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September Milk Production up 1.5 Percent

Milk production in the 23 major States during September totaled 16.4 billion pounds, up 1.5 percent from September 2017. August revised production at 17.2 billion pounds, was up 1.3 percent from August 2017. The August revision represented a decrease of 10 million pounds or 0.1 percent from last month's preliminary production estimate.

Production per cow in the 23 major States averaged 1,880 pounds for September, 30 pounds above September 2017. This is the highest production per cow for the month of September 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, 13,000 head less than September 2017, and 12,000 head less than August 2018.

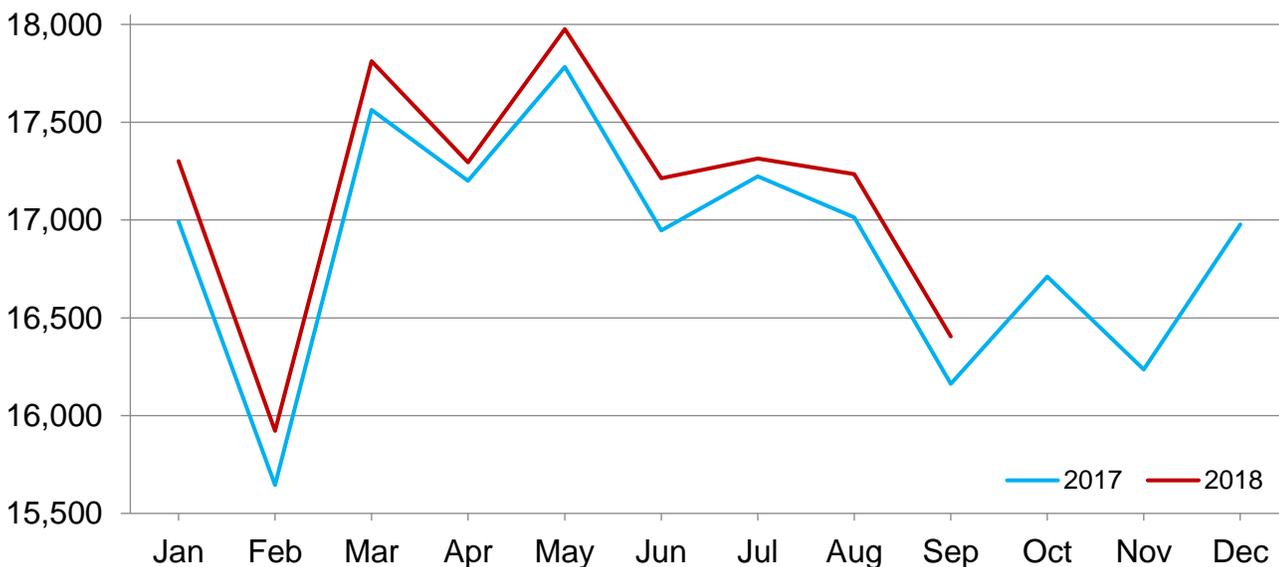
July-September Milk Production up 0.9 Percent

Milk production in the United States during the July - September quarter totaled 54.0 billion pounds, up 0.9 percent from the July - September quarter last year.

The average number of milk cows in the United States during the quarter was 9.38 million head, 27,000 head less than the April - June quarter, and 27,000 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. Blank data cells indicate estimation period has not yet begun]

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	5,756	53,473	53,966	0.9
October-December	9,398		5,649		53,087		
Annual	9,392		22,941		215,466		

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. Blank data cells indicate estimation period has not yet begun]

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	16,405	1.5
October	8,731		1,914		16,710		
November	8,734		1,859		16,235		
December	8,736		1,943		16,978		
Annual	8,725		23,204		202,455		

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. Blank data cells indicate estimation period has not yet begun]

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	18,338	0.4
August	9,404	9,379	1,919	1,946	18,049	18,252	1.1
September	9,399	9,367	1,825	1,855	17,156	17,376	1.3
October	9,395		1,891		17,769		
November	9,398		1,837		17,260		
December	9,400		1,921		18,058		
Annual	9,392		22,941		215,466		

¹ Includes dry cows. Excludes heifers not yet fresh.

² Excludes milk sucked by calves.

