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December Milk Production up 2.4 Percent

Milk production in the 23 major States during December totaled 16.8 billion pounds, up 2.4 percent from December 2015. November revised production at 16.1 billion pounds, was up 2.8 percent from November 2015. The November revision represented an increase of 27 million pounds or 0.2 percent from last month's preliminary production estimate.

Production per cow in the 23 major States averaged 1,931 pounds for December, 35 pounds above December 2015. 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 8.69 million head, 53,000 head more than December 2015, and 10,000 head more than November 2016.

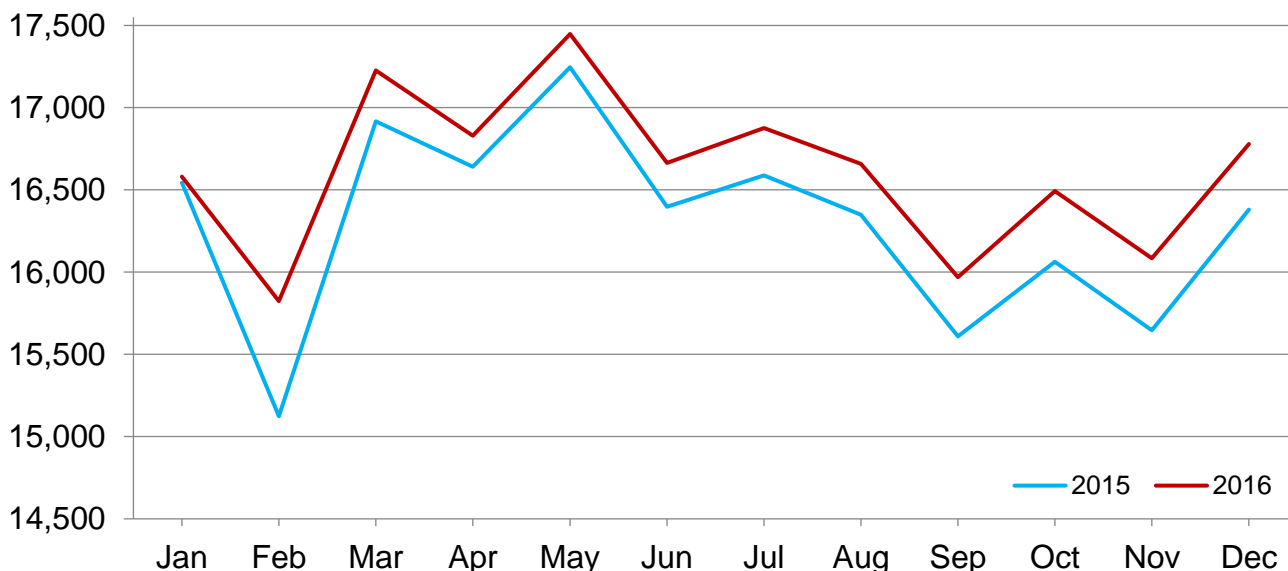
October-December Milk Production up 2.4 Percent

Milk production in the United States during the October - December quarter totaled 52.5 billion pounds, up 2.4 percent from the October - December quarter last year.

The average number of milk cows in the United States during the quarter was 9.35 million head, 10,000 head more than the July - September quarter, and 26,000 head more than the same period last year.

Monthly Milk Production – 23 Selected States

Million pounds



Milk Cows and Production by Quarter – United States: 2015-2016

[May not add due to rounding]

Quarter	Milk cows ¹		Milk per cow ²		Milk production ²		
	2015	2016	2015	2016	2015	2016	Change from 2015
	(1,000 head)	(1,000 head)	(pounds)	(pounds)	(million pounds)	(million pounds)	(percent)
January-March	9,309	9,319	5,579	5,692	51,936	53,041	2.1
April-June	9,321	9,327	5,763	5,828	53,720	54,360	1.2
July-September	9,315	9,337	5,549	5,632	51,685	52,582	1.7
October-December	9,321	9,347	5,503	5,620	51,292	52,529	2.4
Annual	9,317	9,333	22,393	22,770	208,633	212,512	1.9

¹ Includes dry cows. Excludes heifers not yet fresh.

