April .....	8,638	8,720	1,947	1,971	16,817	17,189	2.2
May .....	8,641	8,727	2,019	2,036	17,442	17,769	1.9
June .....	8,648	8,731	1,926	1,940	16,654	16,935	1.7
July .....	8,658	8,732	1,948	1,972	16,863	17,220	2.1
August .....	8,666	8,740	1,922	1,947	16,659	17,019	2.2
September .....	8,664	8,736	1,845	1,851	15,989	16,166	1.1
October .....	8,668	8,732	1,904	1,914	16,503	16,717	1.3
November .....	8,675	8,734	1,852	1,857	16,066	16,223	1.0
December .....	8,683	8,737	1,932	1,943	16,777	16,974	1.2
Annual .....	8,652	8,724	23,042	23,199	199,362	202,388	1.5

<sup>1</sup> Includes dry cows. Excludes heifers not yet fresh.

<sup>2</sup> Excludes milk sucked by calves.

## Estimated Milk Cows and Production by Month – United States: 2016-2017

[May not add due to rounding]

Month	Milk cows <sup>1</sup>		Milk per cow <sup>2</sup>		Milk production <sup>2</sup>		
	2016	2017	2016	2017	2016	2017	Change from 2016
	(1,000 head)	(1,000 head)	(pounds)	(pounds)	(million pounds)	(million pounds)	(percent)
January .....	9,304	9,362	1,902	1,938	17,693	18,145	2.6
February .....	9,311	9,365	1,815	1,782	16,904	16,684	-1.3
March .....	9,321	9,382	1,974	1,997	18,401	18,739	1.8
April .....	9,321	9,392	1,925	1,951	17,947	18,320	2.1
May .....	9,322	9,400	1,997	2,015	18,613	18,942	1.8
June .....	9,326	9,402	1,906	1,920	17,771	18,052	1.6
July .....	9,329	9,403	1,920	1,943	17,908	18,269	2.0
August .....	9,334	9,404	1,895	1,920	17,692	18,056	2.1
September .....	9,331	9,400	1,821	1,825	16,990	17,153	1.0
October .....	9,335	9,397	1,882	1,892	17,565	17,778	1.2
November .....	9,344	9,398	1,830	1,835	17,100	17,250	0.9
December .....	9,354	9,401	1,908	1,919	17,852	18,043	1.1
Annual .....	9,328	9,392	22,774	22,938	212,436	215,431	1.4

<sup>1</sup> Includes dry cows. Excludes heifers not yet fresh.

<sup>2</sup> Excludes milk sucked by calves.

## Milk Cows and Production – 23 Selected States: December 2016 and 2017

[May not add due to rounding]