Milk Cows and Production – 23 Selected States: September 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	205	204	1,820	1,800	373	367	-1.6
California	1,745	1,734	1,760	1,855	3,071	3,217	4.8
Colorado	162	176	2,135	2,135	346	376	8.7
Florida	123	118	1,400	1,330	172	157	-8.7
Idaho	603	607	2,025	2,045	1,221	1,241	1.6
Illinois	93	90	1,600	1,540	149	139	-6.7
Indiana	187	183	1,820	1,760	340	322	-5.3
Iowa	219	220	1,915	1,895	419	417	-0.5
Kansas	152	160	1,880	1,870	286	299	4.5
Michigan	428	422	2,100	2,085	899	880	-2.1
Minnesota	457	451	1,740	1,790	795	807	1.5
New Mexico	331	327	1,965	2,005	650	656	0.9
New York	624	621	1,925	1,950	1,201	1,211	0.8
Ohio	264	255	1,710	1,660	451	423	-6.2
Oregon	123	122	1,675	1,690	206	206	-
Pennsylvania	525	517	1,655	1,610	869	832	-4.3
South Dakota	118	121	1,820	1,825	215	221	2.8
Texas	515	539	1,855	1,930	955	1,040	8.9
Utah	97	99	1,910	1,920	185	190	2.7
Vermont	128	126	1,710	1,720	219	217	-0.9
Virginia	87	82	1,580	1,505	137	123	-10.2
Washington	274	277	1,965	1,985	538	550	2.2
Wisconsin	1,277	1,273	1,930	1,975	2,465	2,514	2.0
23-State Total	8,737	8,724	1,850	1,880	16,162	16,405	1.5

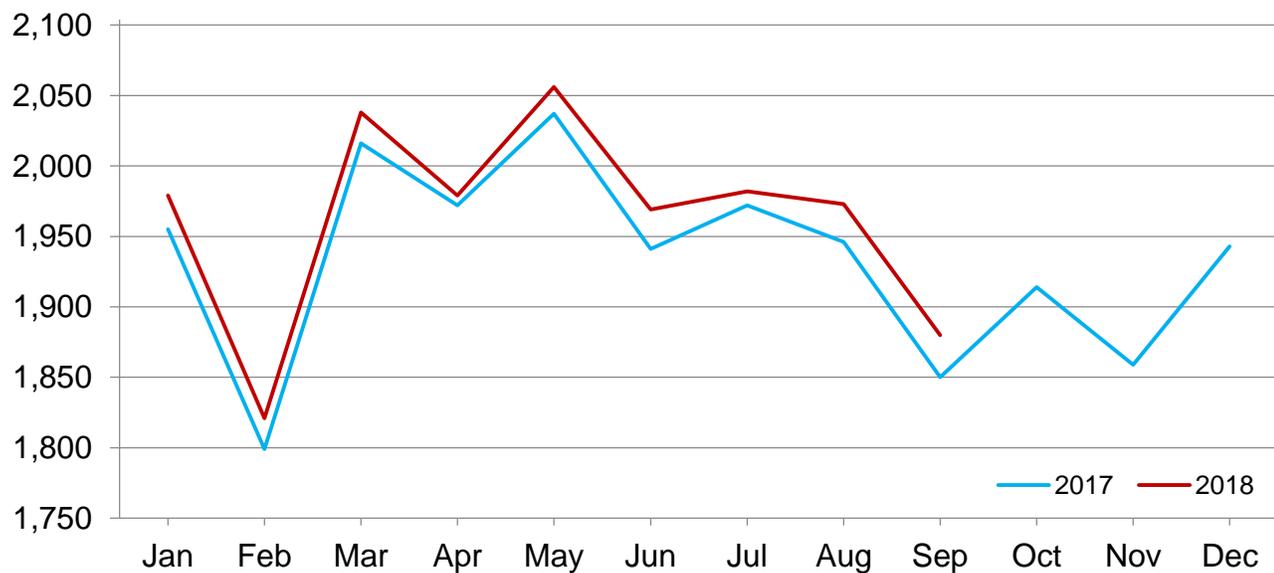
- Represents zero.

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: August 2017 and 2018

[May not add due to rounding]

