



ISSN: 1949-1557

Released February 20, 2019, by the National Agricultural Statistics Service (NASS), Agricultural Statistics Board, United States Department of Agriculture (USDA).

December Milk Production up 0.9 Percent

Milk production in the 23 major States during December totaled 17.1 billion pounds, up 0.9 percent from December 2017. November revised production at 16.4 billion pounds, was up 0.8 percent from November 2017. The November revision represented a decrease of 3 million pounds or less than 0.1 percent from last month's preliminary production estimate.

Production per cow in the 23 major States averaged 1,966 pounds for December, 23 pounds above December 2017. 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 8.72 million head, 21,000 head less than December 2017, and 2,000 head less than November 2018.

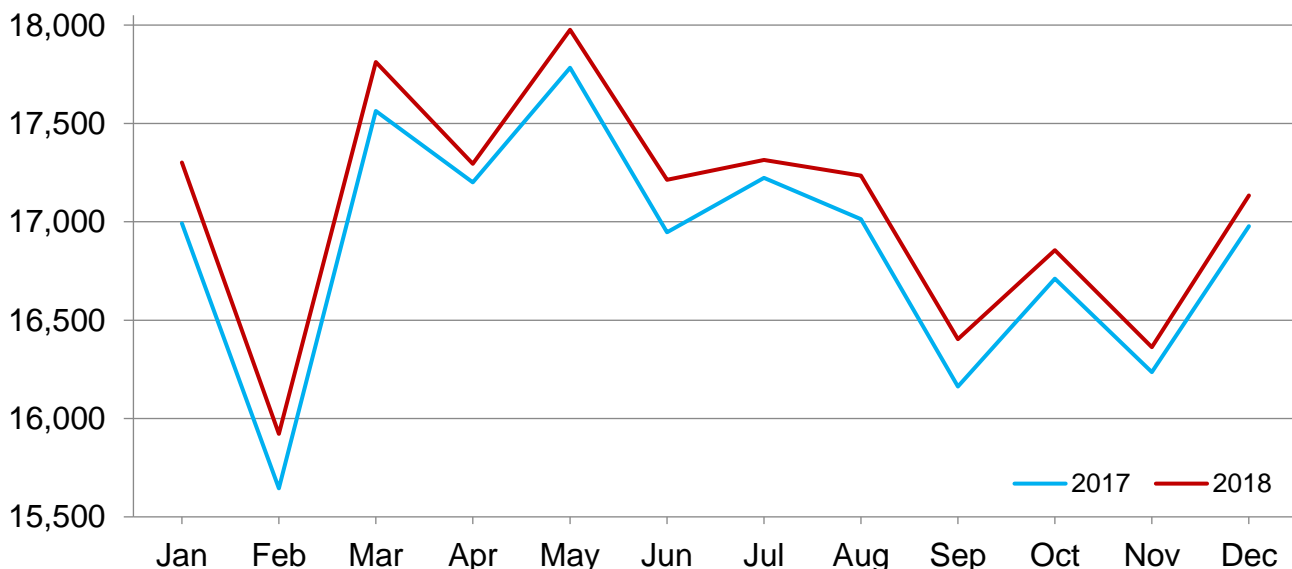
October-December Milk Production up 0.5 Percent

Milk production in the United States during the October - December quarter totaled 53.3 billion pounds, up 0.5 percent from the October - December quarter last year.

The average number of milk cows in the United States during the quarter was 9.36 million head, 18,000 head less than the July - September quarter, and 41,000 head less than the same period last year.

Monthly Milk Production – 23 Selected States

Million pounds



Milk Cows and Production by Quarter – United States: 2017-2018

[May not add due to rounding]

Quarter	Milk cows ¹		Milk per cow ²		Milk production ²		
	2017	2018	2017	2018	2017	2018	Change from 2017
	(1,000 head)	(1,000 head)	(pounds)	(pounds)	(million pounds)	(million pounds)	(percent)
January-March	9,369	9,406	5,717	5,780	53,562	54,367	1.5
April-June	9,399	9,402	5,888	5,936	55,344	55,808	0.8
July-September	9,402	9,375	5,687	5,755	53,473	53,952	0.9
October-December	9,398	9,357	5,649	5,702	53,087	53,349	0.5
Annual	9,392	9,385	22,941	23,173	215,466	217,476	0.9

¹ Includes dry cows. Excludes heifers not yet fresh.

