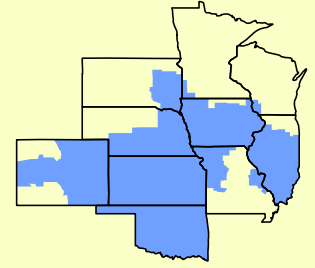


Bulletin

Facilitating the efficient marketing of milk and dairy products.



CENTRAL MARKETING AREA

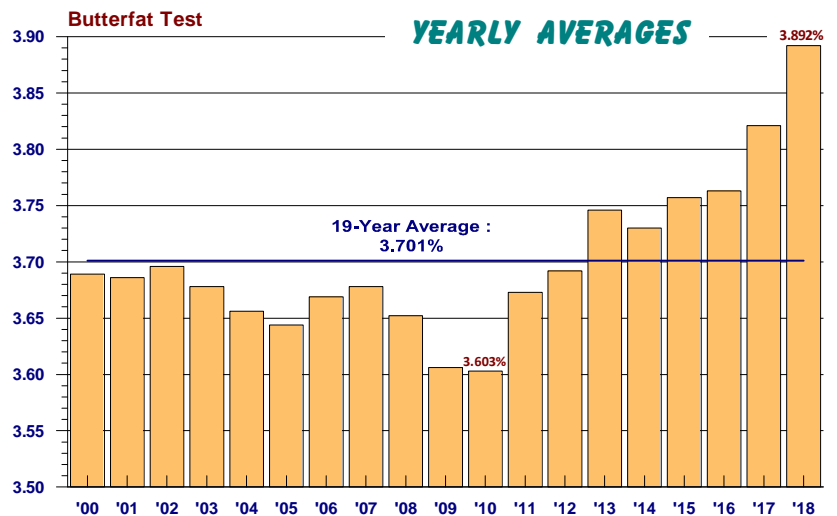
CENTRAL ORDER COMPONENT VALUES

Provisions of the Central Federal Milk Order (FMO) specify minimum payments to producers based on the volume of milk marketed -- the producer price differential (PPD) -- along with payments based on the amount of components in milk marketed. Component payments to producers include those for butterfat, protein and other solids, as well as an adjustment based on the somatic cell count (SCC) of marketed milk. Over time, the combined value for these individual components have accounted for approximately 90% of the total minimum amount due to producers under the Central FMO.

This Bulletin examines component levels in Central FMO producer milk since the inception of the order in January 2000. Specifically, average annual content data for each priced component and the SCC are graphically displayed, as are 2000 through 2018 monthly averages. Each annual average graph details the data for high and low years, along with average component content for the most recent year. The 2000 through 2018 monthly high and low results are depicted in each monthly average graph.