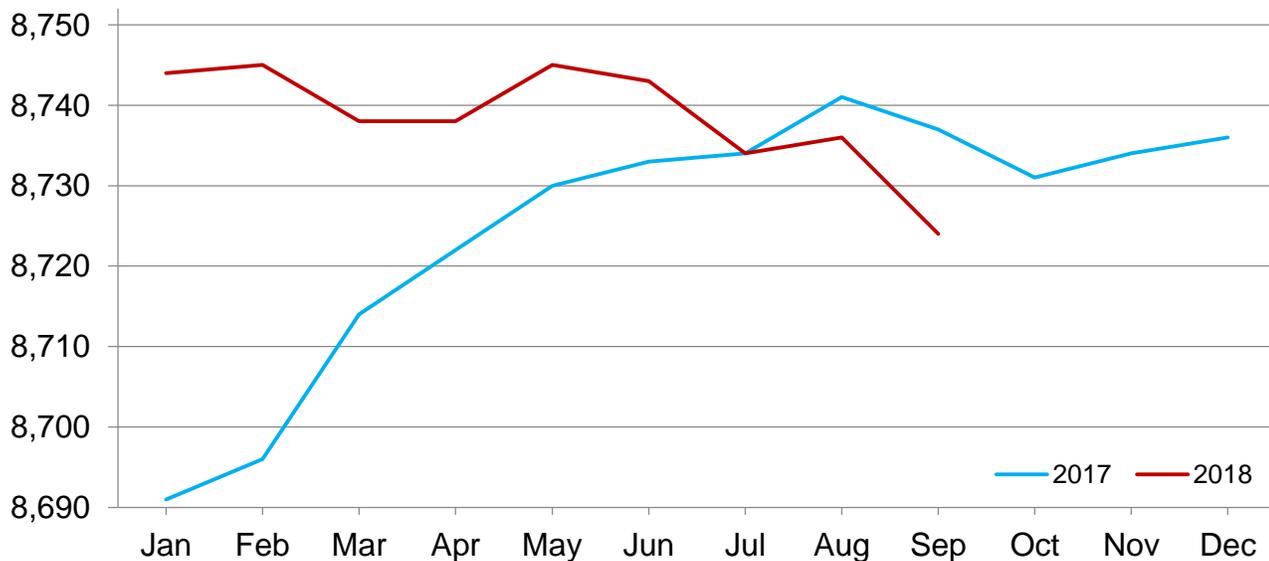
	Milk cows ¹		Milk per cow ²		Milk production ²		Change from 2017
	2017	2018	2017	2018	2017	2018	
	(1,000 head)	(1,000 head)	(pounds)	(pounds)	(million pounds)	(million pounds)	(percent)
Arizona	204	205	1,890	1,875	386	384	-0.5
California	1,746	1,734	1,870	1,905	3,265	3,303	1.2
Colorado	161	175	2,250	2,245	362	393	8.6
Florida	124	119	1,555	1,515	193	180	-6.7
Idaho	603	607	2,155	2,160	1,299	1,311	0.9
Illinois	93	93	1,675	1,645	156	153	-1.9
Indiana	187	185	1,870	1,880	350	348	-0.6
Iowa	219	220	2,010	1,995	440	439	-0.2
Kansas	152	160	1,920	1,970	292	315	7.9
Michigan	428	423	2,230	2,230	954	943	-1.2
Minnesota	458	451	1,830	1,875	838	846	1.0
New Mexico	331	328	2,065	2,095	684	687	0.4
New York	624	622	2,015	2,055	1,257	1,278	1.7
Ohio	264	256	1,790	1,795	473	460	-2.7
Oregon	123	122	1,735	1,760	213	215	0.9
Pennsylvania	525	519	1,725	1,700	906	882	-2.6
South Dakota	118	121	1,915	1,915	226	232	2.7
Texas	515	535	1,950	2,055	1,004	1,099	9.5
Utah	97	100	2,010	2,020	195	202	3.6
Vermont	129	127	1,775	1,785	229	227	-0.9
Virginia	87	83	1,610	1,585	140	132	-5.7
Washington	275	277	2,050	2,075	564	575	2.0
Wisconsin	1,278	1,274	2,025	2,065	2,588	2,631	1.7
23-State Total	8,741	8,736	1,946	1,973	17,014	17,235	1.3

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 April - June 2017 and 2018

[May not add due to rounding]