² Excludes milk sucked by calves.

Milk Cows and Production by Month – 23 Selected States: 2017-2018

[May not add due to rounding]

Month	Milk cows ¹		Milk per cow ²		Milk production ²		
	2017	2018	2017	2018	2017	2018	Change from 2017
	(1,000 head)	(1,000 head)	(pounds)	(pounds)	(million pounds)	(million pounds)	(percent)
January	8,691	8,744	1,955	1,979	16,993	17,302	1.8
February	8,696	8,745	1,799	1,821	15,645	15,922	1.8
March	8,714	8,738	2,016	2,038	17,564	17,812	1.4
April	8,722	8,738	1,972	1,979	17,200	17,294	0.5
May	8,730	8,745	2,037	2,056	17,783	17,976	1.1
June	8,733	8,743	1,941	1,969	16,947	17,214	1.6
July	8,734	8,734	1,972	1,982	17,224	17,315	0.5
August	8,741	8,736	1,946	1,973	17,014	17,235	1.3
September	8,737	8,724	1,850	1,880	16,162	16,403	1.5
October	8,731	8,726	1,914	1,932	16,710	16,856	0.9
November	8,734	8,717	1,859	1,877	16,235	16,363	0.8
December	8,736	8,715	1,943	1,966	16,978	17,133	0.9
Annual	8,725	8,734	23,204	23,451	202,455	204,825	1.2

¹ Includes dry cows. Excludes heifers not yet fresh.

² Excludes milk sucked by calves.

Estimated Milk Cows and Production by Month – United States: 2017-2018

[May not add due to rounding]

Month	Milk cows ¹		Milk per cow ²		Milk production ²		
	2017	2018	2017	2018	2017	2018	Change from 2017
	(1,000 head)	(1,000 head)	(pounds)	(pounds)	(million pounds)	(million pounds)	(percent)
January	9,359	9,408	1,937	1,959	18,128	18,431	1.7
February	9,365	9,408	1,783	1,803	16,694	16,961	1.6
March	9,383	9,401	1,997	2,018	18,740	18,975	1.3
April	9,392	9,400	1,952	1,956	18,332	18,390	0.3
May	9,401	9,404	2,016	2,033	18,952	19,114	0.9
June	9,404	9,402	1,920	1,947	18,060	18,304	1.4
July	9,404	9,378	1,943	1,955	18,268	18,334	0.4
August	9,404	9,379	1,919	1,946	18,049	18,250	1.1
September	9,399	9,367	1,825	1,854	17,156	17,368	1.2
October	9,395	9,366	1,891	1,907	17,769	17,857	0.5
November	9,398	9,354	1,837	1,853	17,260	17,337	0.4
December	9,400	9,351	1,921	1,942	18,058	18,155	0.5
Annual	9,392	9,385	22,941	23,173	215,466	217,476	0.9

¹ Includes dry cows. Excludes heifers not yet fresh.

² Excludes milk sucked by calves.

Milk Cows and Production – 23 Selected States: December 2017 and 2018

[May not add due to rounding]