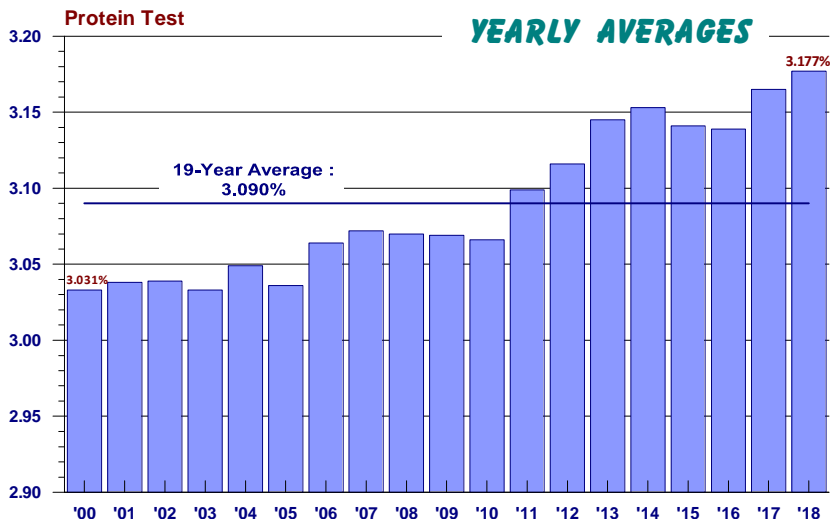
PRODUCER MILK BUTTERFAT TESTS

Central Federal Milk Order



PRODUCER MILK PROTEIN TESTS

Central Federal Milk Order

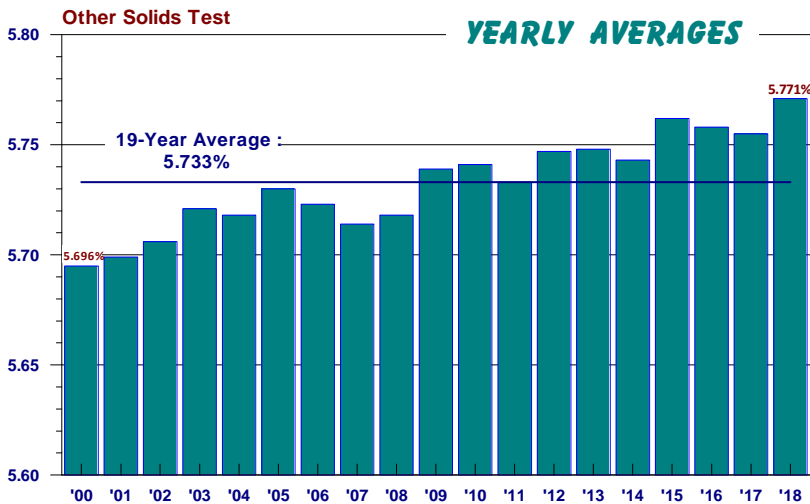


The *top graph on this page* displays annual butterfat test averages for Central FMO producer milk. As indicated by this graph, annual butterfat tests were relatively flat over the first few years of this period before beginning an overall downward trend that persisted through 2010. Average annual butterfat tests bottomed out at 3.603% in 2010, and have exhibited substantial upward movement since then, posting an all-time high of 3.892% in 2018. With the exception of 2014, annual butterfat averages have increased every year since 2010, and have been at or above the 19-year average (3.701%) each year since 2013.

The *lower graph on this page* details average protein content for the Central FMO over the

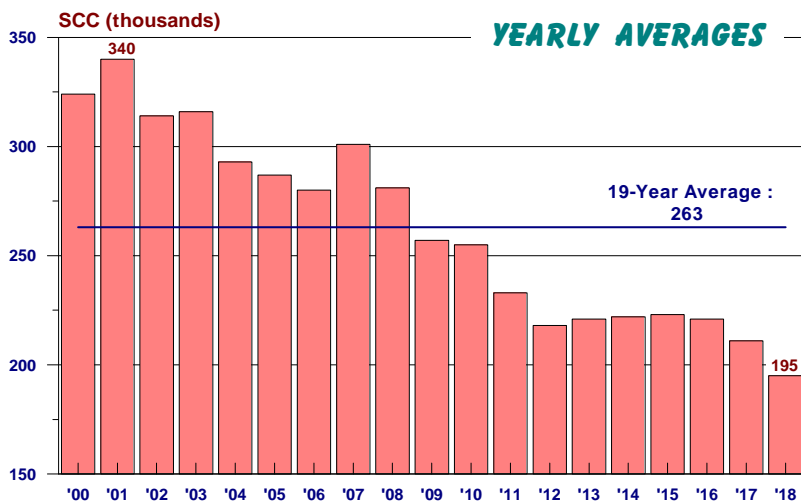
PRODUCER MILK OTHER SOLIDS TESTS

Central Federal Milk Order



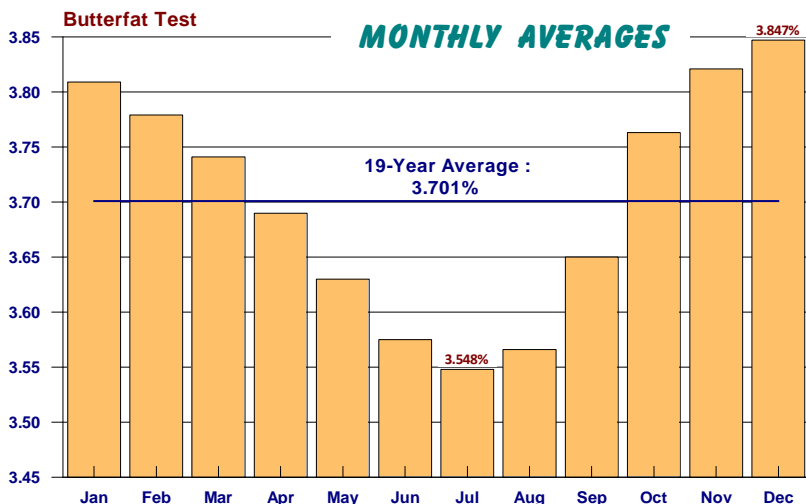
PRODUCER MILK SOMATIC CELL COUNT

Central Federal Milk Order



PRODUCER MILK BUTTERFAT TESTS

Central Federal Milk Order : 2000 - 2018



past 19 years. Although changes in protein and butterfat content in producer milk typically follow similar patterns, data for the Central FMO indicates that this correlation is far from perfect. Average annual protein tests have exhibited an overall increasing trend on the Central FMO, with a few "bumps" along the way. Protein tests were relatively flat during the early 2000's (2000 - 2005) and again from 2006 through 2010, with the latter period at an overall higher plateau. Protein tests have increased in six of the eight years since 2010, peaking at 3.177% in 2018.