State	April - June milk cows ¹		April - June milk production ²		
	2017	2018	2017	2018	Change from 2017
	(1,000 head)	(1,000 head)	(million pounds)	(million pounds)	(percent)
Alabama	6.5	5.5	26.0	21.0	-19.2
Alaska	0.3	0.3	0.7	0.7	-
Arizona	204.0	207.0	1,331.0	1,339.0	0.6
Arkansas	6.0	6.0	22.0	20.0	-9.1
California	1,752.0	1,735.0	10,243.0	10,289.0	0.4
Colorado	159.0	175.0	1,043.0	1,152.0	10.5
Connecticut	18.5	19.5	106.0	112.0	5.7
Delaware	5.0	4.9	24.3	25.1	3.3
Florida	124.0	122.0	672.0	641.0	-4.6
Georgia	84.0	83.0	488.0	454.0	-7.0
Hawaii	2.3	2.1	10.7	10.7	-
Idaho	599.0	606.0	3,726.0	3,787.0	1.6
Illinois	93.0	93.0	501.0	499.0	-0.4
Indiana	187.0	187.0	1,104.0	1,106.0	0.2
Iowa	217.0	220.0	1,308.0	1,326.0	1.4
Kansas	151.0	158.0	869.0	944.0	8.6
Kentucky	56.0	56.0	277.0	272.0	-1.8
Louisiana	12.0	11.5	44.0	43.0	-2.3
Maine	30.0	30.0	163.0	160.0	-1.8
Maryland	48.0	46.0	247.0	245.0	-0.8
Massachusetts	11.5	11.5	55.0	53.0	-3.6
Michigan	427.0	423.0	2,885.0	2,871.0	-0.5
Minnesota	459.0	454.0	2,516.0	2,502.0	-0.6
Mississippi	9.0	9.0	38.0	36.0	-5.3
Missouri	85.0	83.0	344.0	335.0	-2.6
Montana	13.5	13.0	73.0	70.0	-4.1
Nebraska	60.0	60.0	362.0	367.0	1.4
Nevada	32.0	32.0	181.0	186.0	2.8
New Hampshire	13.5	12.5	72.0	66.0	-8.3
New Jersey	6.5	6.0	31.0	29.0	-6.5
New Mexico	330.0	333.0	2,128.0	2,156.0	1.3
New York	624.0	624.0	3,845.0	3,823.0	-0.6
North Carolina	45.0	44.0	247.0	245.0	-0.8
North Dakota	16.0	15.5	89.0	85.0	-4.5
Ohio	262.0	257.0	1,448.0	1,421.0	-1.9
Oklahoma	39.0	40.0	192.0	185.0	-3.6
Oregon	124.0	121.0	652.0	642.0	-1.5
Pennsylvania	525.0	523.0	2,828.0	2,788.0	-1.4
Rhode Island	0.8	0.7	3.3	3.0	-9.1
South Carolina	15.0	14.5	66.0	66.0	-
South Dakota	117.0	121.0	658.0	687.0	4.4
Tennessee	40.0	38.0	183.0	170.0	-7.1
Texas	513.0	524.0	3,106.0	3,317.0	6.8
Utah	95.0	99.0	566.0	598.0	5.7
Vermont	129.0	127.0	697.0	684.0	-1.9
Virginia	87.0	84.0	449.0	428.0	-4.7
Washington	273.0	277.0	1,664.0	1,712.0	2.9
West Virginia	8.0	7.0	34.0	29.0	-14.7
Wisconsin	1,279.0	1,274.0	7,691.0	7,772.0	1.1
Wyoming	6.0	6.0	34.8	35.8	2.9
United States	9,399.0	9,402.0	55,344.0	55,808.0	0.8

- 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 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	16.0	-11.1
Alaska	0.3	0.3	0.6	0.8	33.3
Arizona	204.0	205.0	1,162.0	1,154.0	-0.7
Arkansas	6.0	5.5	17.0	16.0	-5.9
California	1,746.0	1,734.0	9,708.0	9,815.0	1.1
Colorado	161.0	175.0	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	525.0	-7.7
Georgia	84.0	80.0	416.0	413.0	-0.7
Hawaii	2.2	2.0	9.8	8.9	-9.2
Idaho	602.0	607.0	3,818.0	3,866.0	1.3
Illinois	93.0	92.0	462.0	448.0	-3.0
Indiana	187.0	184.0	1,040.0	1,020.0	-1.9
Iowa	218.0	220.0	1,294.0	1,295.0	0.1
Kansas	152.0	160.0	868.0	927.0	6.8
Kentucky	55.0	54.0	236.0	232.0	-1.7
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	2,773.0	-1.5
Minnesota	458.0	451.0	2,473.0	2,501.0	1.1
Mississippi	9.0	8.5	29.0	28.0	-3.4
Missouri	85.0	82.0	286.0	280.0	-2.1
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	31.0	182.0	178.0	-2.2
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	223.0	1.4
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	683.0	2.6
Tennessee	39.0	36.0	158.0	145.0	-8.2
Texas	515.0	535.0	2,984.0	3,239.0	8.5
Utah	97.0	100.0	575.0	595.0	3.5
Vermont	129.0	127.0	680.0	669.0	-1.6
Virginia	87.0	83.0	417.0	389.0	-6.7
Washington	275.0	277.0	1,671.0	1,705.0	2.0
West Virginia	7.5	7.0	31.0	27.0	-12.9
Wisconsin	1,278.0	1,274.0	7,641.0	7,769.0	1.7
Wyoming	6.0	6.0	34.7	35.8	3.2
United States	9,402.0	9,375.0	53,473.0	53,966.0	0.9

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 54.0 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	35	0	111	12	7
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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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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