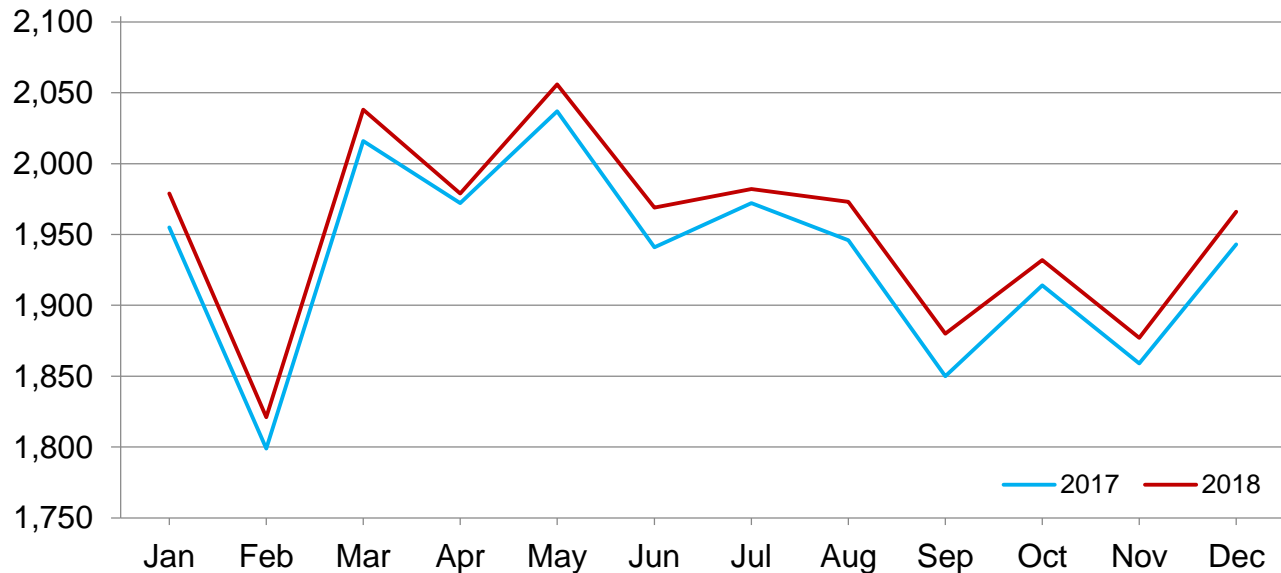
State	Milk cows ¹		Milk per cow ²		Milk production ²		Change from 2017
	2017	2018	2017	2018	2017	2018	
	(1,000 head)	(1,000 head)	(pounds)	(pounds)	(million pounds)	(million pounds)	(percent)
Arizona	203	205	2,110	2,060	428	422	-1.4
California	1,741	1,730	1,935	1,980	3,369	3,425	1.7
Colorado	166	178	2,225	2,195	369	391	6.0
Florida	124	116	1,675	1,665	208	193	-7.2
Idaho	600	614	2,010	2,060	1,206	1,265	4.9
Illinois	93	85	1,770	1,750	165	149	-9.7
Indiana	187	181	1,900	1,890	355	342	-3.7
Iowa	220	220	2,010	2,005	442	441	-0.2
Kansas	153	161	1,965	1,970	301	317	5.3
Michigan	428	422	2,180	2,205	933	931	-0.2
Minnesota	456	450	1,810	1,850	825	833	1.0
New Mexico	332	325	2,075	2,060	689	670	-2.8
New York	625	625	1,950	1,990	1,219	1,244	2.1
Ohio	264	253	1,740	1,740	459	440	-4.1
Oregon	124	125	1,675	1,735	208	217	4.3
Pennsylvania	525	505	1,735	1,695	911	856	-6.0
South Dakota	118	122	1,865	1,900	220	232	5.5
Texas	515	542	2,000	1,990	1,030	1,079	4.8
Utah	97	100	1,935	1,920	188	192	2.1
Vermont	128	126	1,775	1,785	227	225	-0.9
Virginia	87	79	1,680	1,620	146	128	-12.3
Washington	274	280	1,975	2,025	541	567	4.8
Wisconsin	1,276	1,271	1,990	2,025	2,539	2,574	1.4
23-State Total	8,736	8,715	1,943	1,966	16,978	17,133	0.9

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 2017 and 2018

[May not add due to rounding]