The *top graph on this page* depicts annual Central FMO other solids tests. As indicated by this graph, the variation in other solids content is smaller than the variance for butterfat or protein. The highest average other solids test occurred in 2018 at 5.771%, while the low of 5.696% was recorded in 2000. This reveals a high to low variance of just 0.075 percentage points compared with 0.289 for butterfat, and 0.146 for protein during this time frame. Annual other solids tests have demonstrated an overall increasing tendency over the past 19 years.

The *middle graph on this page* displays SCC data for the Central FMO. The trend in SCCs has been substantially downward over the past 19 years, with a few prominent "non-conforming" years along the way, most notably 2001 and 2007. After starting the new millennium with several years in excess of 300,000, Central FMO SCC's decreased substantially through 2012. Annual averages hovered around 220,000 during the 2012 through 2016 time period, before declining during each of the last two years, falling to an all-time low of 195,000 in 2018. Since its 2000 inception, the Central FMO SCC has averaged 263,000, with a high of 340,000 in 2001.

Average monthly butterfat tests, depicted by the *bottom graph on this page*, indicates a distinctive seasonal trend. Over the past 19 years, butterfat tests have bottomed out in July at an average of 3.548%, while continuing to increase in value each month through December's 3.847% peak. Conversely, the average butterfat content decreased each month between December and July during this time frame. This distinctive and consistent "stair-step" up and down pattern is evident in this graphical representation.

Monthly protein test averages are portrayed in the *top graph on this page*. The seasonal trend for protein is similar to butterfat, with some minor idiosyncrasies. The lowest monthly average protein test over the past 19 years occurred in July, identical to butterfat. Protein tests have peaked a month earlier than butterfat, however, with the highest levels recorded in November. Similar to butterfat, protein tests decline each month after the peak and bottom out in July. July's protein test over this time frame has averaged 2.967%, while the November peak has averaged 3.195%.

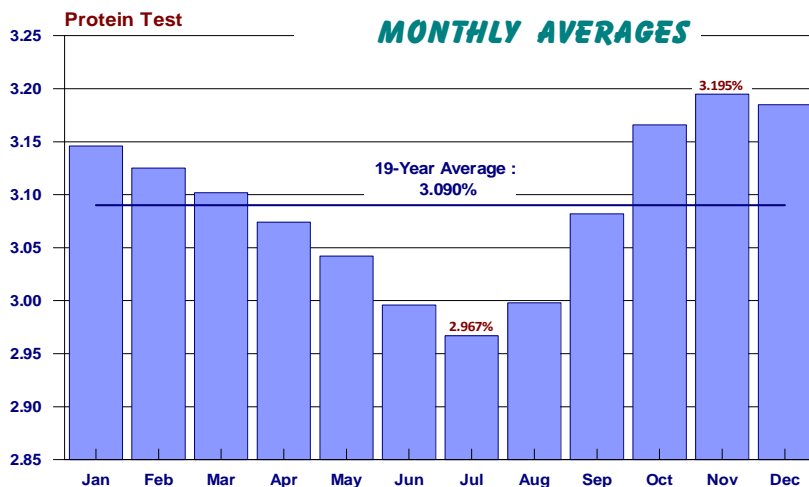
Central FMO monthly other solids tests reveal a seasonal pattern *dissimilar* to those for butterfat and protein, as depicted by the *middle graph on this page*. The peak month for other solids tests over the past 19 years has been May at 5.751%, while October registered the lowest average at 5.721%. In addition, other solids tests have not exhibited the consistent "stair-step" up and down pattern, nor the amount of high to low variation, characterized by butterfat and protein average monthly tests.

The *bottom graph on this page* is a graphic representation of average monthly SCCs for the Central FMO, and the pattern depicted is substantially different from butterfat, protein, and other solids. Comparing the SCC pattern with the one for other solids reveals test changes moving in opposite directions during many months. SCCs have peaked during hot summer months, while are at their lowest during late fall and early winter.

Numerous factors can influence component levels in producer milk. As depicted by the monthly graphs in this bulletin, component content in producer milk is seasonal in nature indicating weather has a significant influence. Related to this, the geographic "footprint" (milkshed) for a FMO can also affect component content since, other things being equal, component levels tend to decrease for milk produced in hotter, more humid conditions while SCC levels tend to rise. The Central FMO milkshed has shifted over the years, and this shifting has likely had an influence on changing component levels. Additional factors -- such as breed selection, genetic composition of dairy herds, feeding practices, etc. -- are also potential explanatory influences for the component trends detailed in this bulletin.