² Excludes milk sucked by calves.

Milk Cows and Production by Month – 23 Selected States: 2015-2016

Month	Milk cows ¹		Milk per cow ²		Milk production ²		
	2015	2016	2015	2016	2015	2016	Change from 2015
	(1,000 head)	(1,000 head)	(pounds)	(pounds)	(million pounds)	(million pounds)	(percent)
January	8,621	8,627	1,919	1,922	16,544	16,581	0.2
February	8,621	8,633	1,754	1,833	15,124	15,824	4.6
March	8,623	8,644	1,962	1,993	16,918	17,227	1.8
April	8,627	8,644	1,929	1,947	16,641	16,830	1.1
May	8,633	8,644	1,998	2,019	17,246	17,448	1.2
June	8,630	8,647	1,900	1,927	16,397	16,664	1.6
July	8,630	8,661	1,922	1,949	16,589	16,876	1.7
August	8,633	8,674	1,894	1,920	16,349	16,658	1.9
September	8,636	8,671	1,807	1,842	15,609	15,969	2.3
October	8,638	8,669	1,860	1,903	16,063	16,493	2.7
November	8,640	8,681	1,811	1,853	15,646	16,084	2.8
December	8,638	8,691	1,896	1,931	16,381	16,779	2.4
Annual	8,631	8,657	22,652	23,037	195,507	199,433	2.0

¹ Includes dry cows. Excludes heifers not yet fresh.

² Excludes milk sucked by calves.

Estimated Milk Cows and Production by Month – United States: 2015-2016

Month	Milk cows ¹		Milk per cow ²		Milk production ²		
	2015	2016	2015	2016	2015	2016	Change from 2015
	(1,000 head)	(1,000 head)	(pounds)	(pounds)	(million pounds)	(million pounds)	(percent)
January	9,308	9,310	1,900	1,903	17,685	17,718	0.2
February	9,308	9,317	1,737	1,815	16,166	16,912	4.6
March	9,311	9,329	1,942	1,974	18,085	18,411	1.8
April	9,316	9,327	1,909	1,926	17,788	17,964	1.0
May	9,324	9,327	1,976	1,997	18,428	18,622	1.1
June	9,323	9,328	1,878	1,905	17,504	17,774	1.5
July	9,314	9,332	1,897	1,921	17,665	17,928	1.5
August	9,315	9,341	1,868	1,894	17,403	17,693	1.7
September	9,317	9,337	1,784	1,817	16,617	16,961	2.1
October	9,320	9,335	1,838	1,880	17,130	17,550	2.5
November	9,322	9,347	1,790	1,832	16,689	17,120	2.6
December	9,320	9,358	1,875	1,908	17,473	17,859	2.2
Annual	9,317	9,333	22,393	22,770	208,633	212,512	1.9

¹ Includes dry cows. Excludes heifers not yet fresh.

² Excludes milk sucked by calves.

Milk Cows and Production – 23 Selected States: December 2015 and 2016

[May not add due to rounding]

State	Milk cows ¹		Milk per cow ²		Milk production ²		Change from 2015
	2015	2016	2015	2016	2015	2016	
	(1,000 head)	(1,000 head)	(pounds)	(pounds)	(million pounds)	(million pounds)	(percent)
Arizona	195	196	2,100	2,095	410	411	0.2
California	1,775	1,765	1,895	1,915	3,364	3,380	0.5
Colorado	148	155	2,130	2,180	315	338	7.3
Florida	125	122	1,745	1,785	218	218	-
Idaho	587	600	1,985	1,995	1,165	1,197	2.7
Illinois	94	93	1,720	1,720	162	160	-1.2
Indiana	184	185	1,890	1,890	348	350	0.6
Iowa	210	214	1,955	1,980	411	424	3.2
Kansas	142	150	1,855	1,920	263	288	9.5
Michigan	412	425	2,125	2,140	876	910	3.9
Minnesota	460	461	1,755	1,770	807	816	1.1
New Mexico	319	325	1,955	2,055	624	668	7.1
New York	620	620	1,940	2,010	1,203	1,246	3.6
Ohio	266	262	1,720	1,750	458	459	0.2
Oregon	126	124	1,690	1,670	213	207	-2.8
Pennsylvania	530	525	1,705	1,750	904	919	1.7
South Dakota	110	116	1,900	1,875	209	218	4.3
Texas	461	490	1,850	1,945	853	953	11.7
Utah	95	92	1,895	1,920	180	177	-1.7
Vermont	131	129	1,725	1,775	226	229	1.3
Virginia	91	88	1,620	1,640	147	144	-2.0
Washington	277	275	1,980	1,990	548	547	-0.2
Wisconsin	1,280	1,279	1,935	1,970	2,477	2,520	1.7
23-State Total	8,638	8,691	1,896	1,931	16,381	16,779	2.4