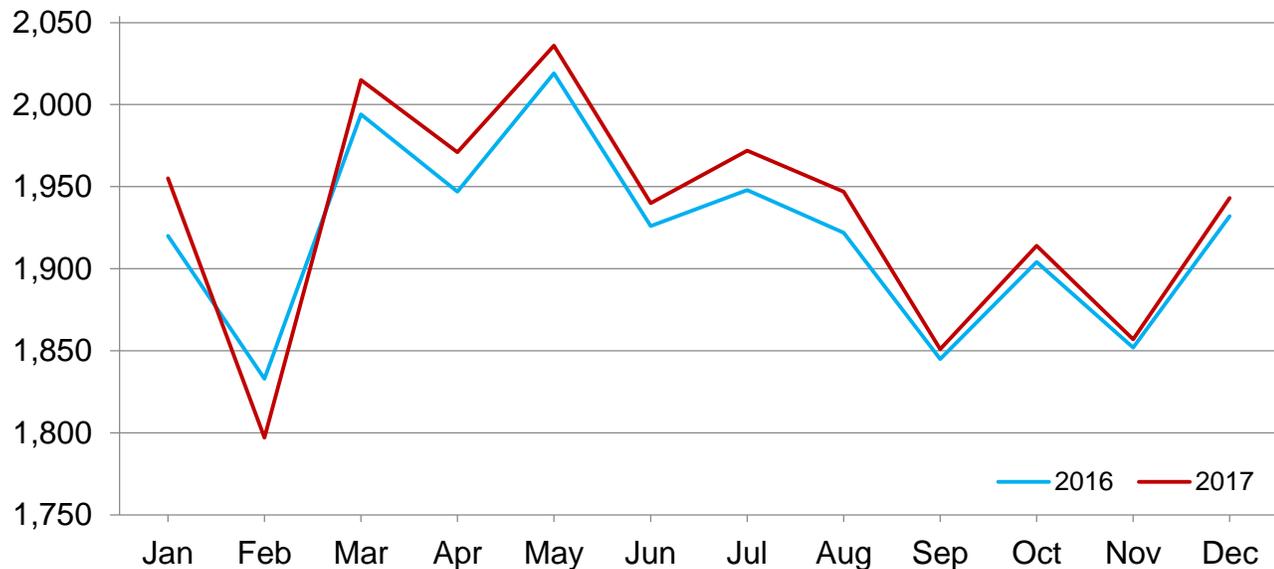
State	Milk cows <sup>1</sup>		Milk per cow <sup>2</sup>		Milk production <sup>2</sup>		Change from 2016
	2016	2017	2016	2017	2016	2017	
	(1,000 head)	(1,000 head)	(pounds)	(pounds)	(million pounds)	(million pounds)	(percent)
Arizona .....	196	203	2,050	2,010	402	408	1.5
California .....	1,756	1,742	1,925	1,935	3,380	3,371	-0.3
Colorado .....	155	166	2,180	2,225	338	369	9.2
Florida .....	122	124	1,785	1,675	218	208	-4.6
Idaho .....	600	600	2,015	2,010	1,209	1,206	-0.2
Illinois .....	93	93	1,720	1,770	160	165	3.1
Indiana .....	185	187	1,890	1,900	350	355	1.4
Iowa .....	215	220	1,980	2,010	426	442	3.8
Kansas .....	150	153	1,925	1,950	289	298	3.1
Michigan .....	425	428	2,140	2,180	910	933	2.5
Minnesota .....	461	456	1,770	1,810	816	825	1.1
New Mexico .....	325	332	2,055	2,075	668	689	3.1
New York .....	620	625	2,010	1,950	1,246	1,219	-2.2
Ohio .....	262	264	1,750	1,755	459	463	0.9
Oregon .....	124	124	1,670	1,675	207	208	0.5
Pennsylvania .....	525	525	1,735	1,745	911	916	0.5
South Dakota .....	116	118	1,875	1,865	218	220	0.9
Texas .....	490	515	1,945	2,000	953	1,030	8.1
Utah .....	92	97	1,920	1,935	177	188	6.2
Vermont .....	129	128	1,775	1,775	229	227	-0.9
Virginia .....	88	87	1,640	1,690	144	147	2.1
Washington .....	275	274	1,990	1,975	547	541	-1.1
Wisconsin .....	1,279	1,276	1,970	1,995	2,520	2,546	1.0
23-State Total .....	8,683	8,737	1,932	1,943	16,777	16,974	1.2

<sup>1</sup> Includes dry cows. Excludes heifers not yet fresh.

<sup>2</sup> Excludes milk sucked by calves.

## Monthly Milk per Cow – 23 Selected States

Pounds



## Milk Cows and Production – 23 Selected States: November 2016 and 2017

[May not add due to rounding]