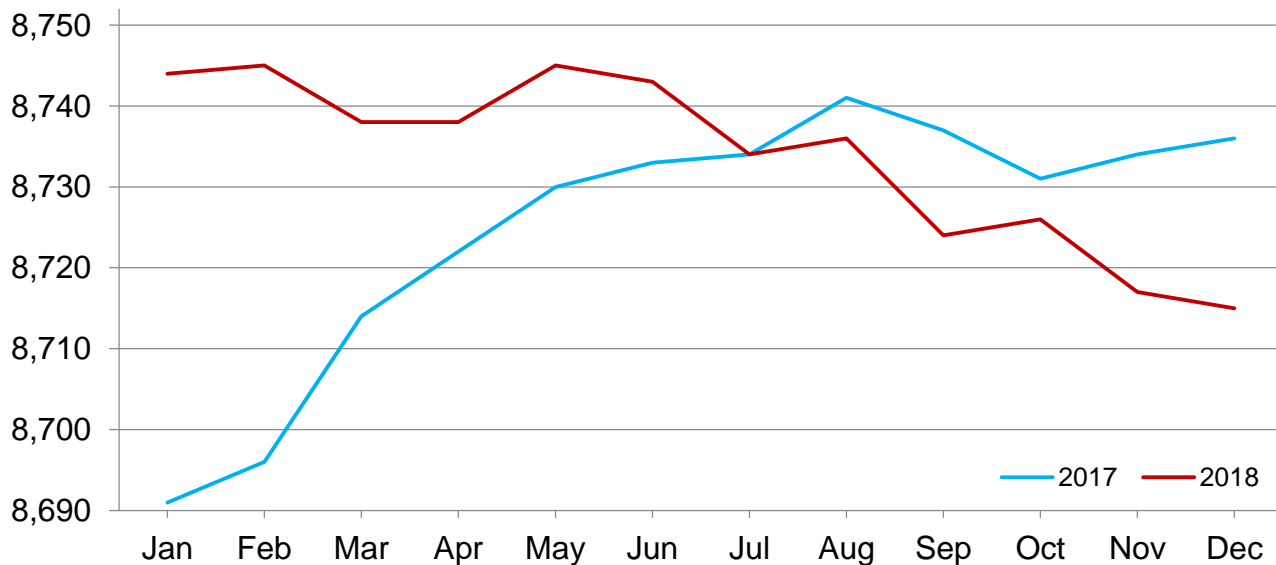
	Milk cows ¹		Milk per cow ²		Milk production ²		Change from 2017
	2017	2018	2017	2018	2017	2018	
	(1,000 head)	(1,000 head)	(pounds)	(pounds)	(million pounds)	(million pounds)	(percent)
Arizona	204	204	1,960	1,930	400	394	-1.5
California	1,743	1,731	1,825	1,890	3,181	3,272	2.9
Colorado	164	178	2,135	2,090	350	372	6.3
Florida	124	118	1,515	1,540	188	182	-3.2
Idaho	600	612	1,955	1,995	1,173	1,221	4.1
Illinois	93	85	1,670	1,640	155	139	-10.3
Indiana	187	181	1,855	1,810	347	328	-5.5
Iowa	219	220	1,935	1,915	424	421	-0.7
Kansas	153	160	1,880	1,890	288	302	4.9
Michigan	428	422	2,115	2,120	905	895	-1.1
Minnesota	456	451	1,725	1,750	787	789	0.3
New Mexico	330	326	1,985	1,950	655	636	-2.9
New York	625	623	1,895	1,940	1,184	1,209	2.1
Ohio	264	253	1,675	1,665	442	421	-4.8
Oregon	124	125	1,620	1,655	201	207	3.0
Pennsylvania	525	509	1,660	1,600	872	814	-6.7
South Dakota	117	122	1,795	1,820	210	222	5.7
Texas	515	539	1,890	1,900	973	1,024	5.2
Utah	97	100	1,880	1,870	182	187	2.7
Vermont	128	126	1,705	1,690	218	213	-2.3
Virginia	87	80	1,610	1,555	140	124	-11.4
Washington	274	280	1,900	1,935	521	542	4.0
Wisconsin	1,277	1,272	1,910	1,925	2,439	2,449	0.4
23-State Total	8,734	8,717	1,859	1,877	16,235	16,363	0.8