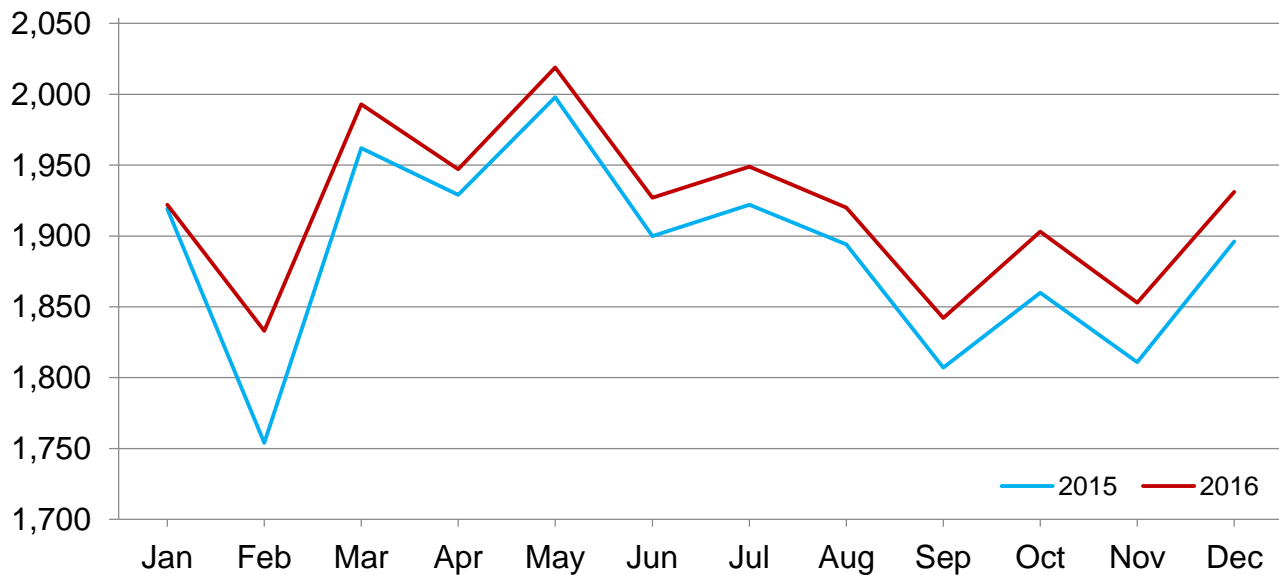
- Represents zero.

¹ Includes dry cows. Excludes heifers not yet fresh.

² Excludes milk sucked by calves.