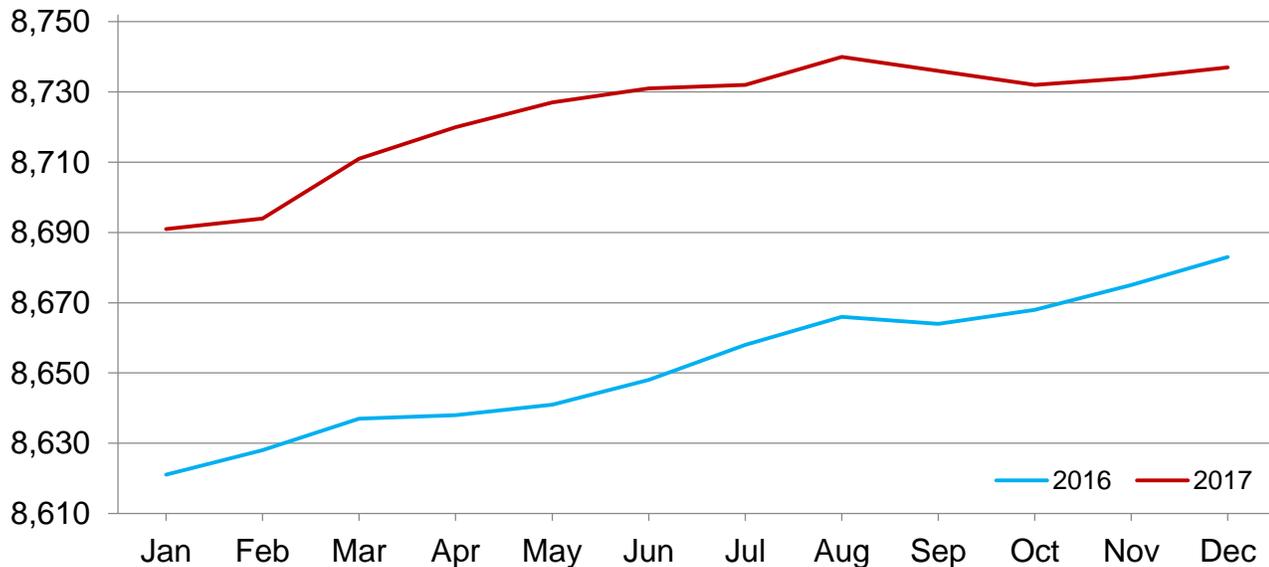
	Milk cows <sup>1</sup>		Milk per cow <sup>2</sup>		Milk production <sup>2</sup>		Change from 2016
	2016	2017	2016	2017	2016	2017	
	(1,000 head)	(1,000 head)	(pounds)	(pounds)	(million pounds)	(million pounds)	(percent)
Arizona .....	196	204	1,900	1,870	372	381	2.4
California .....	1,757	1,743	1,830	1,825	3,215	3,181	-1.1
Colorado .....	154	164	2,130	2,135	328	350	6.7
Florida .....	121	124	1,595	1,515	193	188	-2.6
Idaho .....	599	600	1,970	1,955	1,180	1,173	-0.6
Illinois .....	93	93	1,610	1,670	150	155	3.3
Indiana .....	185	187	1,815	1,855	336	347	3.3
Iowa .....	215	219	1,905	1,935	410	424	3.4
Kansas .....	149	153	1,890	1,880	282	288	2.1
Michigan .....	423	428	2,085	2,115	882	905	2.6
Minnesota .....	461	456	1,690	1,725	779	787	1.0
New Mexico .....	323	330	1,980	1,985	640	655	2.3
New York .....	620	625	1,925	1,895	1,194	1,184	-0.8
Ohio .....	262	264	1,670	1,675	438	442	0.9
Oregon .....	124	124	1,615	1,620	200	201	0.5
Pennsylvania .....	525	525	1,640	1,675	861	879	2.1
South Dakota .....	116	117	1,820	1,795	211	210	-0.5
Texas .....	490	515	1,875	1,890	919	973	5.9
Utah .....	92	97	1,875	1,880	173	182	5.2
Vermont .....	129	128	1,700	1,705	219	218	-0.5
Virginia .....	88	87	1,535	1,610	135	140	3.7
Washington .....	275	274	1,915	1,900	527	521	-1.1
Wisconsin .....	1,278	1,277	1,895	1,910	2,422	2,439	0.7
23-State Total .....	8,675	8,734	1,852	1,857	16,066	16,223	1.0

<sup>1</sup> Includes dry cows. Excludes heifers not yet fresh.