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 2017 and 2018

[May not add due to rounding]

State	July - September milk cows ¹		July - September milk production ²		
	2017	2018	2017	2018	Change from 2017
	(1,000 head)	(1,000 head)	(million pounds)	(million pounds)	(percent)
Alabama	6.0	5.5	18.0	15.0	-16.7
Alaska	0.3	0.3	0.6	0.8	33.3
Arizona	204.0	205.0	1,162.0	1,146.0	-1.4
Arkansas	6.0	5.5	17.0	16.0	-5.9
California	1,746.0	1,734.0	9,708.0	9,821.0	1.2
Colorado	161.0	176.0	1,069.0	1,161.0	8.6
Connecticut	18.5	19.5	102.0	106.0	3.9
Delaware	5.0	4.9	21.2	21.1	-0.5
Florida	124.0	119.0	569.0	530.0	-6.9
Georgia	84.0	80.0	416.0	411.0	-1.2
Hawaii	2.2	2.0	9.8	8.9	-9.2
Idaho	602.0	607.0	3,818.0	3,863.0	1.2
Illinois	93.0	92.0	462.0	451.0	-2.4
Indiana	187.0	184.0	1,040.0	1,020.0	-1.9
Iowa	218.0	220.0	1,294.0	1,292.0	-0.2
Kansas	152.0	160.0	868.0	927.0	6.8
Kentucky	55.0	53.0	236.0	227.0	-3.8
Louisiana	12.0	11.0	32.0	31.0	-3.1
Maine	30.0	30.0	159.0	157.0	-1.3
Maryland	48.0	45.0	226.0	219.0	-3.1
Massachusetts	11.5	11.0	52.0	51.0	-1.9
Michigan	428.0	423.0	2,816.0	2,786.0	-1.1
Minnesota	458.0	451.0	2,473.0	2,492.0	0.8
Mississippi	9.0	8.5	29.0	28.0	-3.4
Missouri	85.0	82.0	286.0	276.0	-3.5
Montana	13.5	12.5	73.0	69.0	-5.5
Nebraska	60.0	59.0	361.0	353.0	-2.2
Nevada	32.0	32.0	182.0	184.0	1.1
New Hampshire	13.0	12.0	65.0	61.0	-6.2
New Jersey	6.0	5.5	28.0	26.0	-7.1
New Mexico	331.0	328.0	2,040.0	2,043.0	0.1
New York	624.0	622.0	3,734.0	3,773.0	1.0
North Carolina	44.0	43.0	220.0	219.0	-0.5
North Dakota	16.0	15.5	88.0	85.0	-3.4
Ohio	263.0	256.0	1,393.0	1,351.0	-3.0
Oklahoma	39.0	40.0	170.0	172.0	1.2
Oregon	123.0	122.0	637.0	638.0	0.2
Pennsylvania	525.0	519.0	2,683.0	2,616.0	-2.5
Rhode Island	0.8	0.7	3.4	3.0	-11.8
South Carolina	14.5	13.5	54.0	53.0	-1.9
South Dakota	118.0	121.0	666.0	685.0	2.9
Tennessee	39.0	36.0	158.0	143.0	-9.5
Texas	515.0	535.0	2,984.0	3,239.0	8.5
Utah	97.0	100.0	575.0	597.0	3.8
Vermont	129.0	127.0	680.0	669.0	-1.6
Virginia	87.0	82.0	417.0	389.0	-6.7
Washington	275.0	277.0	1,671.0	1,708.0	2.2
West Virginia	7.5	7.0	31.0	27.0	-12.9
Wisconsin	1,278.0	1,274.0	7,641.0	7,756.0	1.5
Wyoming	6.0	6.0	34.7	35.8	3.2
United States	9,402.0	9,375.0	53,473.0	53,952.0	0.9

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 2017 and 2018

[May not add due to rounding]