Monthly Milk per Cow – 23 Selected States

Pounds



Milk Cows and Production – 23 Selected States: November 2015 and 2016

[May not add due to rounding]

	Milk cows ¹		Milk per cow ²		Milk production ²		Change from 2015
	2015	2016	2015	2016	2015	2016	
	(1,000 head)	(1,000 head)	(pounds)	(pounds)	(million pounds)	(million pounds)	(percent)
Arizona	195	196	1,950	1,945	380	381	0.3
California	1,776	1,765	1,805	1,820	3,206	3,212	0.2
Colorado	147	154	2,075	2,130	305	328	7.5
Florida	125	121	1,530	1,595	191	193	1.0
Idaho	587	599	1,935	1,970	1,136	1,180	3.9
Illinois	94	93	1,600	1,610	150	150	-
Indiana	184	185	1,800	1,815	331	336	1.5
Iowa	210	213	1,850	1,905	389	406	4.4
Kansas	142	149	1,770	1,890	251	282	12.4
Michigan	411	423	2,050	2,085	843	882	4.6
Minnesota	460	461	1,660	1,690	764	779	2.0
New Mexico	322	323	1,915	1,980	617	640	3.7
New York	620	620	1,850	1,925	1,147	1,194	4.1
Ohio	266	262	1,635	1,670	435	438	0.7
Oregon	126	124	1,620	1,615	204	200	-2.0
Pennsylvania	530	525	1,615	1,670	856	877	2.5
South Dakota	110	116	1,810	1,820	199	211	6.0
Texas	462	490	1,785	1,875	825	919	11.4
Utah	95	92	1,820	1,875	173	173	-
Vermont	131	129	1,640	1,700	215	219	1.9
Virginia	90	88	1,545	1,535	139	135	-2.9
Washington	277	275	1,905	1,915	528	527	-0.2
Wisconsin	1,280	1,278	1,845	1,895	2,362	2,422	2.5
23-State Total	8,640	8,681	1,811	1,853	15,646	16,084	2.8

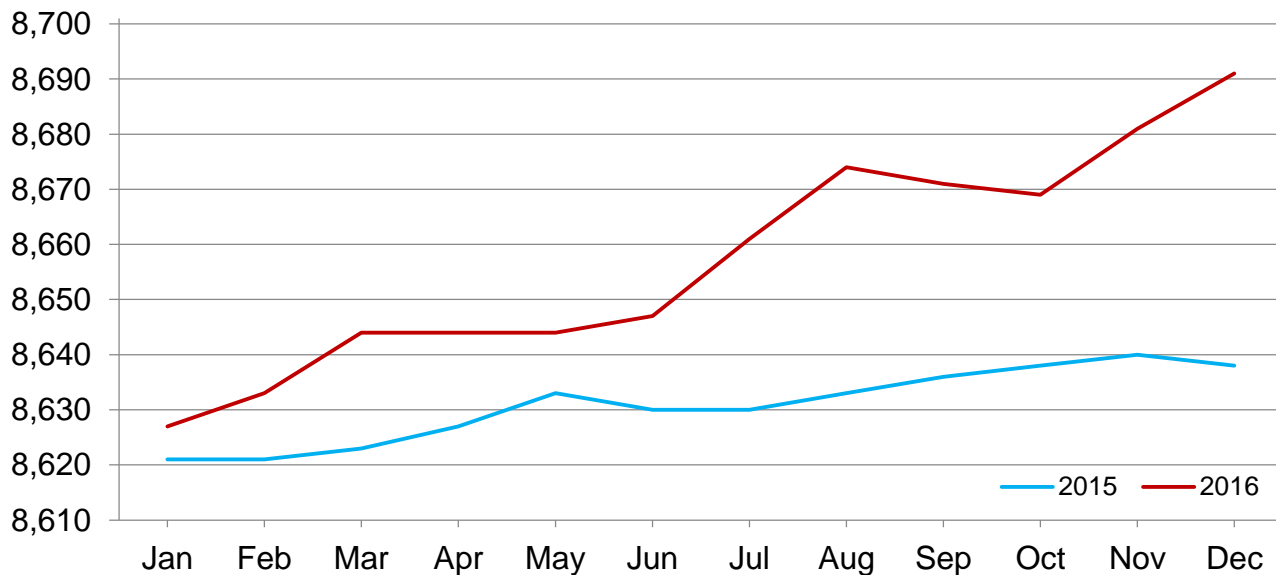
- Represents zero.

¹ Includes dry cows. Excludes heifers not yet fresh.

² Excludes milk sucked by calves.