<sup>2</sup> Excludes milk sucked by calves.

## Monthly Milk Cows – 23 Selected States

Thousand head



## Milk Cows and Production – States and United States: Revised July - September 2016 and 2017

[May not add due to rounding]

State	July - September milk cows <sup>1</sup>		July - September milk production <sup>2</sup>		
	2016	2017	2016	2017	Change from 2016
	(1,000 head)	(1,000 head)	(million pounds)	(million pounds)	(percent)
Alabama .....	7.0	6.0	19.0	18.0	-5.3
Alaska .....	0.3	0.3	0.9	0.6	-33.3
Arizona .....	197.0	204.0	1,108.0	1,157.0	4.4
Arkansas .....	6.0	6.0	17.0	17.0	-
California .....	1,759.0	1,746.0	9,841.0	9,708.0	-1.4
Colorado .....	152.0	161.0	1,002.0	1,069.0	6.7
Connecticut .....	19.0	18.5	100.0	102.0	2.0
Delaware .....	5.0	5.0	21.7	21.2	-2.3
Florida .....	120.0	124.0	563.0	569.0	1.1
Georgia .....	83.0	84.0	415.0	416.0	0.2
Hawaii .....	2.4	2.2	8.3	9.9	19.3
Idaho .....	599.0	602.0	3,813.0	3,818.0	0.1
Illinois .....	94.0	93.0	455.0	462.0	1.5
Indiana .....	184.0	187.0	1,020.0	1,038.0	1.8
Iowa .....	214.0	218.0	1,249.0	1,294.0	3.6
Kansas .....	146.0	152.0	821.0	868.0	5.7
Kentucky .....	56.0	55.0	234.0	236.0	0.9
Louisiana .....	12.0	12.0	32.0	32.0	-
Maine .....	30.0	30.0	158.0	159.0	0.6
Maryland .....	47.0	48.0	229.0	226.0	-1.3
Massachusetts .....	11.5	11.5	53.0	52.0	-1.9
Michigan .....	421.0	428.0	2,732.0	2,816.0	3.1
Minnesota .....	462.0	458.0	2,391.0	2,476.0	3.6
Mississippi .....	9.5	9.0	30.0	29.0	-3.3
Missouri .....	88.0	85.0	324.0	286.0	-11.7
Montana .....	14.0	13.5	74.0	73.0	-1.4
Nebraska .....	60.0	60.0	346.0	361.0	4.3
Nevada .....	30.0	32.0	166.0	182.0	9.6
New Hampshire .....	13.5	13.0	70.0	65.0	-7.1
New Jersey .....	6.5	6.0	29.0	28.0	-3.4
New Mexico .....	316.0	331.0	1,937.0	2,040.0	5.3
New York .....	620.0	624.0	3,729.0	3,734.0	0.1
North Carolina .....	45.0	44.0	227.0	220.0	-3.1
North Dakota .....	16.0	16.0	87.0	88.0	1.1
Ohio .....	265.0	263.0	1,370.0	1,393.0	1.7
Oklahoma .....	36.0	39.0	155.0	170.0	9.7
Oregon .....	125.0	123.0	652.0	634.0	-2.8
Pennsylvania .....	529.0	525.0	2,657.0	2,693.0	1.4
Rhode Island .....	0.8	0.8	3.5	3.4	-2.9
South Carolina .....	14.5	14.5	54.0	54.0	-
South Dakota .....	115.0	118.0	638.0	666.0	4.4
Tennessee .....	41.0	39.0	159.0	158.0	-0.6
Texas .....	483.0	515.0	2,680.0	2,984.0	11.3
Utah .....	90.0	97.0	526.0	575.0	9.3
Vermont .....	130.0	129.0	677.0	680.0	0.4
Virginia .....	89.0	87.0	413.0	417.0	1.0
Washington .....	275.0	275.0	1,686.0	1,673.0	-0.8
West Virginia .....	8.0	7.5	31.0	31.0	-
Wisconsin .....	1,278.0	1,278.0	7,551.0	7,641.0	1.2
Wyoming .....	6.0	6.0	35.1	34.7	-1.1
United States .....	9,331.0	9,402.0	52,590.0	53,478.0	1.7

- Represents zero.