State	October - December milk cows ¹		October - December milk production ²		
	2017	2018	2017	2018	Change from 2017
	(1,000 head)	(1,000 head)	(million pounds)	(million pounds)	(percent)
Alabama	6.0	5.0	19.0	16.0	-15.8
Alaska	0.3	0.2	0.7	0.6	-14.3
Arizona	204.0	204.0	1,220.0	1,208.0	-1.0
Arkansas	6.0	5.0	18.0	16.0	-11.1
California	1,742.0	1,731.0	9,809.0	10,014.0	2.1
Colorado	164.0	178.0	1,074.0	1,148.0	6.9
Connecticut	19.0	19.5	108.0	105.0	-2.8
Delaware	5.0	4.5	22.5	20.1	-10.7
Florida	124.0	117.0	577.0	545.0	-5.5
Georgia	85.0	81.0	434.0	422.0	-2.8
Hawaii	2.1	1.7	9.0	5.3	-41.1
Idaho	600.0	612.0	3,606.0	3,767.0	4.5
Illinois	93.0	87.0	476.0	437.0	-8.2
Indiana	187.0	181.0	1,059.0	1,010.0	-4.6
Iowa	219.0	220.0	1,303.0	1,297.0	-0.5
Kansas	153.0	160.0	883.0	927.0	5.0
Kentucky	56.0	53.0	257.0	233.0	-9.3
Louisiana	12.0	11.0	37.0	32.0	-13.5
Maine	30.0	29.0	153.0	151.0	-1.3
Maryland	47.0	44.0	233.0	215.0	-7.7
Massachusetts	11.5	10.5	50.0	48.0	-4.0
Michigan	428.0	422.0	2,773.0	2,752.0	-0.8
Minnesota	456.0	451.0	2,430.0	2,438.0	0.3
Mississippi	9.0	8.0	30.0	28.0	-6.7
Missouri	84.0	81.0	292.0	270.0	-7.5
Montana	13.0	12.0	71.0	65.0	-8.5
Nebraska	60.0	59.0	366.0	354.0	-3.3
Nevada	32.0	33.0	181.0	184.0	1.7
New Hampshire	12.5	12.0	64.0	60.0	-6.3
New Jersey	6.0	5.5	29.0	25.0	-13.8
New Mexico	330.0	326.0	2,002.0	1,965.0	-1.8
New York	625.0	623.0	3,639.0	3,692.0	1.5
North Carolina	45.0	43.0	234.0	224.0	-4.3
North Dakota	15.5	15.0	85.0	82.0	-3.5
Ohio	264.0	253.0	1,362.0	1,300.0	-4.6
Oklahoma	39.0	40.0	178.0	180.0	1.1
Oregon	124.0	125.0	618.0	638.0	3.2
Pennsylvania	525.0	510.0	2,676.0	2,527.0	-5.6
Rhode Island	0.8	0.7	3.2	2.7	-15.6
South Carolina	15.0	14.0	59.0	54.0	-8.5
South Dakota	117.0	122.0	649.0	682.0	5.1
Tennessee	40.0	36.0	168.0	143.0	-14.9
Texas	515.0	540.0	2,976.0	3,149.0	5.8
Utah	97.0	100.0	557.0	573.0	2.9
Vermont	128.0	126.0	671.0	660.0	-1.6
Virginia	87.0	80.0	428.0	380.0	-11.2
Washington	274.0	280.0	1,609.0	1,680.0	4.4
West Virginia	7.0	7.0	29.0	25.0	-13.8
Wisconsin	1,277.0	1,272.0	7,526.0	7,563.0	0.5
Wyoming	6.0	6.0	33.9	35.8	5.6
United States	9,398.0	9,357.0	53,087.0	53,349.0	0.5

¹ Includes 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: 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 53.3 billion pounds by more than 0.1 percent. Chances are 9 out of 10 that the difference will not exceed 0.1 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	0.1	36	0	111	11	8
All milk cows	0.0	0.1	3	0	7	5	10

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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Scott Hollis, Head, Livestock Section	(202) 690-2424
Sherry Bertramsen – Livestock Slaughter	(202) 690-8632
Holly Brenize – Sheep and Goats	(202) 720-0585
Donnie Fike – Dairy Products	(202) 720-4448
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

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