Monthly Milk Cows – 23 Selected States

Thousand head



Milk Cows and Production – States and United States: Revised July - September 2015 and 2016

[May not add due to rounding]

State	July - September milk cows ¹		July - September milk production ²		
	2015	2016	2015	2016	Change from 2015
	(1,000 head)	(1,000 head)	(million pounds)	(million pounds)	(percent)
Alabama	7.5	7.0	21.0	19.0	-9.5
Alaska	0.3	0.3	0.9	0.9	-
Arizona	195.0	197.0	1,102.0	1,105.0	0.3
Arkansas	7.0	6.0	20.0	17.0	-15.0
California	1,778.0	1,767.0	9,920.0	9,834.0	-0.9
Colorado	145.0	152.0	953.0	1,003.0	5.2
Connecticut	19.5	19.0	98.0	100.0	2.0
Delaware	5.0	5.0	23.0	21.7	-5.7
Florida	125.0	120.0	589.0	563.0	-4.4
Georgia	84.0	83.0	421.0	415.0	-1.4
Hawaii	2.2	2.4	8.6	8.6	-
Idaho	586.0	599.0	3,624.0	3,813.0	5.2
Illinois	94.0	93.0	448.0	446.0	-0.4
Indiana	182.0	184.0	998.0	1,016.0	1.8
Iowa	211.0	211.0	1,188.0	1,233.0	3.8
Kansas	143.0	146.0	779.0	821.0	5.4
Kentucky	60.0	56.0	249.0	234.0	-6.0
Louisiana	13.0	12.0	37.0	32.0	-13.5
Maine	30.0	30.0	151.0	158.0	4.6
Maryland	48.0	47.0	239.0	229.0	-4.2
Massachusetts	12.0	11.5	54.0	53.0	-1.9
Michigan	410.0	421.0	2,591.0	2,726.0	5.2
Minnesota	460.0	462.0	2,358.0	2,391.0	1.4
Mississippi	10.5	9.5	31.0	30.0	-3.2
Missouri	88.0	88.0	324.0	324.0	-
Montana	14.0	14.0	75.0	74.0	-1.3
Nebraska	57.0	60.0	323.0	346.0	7.1
Nevada	29.0	30.0	173.0	166.0	-4.0
New Hampshire	14.0	13.5	70.0	70.0	-
New Jersey	7.0	6.5	31.0	29.0	-6.5
New Mexico	323.0	316.0	1,941.0	1,935.0	-0.3
New York	619.0	620.0	3,576.0	3,729.0	4.3
North Carolina	46.0	45.0	235.0	227.0	-3.4
North Dakota	16.0	16.0	84.0	87.0	3.6
Ohio	266.0	265.0	1,379.0	1,372.0	-0.5
Oklahoma	38.0	36.0	166.0	155.0	-6.6
Oregon	123.0	125.0	638.0	650.0	1.9
Pennsylvania	530.0	529.0	2,674.0	2,684.0	0.4
Rhode Island	0.9	0.8	4.0	3.5	-12.5
South Carolina	15.0	14.5	58.0	54.0	-6.9
South Dakota	107.0	115.0	605.0	638.0	5.5
Tennessee	43.0	41.0	172.0	159.0	-7.6
Texas	462.0	483.0	2,507.0	2,680.0	6.9
Utah	96.0	92.0	564.0	537.0	-4.8
Vermont	132.0	130.0	667.0	677.0	1.5
Virginia	91.0	89.0	432.0	413.0	-4.4
Washington	276.0	275.0	1,662.0	1,686.0	1.4
West Virginia	8.5	8.0	34.0	31.0	-8.8
Wisconsin	1,280.0	1,278.0	7,352.0	7,551.0	2.7
Wyoming	6.0	6.0	35.0	35.1	0.3
United States	9,315.0	9,337.0	51,685.0	52,582.0	1.7

- Represents zero.

¹ Includes dry cows. Excludes heifers not yet fresh.

² Excludes milk sucked by calves.