<sup>1</sup> Includes dry cows. Excludes heifers not yet fresh.

<sup>2</sup> Excludes milk sucked by calves.

# Milk Cows and Production – States and United States: Preliminary October - December 2016 and 2017

[May not add due to rounding]

State	October - December milk cows <sup>1</sup>		October - December milk production <sup>2</sup>		
	2016	2017	2016	2017	Change from 2016
	(1,000 head)	(1,000 head)	(million pounds)	(million pounds)	(percent)
Alabama .....	7.0	6.0	21.0	19.0	-9.5
Alaska .....	0.3	0.3	0.9	0.7	-22.2
Arizona .....	196.0	204.0	1,154.0	1,181.0	2.3
Arkansas .....	6.0	6.0	18.0	18.0	-
California .....	1,757.0	1,743.0	9,900.0	9,813.0	-0.9
Colorado .....	154.0	164.0	999.0	1,074.0	7.5
Connecticut .....	19.0	19.0	100.0	107.0	7.0
Delaware .....	5.0	5.0	22.1	22.5	1.8
Florida .....	121.0	124.0	588.0	577.0	-1.9
Georgia .....	83.0	85.0	439.0	439.0	-
Hawaii .....	2.4	2.1	8.4	8.9	6.0
Idaho .....	599.0	600.0	3,626.0	3,606.0	-0.6
Illinois .....	93.0	93.0	461.0	476.0	3.3
Indiana .....	185.0	187.0	1,032.0	1,059.0	2.6
Iowa .....	215.0	219.0	1,256.0	1,301.0	3.6
Kansas .....	149.0	153.0	854.0	880.0	3.0
Kentucky .....	57.0	56.0	252.0	257.0	2.0
Louisiana .....	12.0	12.0	35.0	37.0	5.7
Maine .....	30.0	30.0	154.0	154.0	-
Maryland .....	47.0	47.0	234.0	232.0	-0.9
Massachusetts .....	11.5	11.5	52.0	50.0	-3.8
Michigan .....	423.0	428.0	2,695.0	2,773.0	2.9
Minnesota .....	461.0	456.0	2,388.0	2,430.0	1.8
Mississippi .....	9.5	9.0	32.0	30.0	-6.3
Missouri .....	88.0	84.0	333.0	291.0	-12.6
Montana .....	14.0	13.0	72.0	71.0	-1.4
Nebraska .....	60.0	60.0	351.0	364.0	3.7
Nevada .....	30.0	32.0	169.0	181.0	7.1
New Hampshire .....	13.5	12.5	69.0	63.0	-8.7
New Jersey .....	6.5	6.0	30.0	29.0	-3.3
New Mexico .....	323.0	330.0	1,958.0	2,002.0	2.2
New York .....	620.0	625.0	3,680.0	3,639.0	-1.1
North Carolina .....	45.0	45.0	233.0	233.0	-
North Dakota .....	16.0	15.5	87.0	85.0	-2.3
Ohio .....	262.0	264.0	1,357.0	1,366.0	0.7
Oklahoma .....	35.0	39.0	165.0	172.0	4.2
Oregon .....	124.0	124.0	617.0	618.0	0.2
Pennsylvania .....	525.0	525.0	2,664.0	2,693.0	1.1
Rhode Island .....	0.8	0.8	3.2	3.2	-
South Carolina .....	15.0	15.0	59.0	59.0	-
South Dakota .....	116.0	117.0	644.0	649.0	0.8
Tennessee .....	41.0	40.0	165.0	168.0	1.8
Texas .....	490.0	515.0	2,796.0	2,976.0	6.4
Utah .....	92.0	97.0	528.0	559.0	5.9
Vermont .....	129.0	128.0	674.0	671.0	-0.4
Virginia .....	88.0	87.0	418.0	429.0	2.6
Washington .....	275.0	274.0	1,625.0	1,609.0	-1.0
West Virginia .....	8.0	7.0	31.0	29.0	-6.5
Wisconsin .....	1,278.0	1,277.0	7,432.0	7,533.0	1.4
Wyoming .....	6.0	6.0	35.7	33.9	-5.0
United States .....	9,344.0	9,399.0	52,517.0	53,071.0	1.1

- Represents zero.