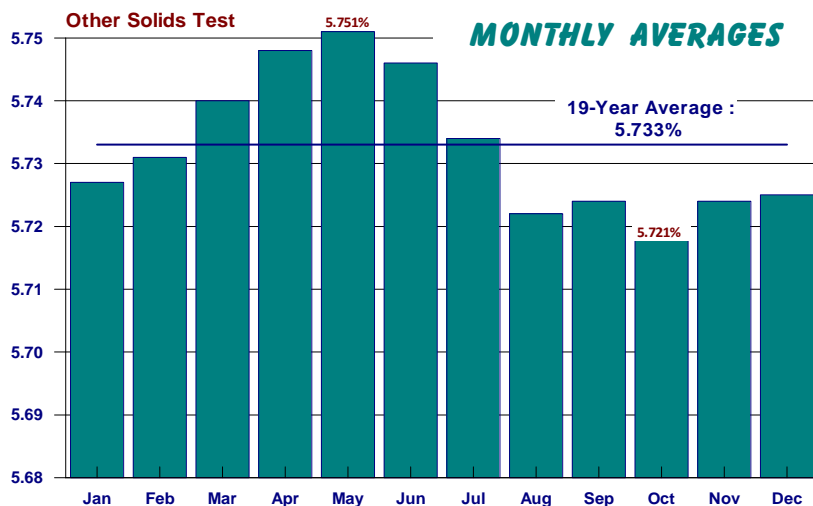
PRODUCER MILK PROTEIN TESTS

Central Federal Milk Order : 2000 - 2018



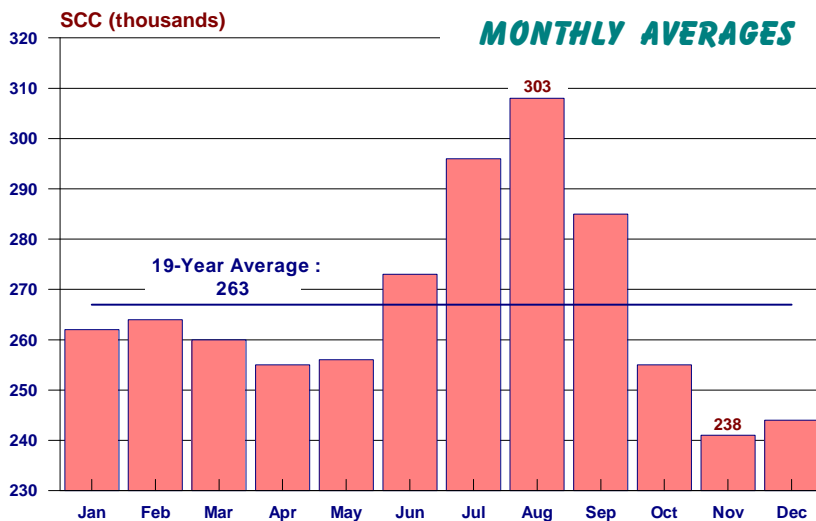
PRODUCER MILK OTHER SOLIDS TESTS

Central Federal Milk Order : 2000 - 2018



PRODUCER MILK SOMATIC CELL COUNTS

Central Federal Milk Order : 2000 - 2018





**United States
Department of
Agriculture**

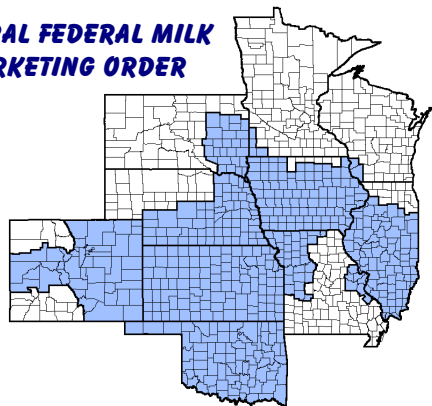
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**CENTRAL FEDERAL MILK
MARKETING ORDER**



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	Statistical Uniform Price		Producer Price Differential		Class I Utilization	
	Jan '19	Dec '18	Jan '19	Dec '18	Jan '19	Dec '18
Northeast	16.42	16.27	2.46	2.49	32.76	33.97
Appalachian	17.82	17.45	----	----	75.83	66.57
Florida	19.78	19.47	----	----	85.95	81.31
Southeast	18.27	18.00	----	----	75.94	70.02
UpperMidwest	14.27	14.11	0.31	0.33	7.95	7.88
Central	14.93	14.74	0.97	0.96	30.99	29.28
Mideast	15.46	15.25	1.50	1.47	37.74	35.43
California	15.09	14.91	1.13	1.13	23.95	22.56
Pacific Northwest	15.15	14.96	1.19	1.18	20.42	20.99
Southwest	15.72	15.53	1.76	1.75	32.65	29.02
Arizona	15.60	15.30	----	----	24.61	23.64