Milk Cows and Production – States and United States: Preliminary October - December 2015 and 2016

[May not add due to rounding]

State	October - December milk cows ¹		October - December milk production ²		
	2015	2016	2015	2016	Change from 2015
	(1,000 head)	(1,000 head)	(million pounds)	(million pounds)	(percent)
Alabama	7.0	7.0	23.0	21.0	-8.7
Alaska	0.3	0.3	0.8	0.9	12.5
Arizona	195.0	196.0	1,166.0	1,174.0	0.7
Arkansas	7.0	6.0	20.0	18.0	-10.0
California	1,776.0	1,765.0	9,813.0	9,901.0	0.9
Colorado	147.0	153.0	939.0	997.0	6.2
Connecticut	19.0	19.0	98.0	100.0	2.0
Delaware	5.0	5.0	23.6	22.1	-6.4
Florida	125.0	121.0	593.0	588.0	-0.8
Georgia	85.0	83.0	439.0	439.0	-
Hawaii	2.2	2.3	7.6	8.3	9.2
Idaho	587.0	599.0	3,496.0	3,614.0	3.4
Illinois	94.0	93.0	463.0	461.0	-0.4
Indiana	184.0	185.0	1,014.0	1,028.0	1.4
Iowa	210.0	213.0	1,199.0	1,244.0	3.8
Kansas	142.0	149.0	775.0	853.0	10.1
Kentucky	60.0	57.0	256.0	252.0	-1.6
Louisiana	13.0	12.0	41.0	35.0	-14.6
Maine	30.0	30.0	149.0	154.0	3.4
Maryland	49.0	47.0	241.0	235.0	-2.5
Massachusetts	12.0	11.5	53.0	52.0	-1.9
Michigan	411.0	423.0	2,580.0	2,695.0	4.5
Minnesota	460.0	461.0	2,351.0	2,388.0	1.6
Mississippi	10.0	9.5	34.0	32.0	-5.9
Missouri	88.0	88.0	326.0	333.0	2.1
Montana	14.0	14.0	73.0	72.0	-1.4
Nebraska	58.0	60.0	341.0	352.0	3.2
Nevada	28.0	30.0	170.0	169.0	-0.6
New Hampshire	14.0	13.5	70.0	69.0	-1.4
New Jersey	7.0	6.5	30.0	30.0	-
New Mexico	321.0	323.0	1,884.0	1,958.0	3.9
New York	620.0	620.0	3,534.0	3,680.0	4.1
North Carolina	47.0	45.0	241.0	233.0	-3.3
North Dakota	16.0	16.0	83.0	87.0	4.8
Ohio	266.0	262.0	1,347.0	1,352.0	0.4
Oklahoma	37.0	35.0	175.0	165.0	-5.7
Oregon	126.0	124.0	629.0	617.0	-1.9
Pennsylvania	530.0	525.0	2,640.0	2,695.0	2.1
Rhode Island	0.9	0.8	3.8	3.2	-15.8
South Carolina	15.0	15.0	60.0	59.0	-1.7
South Dakota	110.0	116.0	614.0	644.0	4.9
Tennessee	43.0	41.0	175.0	165.0	-5.7
Texas	462.0	490.0	2,530.0	2,796.0	10.5
Utah	95.0	91.0	535.0	522.0	-2.4
Vermont	131.0	129.0	660.0	674.0	2.1
Virginia	90.0	88.0	430.0	418.0	-2.8
Washington	277.0	275.0	1,623.0	1,625.0	0.1
West Virginia	8.5	8.0	34.0	31.0	-8.8
Wisconsin	1,280.0	1,278.0	7,275.0	7,432.0	2.2
Wyoming	6.0	6.0	34.4	35.7	3.8
United States	9,321.0	9,347.0	51,292.0	52,529.0	2.4

- Represents zero.

¹ Excludes dry cows. Excludes heifers not yet fresh.

² 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: State 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 52.5 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	51	2	141	17	3
All milk cows	0.0	0.1	3	0	8	15	2

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.

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David Colwell – Sheep and Goats	(202) 720-8784
Donnie Fike – Dairy Products	(202) 690-3236
Michael Klamm – 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

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