<sup>1</sup> Includes dry cows. Excludes heifers not yet fresh.

<sup>2</sup> Excludes milk sucked by calves.

## Statistical Methodology

**Survey Procedures:** Primary data used to determine these estimates were obtained from a sample of producers. Individual States maintain a list of all known milk producers and information on the size of their herd. States use all known sources of producers to ensure that their lists are as complete as possible. Generally, all large producers and a sample of small producers are included in the survey. Questionnaires are mailed to producers near the end of the month to obtain data for the first day of the month. Additional reports are obtained by telephone, as needed, to supplement the mail response. Where feasible, States utilize state and federal administrative data to estimate milk production. This eliminates duplication of data gathering by different government agencies. Indications of milk cow inventory are also obtained in the January Cattle Surveys.

**Estimation Procedures:** Regional Field Offices prepare these estimates by using a combination of survey indications, historic trends, and any available administrative data. Individual State estimates are reviewed by the Agricultural Statistics Board for reasonableness.

**Revision Policy:** Milk production, milk per cow, and number of milk cows are subject to revision the following month after initial publication for monthly States or the following quarter for the quarterly States. Normally, administrative data from Federal Market Orders, State Departments of Agriculture, or other sources are the main basis for revisions. However, administrative data for all States may not be available in time for these revisions. Estimates are again subject to revisions in February each year based on additional administrative data. In the event that additional changes are necessary, a third revision is possible in February the following year. Estimates are again reviewed after data from the five-year Census of Agriculture are available. No revisions are made after that date.

**Reliability:** Since all operations with dairy animals are not included in the sample, survey estimates are subject to sampling variability. Survey results are also subject to non-sampling errors such as omissions, duplications, and mistakes in reporting, recording, and processing the data. The effects of these errors cannot be measured directly. They are minimized through rigid quality controls in the data collection process and through a careful review of all reported data for consistency and reasonableness.

To assist users in evaluating the reliability of the estimates in this report, the "Root Mean Square Error" is shown for selected items on the next page. The "Root Mean Square Error" is a statistical measure based on past performance and is computed using the differences between first and final estimates. The "Root Mean Square Error" for milk production estimates over the past 20 quarters is 0.1 percent. This means that chances are 2 out of 3 that the final estimate will not be above or below the current estimate of 53.1 billion pounds by more than 0.1 percent. Chances are 9 out of 10 that the difference will not exceed 0.2 percent.

### Reliability of Quarterly Milk Production Estimates

[Based on data for the past 20 quarters]

Item	Root mean square error	90 percent confidence level	Difference between first and latest estimate				
			Average	Smallest	Largest	Quarters	
						Below latest	Above latest
	(percent)	(percent)	(1,000)	(1,000)	(1,000)	(number)	(number)
Milk production .....	0.1	0.2	40	2	111	14	6
All milk cows .....	0.0	0.1	3	0	6	8	9

## Information Contacts

Listed below are the commodity specialists in the Livestock Branch of the National Agricultural Statistics Service to contact for additional information. E-mail inquiries may be sent to [nass@nass.usda.gov](mailto:nass@nass.usda.gov).

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Scott Hollis, Head, Livestock Section .....	(202) 690-2424
Sherry Bertramsen – Livestock Slaughter .....	(202) 720-3240
Donnie Fike – Dairy Products .....	(202) 690-3236
Heidi Gleich – Cattle, Cattle on Feed .....	(202) 720-3040
Mike Miller – Milk Production and Milk Cows .....	(202) 720-3278
Seth Riggins – Hogs and Pigs .....	(202) 720-3106
Vacant – Sheep and Goats .....	(202) 720-8784

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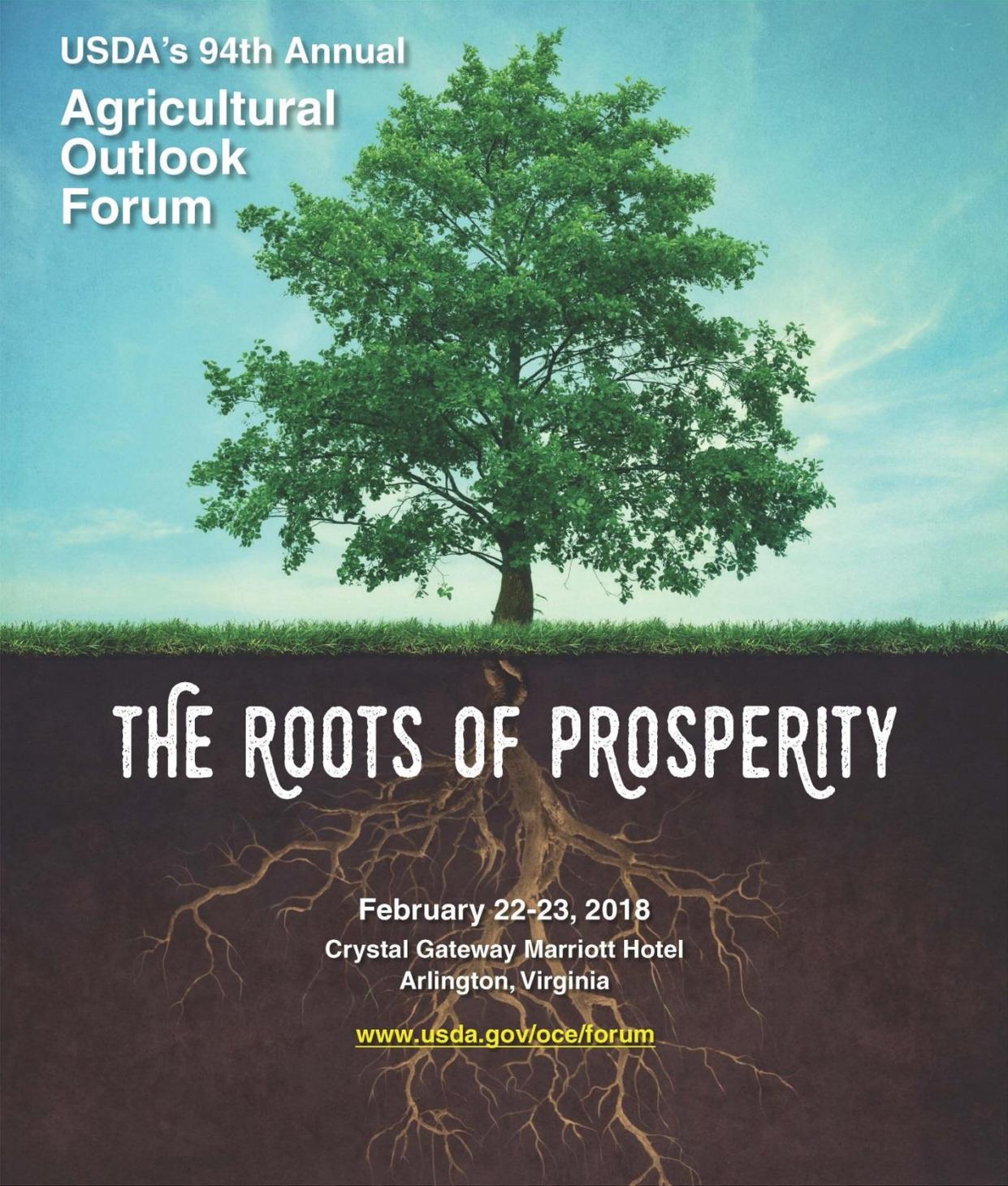
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